Sanskrit: The Indo-European Perspective

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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], Ruppel [2017], or Stiehl [2011]. For advanced beginners, Schaar [2003] is very helpful. Whichever they may choose, learning Sanskrit is a daunting task. Indeed, the author of one of those textbooks, 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.

Ours 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.

In our endeavour to bring Sanskrit and Indo-European studies closer to each other once again, we may well fail. 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 Sanskrit, 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 our mind, the Indo-European perspective should be seen as helpful, rather than an extra burden.

Fortunately, new Wackernagels (of some sort) have been written by Kobayashi [2004], Kümmel [2014], and Goto [2013]. In contrast to these scholarly books, 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. The ideal reader of this manual knows English and German and possibly some Latin or Greek. However, 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 Pali whenever suitable. Rare remarks on Vedic Sanskrit are relegated to footnotes.
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 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.

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Harald Wiese
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VI
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.
A. Introduction

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’s 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 Indo-Europeanen Sprachen.
Kurzer Abriß der Indo-Europäischen Ursprache, des Altinischen, Alterkeltischen, Alteritalischen, Altslawischen, Lithauischen, und Altleutschen

Thus, an Indo-European “Ursprache” (proto-language) was to be reconstructed. Schleicher was optimistic and 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” (neo-grammarians). They earned this slightly derogative term in their quarrel with Friedrich
A.2. Language trees

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 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 Sanskrit or Classical Sanskrit. The differences do not concern us here. There are several Middle Indian languages, the oldest one being Pali which was
A. Introduction

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

primarily used in Buddhist scriptures. Other Middle Indian languages are Śaurasenī, Māghadī, 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. Middle Indian features (as shown in Pāli) are already present in Vedic scriptures. In contrast, Apabhraṃśa develops later, as of 500 A.D.. This section has benefitted from Himüber [1986], Woolner [1996], and Masica [1991]. 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”. In their own words:

Aller lautwandel, sowei er zeichnisch vor sich geht, volzieh sich nach ausnahmslosen gesetzen, d.h. die richten der lautbewegung ist bei allen angehörigen einer sprachgenossenschaf, außer dem fall, daß dialectspaltung 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 ie. 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,

\[
\text{oi. } ādhar \leftarrow \text{ie. } ^{*}ādher \rightarrow \text{e. } udder \sim \text{nhg. } Euter
\]

is to be understood in the following manner:

\* There was once an Indo-European word that we reconstruct as ādher (the asterix *

signals a reconstructed form).
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- It developed into Sanskrit (or Vedic) āḍhār.
- In a parallel fashion (see fig. A.1), the Indo-European word is also present in Germanic languages, such as New High German (nhg.) Euter or English (e.) udder. The symbol ~ is used for cognate words where we have neither nhg. Euter → e. udder nor the other way around. This is clear from fig. A.2 above.

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, “analogue 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 sometimes called proportional) analogy according to the following pattern:

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

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

<table>
<thead>
<tr>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>influenced by</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>turns into</td>
</tr>
<tr>
<td>?</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
A prominent example for back-formation in Sanskrit concerns with the negating particle *a* (which is cognate with English *un* as in *un*believable). We have

- *sumas*, 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. (&quot;demon&quot;)</th>
<th>with negating <em>a</em> from:</th>
<th>dêvas, m. (&quot;god&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-sumas, m. (&quot;demon&quot;), falsely</td>
<td>with negating <em>a</em> from:</td>
<td>suras, m. (&quot;god&quot;)</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 nadī
  - athematic neuter nouns like tapas ("heat") or havis ("offering")
- Thematic nouns other than the dêvā or nadī type:
  - masculine nouns like dhūrta ("rogue")
  - masculine nouns like muni ("sage")
  - feminine nouns like mati ("mind")
  - feminine nouns like camū ("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 dhūrta ("cunning") without the ending
- Athematic *an*-nouns:
  - masculine rāj-an ("king")
  - neuter karm-an ("act")
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◊ Athematic in-nouns like masculine yôg-in (“devotee, yogī”)

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

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

◊ Athematic nouns ending in long diphthong:
  • rāgy, m./f. (“wealth”)
  • gālav, m. (“moon”)

With these conventions in place, genders are seldomly 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. Some tips for learning Sanskrit

To the present author, it seems a good idea to learn Sanskrit in groups and nets:

Synonyms

When learning Sanskrit words, look out for synonyms. For example, there are (at least) five words meaning friend: mitram, vallabhás, vayasyas, suhṛt (with stem suhṛd), sakha (stem sakhy), and bandhus. Make it a habit to memorize synonyms. No help is offered in this manual.

Similar words

It helps to note that some words are similar, but not necessarily related otherwise: talam (“ground”), tīlas (“palm tree”), tilas (“sesame corn/tree”), tailan (“oil” which is related to tilas). Put together lists of similar words—otherwise you will become confused. An example:

◊ sūtas ≠ sutas = sūnas = tanayas = putras
A.7. Some tips for learning Sanskrit

Compounds

*hutabhuk* (stem *hutabhuj*) means “fire” but literally “enjoyer of offerings”. *sūktam* is a hymn, to be understood as *su-aiktam*. Unsystematically, we present compounds together with their glosses, i.e., their vigrahas. A vigraha is a reformulation of a compound that follows specific rules. This is not the place to provide an introduction into compounds and their vigrahas. In any case, examples may well be their best manner to acquaint oneself with compounds and their vigraha. Leaning on [Scharf 2003], we use the abbreviations found below in subsection A.9.3.

Etymology

You will find learning Sanskrit easier if you know *that* and *why* ie. *ed* developed into *oi. ad*, English (e.) *eat* and New High German (nhg.) *essen*. Or, to consider another example, that the negating prefix *a* that you see in *oi. a-gas* (“not going → tree”) is also found in Greek foreign words (FW) like *a-theist*, in Latin FW like *im-possible* or in *e. un-true*. Further examples:

- *oi. daśa ← ie. *dekm → gr. FW decade ~ lat. FW dean ~ e. ten ~ nhg. zehn*
- *oi. tad ← ie. *tod → e. that ~ nhg. das*

Etymology refers not only to individual words but also to grammatical forms.

Grammar

No sensible learner of a language would memorize

- *labha-tē* (“he obtains”) or
- *labha-n-tē* (“they obtain”)

without noticing that *tē* or *n-tē* turn up in many other words with the same function (third person present tense, singular and plural, respectively). For example, we also have

- *bharā-tē* (“he carries”) or
- *bharā-n-tē* (“they carry”).

Indeed, that’s what grammars are for. In these and many other examples, the *n* apparently indicates the plural forms. It is not as obvious to see that

- *ās-tē* (“he sits”) and
- *ās-a-tē* (“they sit”)

also reflect the *n* as a marker of plural forms. Indeed, we will see that *a* in *a-tē* goes back to *n-tē* in a quite regular manner.

To turn to another example, note that the past perfect participle (PPP) is formed by the suffix *ta* in Sanskrit. For example, from the *oi. root kṣip* (“to throw”), we have the PPP *kṣip-ta*. In this manual, you will learn how
A. **Introduction**

- **oi. buddha** is the regularly formed PPP of **oi. budh** (related to nhg. *bieten*) or
- **oi. udha** is the PPP of **oi. vah** (related to Latin foreign word *vector* or e. *a-way*)

By the way, from now on we will usually write

- **tila**, m., rather than **tilas** and
- **talla**, n., rather than **tailam**.

A.8. **Overview**

This is our plan for the book:

**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 and ablaut”**

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.9. **Abbreviations**

**Cases**

- **abl. = ablative**
- **acc. = accusative**
A.9. Abbreviations

- dat. = dative
- gen. = genitive
- instr. = instrumental
- loc. = locative
- nom. = nominative
- voc. = vocative
- NVA = nom., voc., or acc.

Numbers

- sg. = singular
- pl. = plural

A.9.1. Genders

- f. = feminine
- m. = masculine
- n. = neuter

A.9.2. Languages

Germanic

- e. = English
- germ. = Germanic
- ie. = Indo-European
- nlg. = New Low German
- nhg. = New High German
- oe. = Old English
- ohg. = Old High German
A. Introduction

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

Others
- fr. = French
- it. = Italian
- lat. = Latin
- ogr. = Old Greek
- olat. = Old Latin

A.9.3. Sounds
- asp. = aspirated
- $C$ = consonants
  - $C^\text{lab}$ = labial consonants
  - $C^\text{unlab}$ = consonants other than labial
  - $C^\text{vd}$ = voiced consonants
  - $C^\text{vl}$ = voiceless consonants
  - $C^\text{asp}$ = aspirated consonants
  - $C^\text{unasp}$ = unaspirated consonants
- $D$ = dentals
  - $D^\text{vd}$ = voiced dentals
  - $D^\text{vl}$ = voiceless dentals
- $Fg$ = full-grade (vowel)
- $hV$ = halfvowels
A.9. Abbreviations

- $H = \text{laryngeals } h_1, h_2, h_3$
- $L = \text{liquids } r, l$
- $Lg = \text{lengthened-grade (vowel)}$
- $N = \text{nasals } m, n, \tilde{n}, \eta, n, m$
- $P = \text{plosives}$
  - $P^{\text{pal}} = \text{palatal plosives}$
  - $P^{\text{unpal}} = \text{plosives with palatal plosives}$
- $R = \text{resonants } (L, N, hV)$
- $S = \text{sibilants } s, \tilde{s}, s$
- $\text{unasp.} = \text{unaspirated}$
- $V = \text{vowels}$
- $\tilde{V} = \text{long vowels}$
- $\check{V} = \text{short vowels}$
- $\text{vd.} = \text{voiced}$
- $\text{vl.} = \text{voiceless}$
- $Zg = \text{zero-grade (vowel)}$
- $\check{p} = \text{voiceless interdental spirant}$

A.9.4. Sound laws

- $\text{A} \check{A} = \text{ie. to oi. vowel changes (p. 21)}$
- $\text{AFP} = \text{consonants in Absolute Final Position (p. 42)}$
- $\text{ASH} = (\text{Bartholomae} ) \text{ Aspiration SHift (p. 35)}$
- $\text{BA} = \text{Backward Assimilation (p. 37)}$
- $\text{CCL} = \text{simplication of Consonant CLusters (p. 41)}$
- $\text{CERn} = \text{CERabralization of } n \text{ (p. 40)}$
- $\text{CERD} = \text{CERabralization of } \text{Dentals (p. 39)}$
- $\text{COMLr} = \text{COMpensatory Lengthening for } r \text{ (p. 46)}$
- $\text{COMLS} = \text{COMpensatory Lengthening for } s \text{ (p. 46)}$
A. Introduction

- **COMLz** = COMpensatory Lengthening for z (p. 44)
- **DA** = (Grassmann) DeAspiration (p. 36)
- **DIPH** = DIPHthong before vowel and before consonant (p. 24)
- **DIS** = dissimilation (p. 41)
- **DzD** = z sprouts or vanishes between Dentials (p. 43)
- **GER** = First consonant shift (from ie. to GERmanic) (p. 64)
- **hV** = halfvowel before vowel, vowel before consonant (p. 22)
- **IE_SY_N** = SYllabic Nasals, representation in some ie. languages (p. 61)
- **IE_SY_L** = SYllabic Liquids, representation in some ie. languages (p. 61)
- **LAR** = LARyngeal sound laws (p. 27)
- **LAT_V** = LATin sound laws concerning vowels and diphthongs (p. 60)
- **LAT_f** = LATin f (p. 64)
- **Lo** = (Brugmann) L lengthening of ie. o in open syllable (p. 32)
- **MVS** = More Vowel Sandhi (p. 29)
- **NHG_V** = New High German sound laws concerning vowels (p. 60)
- **NHG_C** = New High German sound laws concerning consonants (p. 64)
- **NHG_E** = New High German occasionally more conservative than English (p. 67)
- **OGR** = Old GReek sound laws (p. 63)
- **OGR_DA** = Old GReek (Grassmann) DeAspiration (p. 64)
- **PPAL** = Primary PALatization (p. 34)
- **RUKI** = cerebrализation of s (p. 39)
- **SEQ** = SEQUENCE of sound laws (p. 69)
- **SI** = Syllable- Initial assimilations and dissimilations (p. 37)
- **SIBs** = SIBilant and palatals before s (p. 43)
- **SPAL** = Secondary PALatization (p. 35)
- **SY_N** = SYllabic Nasals, representation in oi. (p. 26)
A.9. Abbreviations

- **SZ** = voiceless s and voiced z before plosives (p. 38)
- **zr** = voiced z turns into r (p. 43)
- **VER** = VERner’s law (p. 68)
- **V+hV** = emergence of vowel before the corresponding halfvowel (p. 23)

A.9.5. Compounds and vigraha

- **c** = compound
- **ctp** = tatpurṣa compound
- **ctp2** = accusative tatpurṣa compound
- **ctp3** = instrumental tatpurṣa compound
- **ctp4** = dative tatpurṣa compound
- **ctp5** = ablative tatpurṣa compound
- **ctp6** = genitive tatpurṣa compound
- **ctp7** = locative tatpurṣa compound
- **ctp gati** = gati tatpurṣa compound
- **ck** = karmadhāraya compound
- **cbv** = baluvṛṭhi compound
- **c upapada** = upapada compound

A.9.6. Other grammatical terms

- **adj.** = adjective
- **athem.** = athematic
- **ātm.** = ātmanēpada
- **augm.** = augment
- **f.g.** = full grade
- **FW** = foreign word
- **impf.** = imperfect
- **impv.** = imperative
A. Introduction

◇ l.g. = lengthened grade
◇ PAP = past active participle
◇ par. = parasmāipada
◇ pers. = person, personal
◇ pf. = perfect
◇ PN = proper name
◇ PPP = past perfect participle
◇ pres. part. = present participle
◇ pres. tense = present tense
◇ PRII = present tense, imperfect, or imperative
◇ prim. end. = primary ending
◇ pron. = pronoun
◇ redup. = reduplicated
◇ sec. end. = secondary ending
◇ them. = thematic
◇ v. = verb
◇ w.-i. = word-initial
◇ w.-f. = word-final
◇ z.g. = zero grade
◇ √ = oi. root

A.9.7. Pāṇini terms

◇ Pā: aluk = non-omission of case ending in compound
◇ Pā: lyu = suffix āna for masculine agent nouns
A.9. Abbreviations

A.9.8. Others

◊ lev. = levelling
◊ n.at. = not attested
◊ w.-i. = word-initial
◊ Ø = no ending, no phoneme
◊ → = “develops into”
◊ ← = “originates from”
◊ ∼ = “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:

| short vowels | a | e | i | o | u |
| long vowels  | ā | ē | ĕ | ō | ŭ |

While a, e, and o are always addressed as “vowels”, i and u are often called halfvowels (see below). We abbreviate

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

B.1.2. Consonants

I.e. consonants (abbreviated by $C$) might be

- $P$ = plosives like $t$, $\breve{g}h$, or $kw$
- $L$ = liquids $r$, $l$
- $N$ = nasals $n$, $m$
- $R$ = resonants ($L$, $N$, $hV$)
- $S$ = sibilants: voiceless $s$

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

<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</td>
<td>g</td>
<td>gh</td>
</tr>
<tr>
<td>palatals</td>
<td>k</td>
<td>ģ</td>
<td>ģh</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>ģʷ</td>
<td>ģʷh</td>
</tr>
</tbody>
</table>
B. Sound laws

- 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 \( gw'h \). \( kw \) 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.

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></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>( l )</td>
<td>( l )</td>
</tr>
<tr>
<td>(half) vowels</td>
<td>( y )</td>
<td>( i )</td>
</tr>
<tr>
<td></td>
<td>( w )</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 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
- \( h_3 \) (where \( e \) 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”.

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, the 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 $\tilde{a}$

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 $\tilde{a}$, short and long, respectively:

$$
\begin{align*}
\tilde{a} & \rightarrow \text{ie. } a / e / o \\
& \rightarrow \text{oi. } a \\
\tilde{\tilde{a}} & \rightarrow \text{ie. } \tilde{a} / \tilde{e} / \tilde{o} \\
& \rightarrow \text{oi. } \tilde{a}
\end{align*}
$$

Examples for ie. $e$ abound:

- The Indo-European word for “honey” is:

  $$
  \text{ie. } *\text{medhu} \rightarrow \begin{cases} 
  \text{oi. } \text{madhu} \\
  \text{ogr. } \text{methu} \rightarrow \text{FW methane}
  \end{cases}
  $$

- The “middle one” is expressed by

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

For ie. $o$, let us point to

$$
\text{ie. } *\text{ovi} \rightarrow \begin{cases} 
  \text{oi. } \text{avi} \\
  \text{lat. } \text{ovi}
  \end{cases}
$$

As an example for long vowels, consider

$$
\text{ie. } *\text{rēś} \rightarrow \begin{cases} 
  \text{oi. } \text{rājan} \\
  \text{lat. } \text{rēx}
  \end{cases}
$$
B. Sound laws

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

\[
\begin{align*}
\text{hV} & \quad \text{ie. } i \rightarrow \text{oi. } \begin{cases} i, & \text{bef. consonant} \\ y, & \text{bef. vowel} \end{cases} \\
& \quad \text{ie. } u \rightarrow \text{oi. } \begin{cases} u, & \text{bef. consonant} \\ v, & \text{bef. vowel} \end{cases}
\end{align*}
\]

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 ahām*

- **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 clear shows up in these examples:

- **anvartha** ("appropriate") ← *anu* ("along") + *artha* ("purpose, sense, wealth")
- **vyartham** ("in vain") ← *vi* ("apart, away") + *artha* ("purpose, sense, wealth")
- **āśvaśva** ("to have fast horses") ← *āśu* ("fast") + *aśva* ("horse")

The "same" happens with long \(ī\) and long \(ū\), for example:

- **narī āiksata** → **naryāiksata** ("the woman saw")
- **bhvādigaṇa** ("gaṇa consisting of bhū etc.") ← *bhū* ("to be") + *ādi* ("beginning") + *gaṇa* ("cohort, flock, word group", see pp. 73)

Thus, we have the rules

\[
\begin{align*}
\text{ie. } i/ī & \rightarrow \text{oi. } \begin{cases} i/ī, & \text{bef. consonant} \\ y, & \text{bef. vowel} \end{cases} \\
& \quad \text{ie. } u/ū & \rightarrow \text{oi. } \begin{cases} u/ū, & \text{bef. consonant} \\ v, & \text{bef. vowel} \end{cases}
\end{align*}
\]

Sometimes (the rules are not quite clear), ie. \(ī\) and \(ū\) appear as a sequence of *iy* or *uv*, respectively. Examples are
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

◊ dhī, f, ("intellect") has acc. sg. dhiy-a-m (compare with unattested alternative *dhyam).

◊ bhū, f, ("earth") has acc. sg. bhuv-a-m (compare with *bveam).

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

\[
\begin{align*}
V + hV & \quad \rightarrow \\
P_iV & \quad \rightarrow \\
P_aV & \quad \rightarrow \\
CR_iV & \quad \rightarrow \\
CRuV & \quad \rightarrow \\
\end{align*}
\]

The last two lines may have a similar motivation. An example for the third line is mṛ-iy-a-tē ("he dies") which is a 4. class verb with root mṛ 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 pat-y-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-nv-an-ti or kur-v-an-ti with āp-nuv-an-ti prompts us to revisit the sound laws hV and V+hV if a vowel follows:

\[
\begin{align*}
hV & \quad \rightarrow \\
VR_iV & \quad \rightarrow \\
VRuV & \quad \rightarrow \\
V + hV & \quad \rightarrow \\
CR_iV & \quad \rightarrow \\
CRuV & \quad \rightarrow \\
\end{align*}
\]

In the examples of gacchāmy aham 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, mṛ-iy-a-tē and āp-nuv-an-ti exhibit the same clusters RyV or RuV that follow a (fat) consonant. Therefore, one does not obtain vowel hV but V+hV.

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:

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

plus

\[
i/ u
\]

We obtain the short diphthongs
B. Sound laws

\[
\begin{array}{c|c}
\text{DIPH} & \text{normal writing} \\
\text{ie. ai/ai/oi} & \rightarrow \text{oi.} \\
\text{ie. au/\text{au}/ou} & \rightarrow \text{oi.} \\
\text{ie. \text{ai}/\text{ai}/\text{oi}} & \rightarrow \text{oi.} \\
\text{ie. \text{au}/\text{au}/\text{au}} & \rightarrow \text{oi.}
\end{array}
\]

\[
\begin{array}{c|c}
\text{DIPH} & \text{our writing} \\
\text{ie. ai/ai/oi} & \rightarrow \text{e, bef. consonant} \\
\text{ie. au/\text{au}/ou} & \rightarrow \text{o, bef. consonant} \\
\text{ie. \text{ai}/\text{ai}/\text{oi}} & \rightarrow \text{a, bef. consonant} \\
\text{ie. \text{au}/\text{au}/\text{au}} & \rightarrow \text{\text{a}, bef. consonant}
\end{array}
\]

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

<table>
<thead>
<tr>
<th>normal writing</th>
<th>our writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>( e )</td>
<td>( ê )</td>
</tr>
<tr>
<td>( o )</td>
<td>( ô )</td>
</tr>
<tr>
<td>( ai )</td>
<td>( âi )</td>
</tr>
<tr>
<td>( au )</td>
<td>( âu )</td>
</tr>
</tbody>
</table>

We do this for three reasons. First, \( ê \) and \( ô \) are long vowels. Second, \( oi \). \( ê \) can be distinguished from \( ie \). \( e \). Third, \( âi \) and \( âu \) go back to \( ie \). long diphthongs which helps to understand some sandhi rules.

Turning to the short diphthongs, \textbf{DIPH} (the first two lines) is helpful to distinguish between \textit{nêtr} ("leader") and \textit{nayati} ("he leads"). Similarly, for the stem \textit{gô} ("cow") compare instr. pl. \textit{gôbhis} with instr. sg. \textit{gavâsg}. Consider also

\[
\text{sarvê iti (without sandhi)}
\]

\[
\rightarrow \text{sarvay iti (DIPH)}
\]

\[
\text{and then sometimes}
\]

\[
\rightarrow \text{sarva iti (y is weak and drops here between words)}
\]

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

\[
\text{tasmai adadât (usual spelling without sandhi)}
\]

\[
\rightarrow \text{tasmâi adadât (our spelling without sandhi)}
\]

\[
\rightarrow \text{tasmây adadât (DIPH)}
\]

\[
\text{and then sometimes}
\]

\[
\rightarrow \text{tasma adadât (y is weak and drops here between words)}
\]

and

\[
\text{ubhau ēva (usual without sandhi)}
\]

\[
\rightarrow \text{ubhâv ēva (our spelling without sandhi)}
\]

\[
\rightarrow \text{ubhâv ēva (DIPH)}
\]
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

B.2.4. Vowel gradation (ablaun)

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 termen word for vowel gradation, often used 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 $\bar{e}$ (lengthened $e$-grade).

◇ qualitative ablaut:

• $e$ may be become $o$ ($o$-grade).
• Finally, the lengthened $o$-grade $\ddot{o}$ (which may also be considered a quantitative ablaut) sometimes occurs.

Figure B.1.: Indo-European Vowel Gradation (Ablaut)
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. 21). Therefore, the traditional Indian grammarians did not consider the qualitative ablaut. Instead, they taught the three-fold distinctions:

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

Roughly speaking, svāra (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. 24). When, 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 bvdh because syllables need a vowel (subsection 20).

A second example: “remember” in Sankrit is

smṛ the oi. root in zero grade
smar-a-ti 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. 99. Did you notice the funny circle under the r? It means that the r is syllabic, i.e., it has vowel quality (subsection 20).

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

\[
\begin{align*}
\text{SY\_N} & \quad \text{ie. } & n C & \rightarrow & \text{oi. } a \\
& \quad \text{ie. } & m C & \rightarrow & \text{oi. } a \\
& \quad \text{ie. } & n V & \rightarrow & \text{oi. } an \\
& \quad \text{ie. } & m V & \rightarrow & \text{oi. } am
\end{align*}
\]
B.2. Vowel sound laws, laryngeal sound laws, and vowel gradation

The vowel-gradation table

We are not in a position to summarize ie. vowel gradation and the oi. version in a table. I hope you see that it is very systematically constructed:

<table>
<thead>
<tr>
<th></th>
<th>just e</th>
<th>half vowel y</th>
<th>half vowel v</th>
</tr>
</thead>
<tbody>
<tr>
<td>zero gr.</td>
<td>ie. - → oi. -</td>
<td>ie. i → oi. i</td>
<td>ie. u → oi. u</td>
</tr>
<tr>
<td>full gr.</td>
<td>ie. e → oi. a (AA)</td>
<td>ie. ei → oi. è/ay (DIPH)</td>
<td>ie. eu → oi. ø/av (DIPH)</td>
</tr>
<tr>
<td>length gr.</td>
<td>ie. ō → oi. ā (AA)</td>
<td>ie. ēi → oi. ē/ay (DIPH)</td>
<td>ie. ēu → oi. ū/av (DIPH)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>zero gr.</td>
<td>ie. r → oi. r</td>
<td>ie. n → oi. a (SY_N)</td>
</tr>
<tr>
<td>full gr.</td>
<td>ie. er → oi. ār (AA)</td>
<td>ie. en → oi. ān (AA)</td>
</tr>
<tr>
<td>length. gr.</td>
<td>ie. ēr → oi. ār (AA)</td>
<td>ie. ēn → oi. ān (AA)</td>
</tr>
</tbody>
</table>

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

- 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).
- oi. i “to go” has full grade èti (“he goes”, with è before consonant according to DIPH) and zero grade y-anti (“they go”, with consonant y before vowel).
- The vrddhi form (lengthened form) of budh appears in bâud-dha (“concerning understanding, Buddhist”).
- The Sanskrit term for lengthened grade vrddhi goes back to vrđh, vandhatē (“to grow”). Unnily, vrddhi it is an example of the zero grade.
- Latin menti (known to you from FW like mental) is cognate with Sanskrit zero grades mati (“thought, idea”) and the past participle mata where you have a for syllabic n (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. 62 below.

B.2.5. Laryngeal sound laws

The sound laws (LAR)

Here is a summary of the sound laws with laryngeals:

LAR  

<table>
<thead>
<tr>
<th></th>
<th>ie. iH/aH/eH/oH</th>
<th>→</th>
<th>i̯/u̯/ā̯/ā̯</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ie. eiH/euH/èH/èuH</td>
<td>→</td>
<td>ie. ei/eu/èi/èu → DIPH</td>
</tr>
<tr>
<td></td>
<td>ie. Cn̅H</td>
<td>→</td>
<td>Čā</td>
</tr>
<tr>
<td></td>
<td>ie. Cm̅H</td>
<td>→</td>
<td>Čām (or Čā)</td>
</tr>
<tr>
<td></td>
<td>ie. C Hub1,ε̯</td>
<td>→</td>
<td>Čār</td>
</tr>
</tbody>
</table>
B. Sound laws

\begin{align*}
\text{ie. } & C^\text{not labial}, H \rightarrow C\text{r} \\
\text{ie. } & \text{CHC} \rightarrow CiC \text{ (or CC)} \\
\text{ie. } & \text{CHV} \rightarrow CV \\
\text{ie. } & \text{gh}_2 \rightarrow \text{ie. } \text{gh} \\
\text{ie. } & \text{th}_2 \rightarrow \text{th} \\
\text{ie. } & \text{ph}_3 \rightarrow b \\
\text{ie. } & \text{bh}_2 \rightarrow bh
\end{align*}

In the Indo-European language, the root for “to be” is ie. \( *\text{bheuH} \) which explains

\begin{itemize}
  \item zero grade oi. \( \text{bhā-ta} \) (long \( ā \) is an instance of compensatory lengthening for the dropped laryngeal)
  \item full grade \( \text{bhav-a-ti} \) (the laryngeal is lost without effect between consonant and vowel)
  \item full grade \( \text{bhavitum} \) (the laryngeal becomes \( i \) between consonants)
\end{itemize}

In contrast to the sound law ie. \( \text{CHC} \rightarrow CiC \), laryngeals are sometimes dropped without apparent trace, as in \( \text{da\text{-}dh\text{-}mah} \) (“we set”) from ie. \( *\text{de\text{-}dhh}_1\text{-}mes \). Difficult to explain is \( i \) as in \( \text{a\text{-}braw\text{-}t} \) (“he said”) or \( \text{jah\text{-}mas} \) (“we abandon”).

\( \text{jan, jāyatē} \) (“to be born”) is often considered a very irregular verb, with the PPP \( \text{jāta} \) and the agent noun \( \text{janitr} \) (“creator, progenitor”). We find

\begin{itemize}
  \item long \( ā \) in zero grade (4. class verb with \( ya \), PPP) and
  \item short \( a \) in full grade (agent noun).
\end{itemize}

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

\begin{itemize}
  \item zero grade oi. \( \text{PPP jāta} \leftarrow \text{genH}\text{-}t \) according to sound law ie. \( C\text{ŋ} H \rightarrow C\text{ŋ} i \)
  \item zero grade oi. \( \text{jā\text{-}ya\text{-}tē} \leftarrow \text{genH}\text{-}ye/o\text{-}tei \)
  \item full grade \( \text{janity} \) where the laryngeal turns into \( i \) between the consonants \( n \) and \( t \).
\end{itemize}

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

At the end of the above \textbf{LAR} table, we have four very specific sound laws. They are justified by \( \text{aham (“I”) on p. 47}, \text{sthā, tiṣṭhati (“to stand”) on p. 74} \) and \( \text{pā, pi\text{-}ba\text{-}ti (“to drink”) on p. 75} \).
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. 25) with laryngeals:

<table>
<thead>
<tr>
<th>Type</th>
<th>Rule</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just e + H</td>
<td>ie. CHC → oi. CšC (also CC)</td>
<td>iH → oi. ī</td>
</tr>
<tr>
<td></td>
<td>ie. CHV → oi. CV</td>
<td>uH → oi. ū</td>
</tr>
<tr>
<td>Half vowel y + H</td>
<td>i + H</td>
<td>iH → oi. īy</td>
</tr>
<tr>
<td>Half vowel v + H</td>
<td>i + H</td>
<td>iH → oi. āy</td>
</tr>
<tr>
<td>Length gr.</td>
<td>i + H</td>
<td>iH → oi. ā</td>
</tr>
<tr>
<td></td>
<td>r + H</td>
<td>rH → oi. ě</td>
</tr>
</tbody>
</table>

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

◇ oi. sa (“with”) and

◇ it (which is the usual manner in which traditional Indian grammarians refer to the i)

together with a sandhi rule to be explained below.

Many of these are roots that ended in a laryngeal, like oi. bha or jan as explained above. In some grammatical forms, we have i as a reflex of the laryngeal (see the infinitives bhavitum or janitum). Roots without i are “anit roots” where anit ← an + it uses the negating particle a or an (see a in the etymological dictionary). Some roots only sometimes exhibit the i. These are the “vet roots”, with vā (“or”).

B.2.6. 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:

MVS

<table>
<thead>
<tr>
<th>Rule</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>oi. V̆̆ + V̆̆ /hV</td>
<td>oi. V̆̆</td>
</tr>
<tr>
<td>oi. ă + i/ī</td>
<td>oi. ĕ</td>
</tr>
<tr>
<td>oi. ă + u/ū</td>
<td>oi. ō</td>
</tr>
<tr>
<td>oi. ă + ā</td>
<td>oi. āi</td>
</tr>
<tr>
<td>oi. ă + ō</td>
<td>oi. āu</td>
</tr>
<tr>
<td>impf. augment ă + i/ī</td>
<td>oi. āi</td>
</tr>
<tr>
<td>impf. augment ă + u/ū</td>
<td>oi. āu</td>
</tr>
</tbody>
</table>
B. Sound laws

MVS rules partly contradict the ie.-oi. sound laws DIPH (p. 24). 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 *atraiva* (as you would find it in usual textbooks):

\[
\begin{align*}
\text{atra èva} & \quad \text{(without sandhi)} \\
\rightarrow & \quad \text{atra aiva} \quad \text{(ai as short diphthong with i)} \\
\rightarrow & \quad \text{atraïva} \quad \text{(two short a have become one long ã)} \\
= & \quad \text{atraïva} \quad \text{(usual spelling)}
\end{align*}
\]

or the fifth line of MVS and *saudanam pacati* (again with the standard transliteration):

\[
\begin{align*}
så ëdanam pacati & \quad \text{(without sandhi)} \\
\rightarrow & \quad så audanam pacati \quad \text{(au as short diphthong with u)} \\
\rightarrow & \quad såudanam pacati \quad \text{(by å + å = å)} \\
= & \quad saudanam pacati \quad \text{(usual spelling)}
\end{align*}
\]

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

\[
\begin{align*}
\text{èvam bhava iti vadati} & \quad \text{(without sandhi)} \\
\rightarrow & \quad \text{èvam bhavèti vadati} \quad \text{(a + i = ë)} \\
\end{align*}
\]

or

\[
\begin{align*}
\text{ca iti} & \quad \text{(without sandhi)} \\
\rightarrow & \quad \text{ëcèti} \quad \text{(a + i = ë)} \\
\end{align*}
\]

or

\[
\begin{align*}
\text{dèva ëśvaras} & \quad \text{(compound, without sandhi)} \\
\rightarrow & \quad \text{dèvëśvaras} \quad \text{(a + i = ë)} \\
\end{align*}
\]

or

\[
\begin{align*}
\text{mëgha udakam} & \quad \text{(compound “cloud water → rain”, without sandhi)} \\
\rightarrow & \quad \text{mëghô dakam} \quad \text{(a + u = ô)} \\
\end{align*}
\]

or

\[
\begin{align*}
\text{a-và-uc-a-t} & \quad \text{(aorist “he spoke”, without sandhi)} \\
\rightarrow & \quad \text{a-vôc-a-t} \quad \text{(a + u = ô)} \\
\end{align*}
\]

Just to mock learners of Sanskrit, if the imperfect augment short (!) *a* precedes *i/*u/*u̯*, we do not obtain ë or ô, but åì and åu, respectively (see the last two lines of MVS).

Examples:

\[
\begin{align*}
\text{na ëkṣatè} & \quad \text{ (“he does not see”, without sandhi)} \quad \rightarrow \quad \text{nëkṣatè} \quad \text{(MVS, 2. line)} \\
\text{but a-ìkṣat} & \quad \text{ (“he did not see”, without sandhi)} \quad \rightarrow \quad \text{ãikṣat} \quad \text{(MVS, 6. line)}
\end{align*}
\]

or

\[
\begin{align*}
\text{tena uktam} & \quad \text{ (“it has been said by him”, without sandhi)} \quad \rightarrow \quad \text{tenôktam} \quad \text{(MVS, 3. line)} \\
\text{but a-us-ма} & \quad \text{ (“we wished”, without sandhi)} \quad \rightarrow \quad \text{âus-ma} \quad \text{(MVS, 7. line)}
\end{align*}
\]
Additional MVS examples

**a/ā + a/ā → ā (MVS 1. line)**

- jāl-śaya (“stay of water → lake”) ← jāla (“water”) + ā-śaya (“stay, sojourn”)
- vēdānta (“end of Vedic literature”) ← vēda (“theological knowledge, Veda”) + anta (“end”)
- vāṭāyanam (“window”) ← vāṭa (“wind”) + aṭam (“going, motion, hallway”, ← i)
- rāmāyanam (name of an Indian epic) ← rāma (“name of Indian hero”) + aṭam (“going, motion, hallway”)
- sārtha (“caravan”) ← sa (“together with”) + artha (“wealth”)
- sānanda (the with delight”) ← sa (“together with”) + ānanda (“delight”)
- bhūttārtha (“fact, issue”) ← bhūta (PPP of bhū) + artha (“meaning, purpose”)
- ēkāgra (“one-pointed, focussed”) ← ēka (“one, single”) + āgra (“top, summit, beginning”)
- gatāsu (“with life gone away, dead”) ← gata (PPP of gam) + asu (“life”)

**i/i + i/i → ī (MVS 1. line)**

- atīta (“gone by”) ← ati + i-ta (PPP of i)
- atīva (“exceedingly, very”) ← ati + iva
- vi-parīta (“perverse, false”) ← vi + pari + ita (PPP of i)

**u/ū + u/ū → ū (MVS 1. line)**

- sūkta (“well said”) ← su (“good”) + ukta (PPP of vac, “to say”)
- bahūkṣēpam (“having thrown up ones arms”) ← bahu (“arm”) + ud (preposition, “up”) + full grade of kṣip (“to throw”) + gerund ending am (pp. 127)
- from yuv-an m. (“youngster”) instr. sg. yūn-ā ← yuv-n-ā

**a/ā + i/i → ē (MVS 2. line)**

- sam-upēta (“provided with”) ← sam + upa + i-ta (PPP of i)
- sēṭ (“with i”) ← sa (“together with”) + iṭ (traditional expression for oi. i)
- vēṭ (“with or without i”) ← vā (“or”) + iṭ (traditional expression for oi. i)
- prētyēha (“in the hereafter and here”) ← pra-i (“to go forward, to die”) + tya (gerundive suffix) + iha(“here”)
B. Sound laws

*a/a + u/ü → ṝ (MVS 3. line)*

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

*a/a + ē → āi (MVS 4. line)*

◇ ēkāikaśas, adv. (“one by one”) ← ēka (“one”) + ēka + šas (“adverbial suffix”)

*a/a + ṝ → āu (MVS 5. line)*

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

B.2.7. 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

\[
\text{Lo} \quad \text{oi. oRV} \rightarrow \text{oi. āRV}
\]

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, the syllable has to be open, i.e., o is followed by only one resonant 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.

We point to three 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, mi was added in Sanskrit after long ṝ 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
B.3. Consonants

mor-ey-e-ti ("he makes die, he kills") \[ \rightarrow \] mār-ay-a-ti

but jonH-ey-e-ti ("she begets") \[ \rightarrow \] jan-ay-a-ti

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

Finally, 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>oï.</td>
</tr>
<tr>
<td>kr (&quot;to make&quot;)</td>
<td>ke-kor-(h_2)c</td>
<td>ca-kar-a</td>
</tr>
<tr>
<td></td>
<td>ke-kor-c</td>
<td>ca-kār-a</td>
</tr>
<tr>
<td>gam</td>
<td>g^{\text{\text{&quot;u}}}e-g^{\text{\text{&quot;u}}}om-(h_2)e</td>
<td>ja-gam-a</td>
</tr>
<tr>
<td></td>
<td>g^{\text{\text{&quot;u}}}e-g^{\text{\text{&quot;u}}}om-e</td>
<td>ja-gām-a</td>
</tr>
<tr>
<td>tan</td>
<td>te-ton-(h_2)e</td>
<td>ta-tan-a</td>
</tr>
<tr>
<td></td>
<td>te-ton-e</td>
<td>ta-tān-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 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.

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>n</td>
<td>s</td>
</tr>
<tr>
<td>cerebrals</td>
<td>t</td>
<td>th</td>
<td>d</td>
<td>dh</td>
<td>n</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 oï. 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 → oï. s (PPAL)</td>
<td>ġ → oï. j (PPAL)</td>
<td>ġh → oï. 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>k^{\text{\text{&quot;u}}} (SPAL?)</td>
<td>g^{\text{\text{&quot;u}}} (SPAL?)</td>
<td>g^{\text{\text{&quot;u}}}h (SPAL?)</td>
</tr>
</tbody>
</table>
B. Sound laws

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

\[
\begin{align*}
\text{PPAL} \\
ie. \ k & \to \text{oi.} \ s \\
ie. \ sk & \to \text{oi.} \ cch \\
ie. \ g & \to \text{oi.} \ j \\
ie. \ gh & \to \text{oi.} \ h
\end{align*}
\]

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

\[
\begin{align*}
ie. \ kmţóm & \to \text{oi.} \ ±atám \\
\text{ogr.} \ he-katon & \\
\text{lat.} \ centum & \\
\text{gth.} \ hund
\end{align*}
\]

or the one for “knee”:

\[
\begin{align*}
\text{oi.} \ jānu & \leftarrow \text{ie.} \ *\text{genu/}\text{gonu} \to \text{lat.} \ genu \sim \text{e.} \ knee
\end{align*}
\]

Three verbs confirm the second line of PPAL: oi. ch (with cch within words after short vowels) goes back to ie. *sk as in

\[
\begin{align*}
\diamond \text{is, icchati (“to wish”)} & \sim \text{e.} \ ask \sim \text{ohg.} \ eiscōn \to \text{nhg.} \ heischen \\
\diamond \text{gam, gacchati (“to go”)} & \sim \text{ogr.} \ baskō \leftarrow \text{ie.} \ *\text{g}^\text{w}m\text{-sk}
\end{align*}
\]

\[
\begin{align*}
\diamond \text{prach, prechati} & \sim \text{nhg.} \ forschhen \sim \text{lat.} \ pōscere, \ pōscō (“to claim, to demand”) \leftarrow \text{ie.} \ *\text{pr}^\text{k}-\text{sk}
\end{align*}
\]

Later on, within the Indo-Iranian language group, secondary palatalization (SPAL) set in. While PPAL invariably occurs, SPAL depends on whether a light ie. (!) vowel (ie. e or i) follows. Fig. B.2 on p. 35 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>\sqrt{ }</th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ie.</td>
<td></td>
</tr>
<tr>
<td>kʰ (“to make”)</td>
<td>ke-kor-e ca-kār-a</td>
</tr>
<tr>
<td>gam</td>
<td>gʰw-e-gʰom-e ja-gām-a</td>
</tr>
</tbody>
</table>

Additional examples for secondary palatalization are provided by

\[
\begin{align*}
\diamond \text{oi.} \ ca & \leftarrow \text{ie.} \ *kʰw\text{-e which shows very nicely in lat.} \ que, \text{ and}
\diamond \text{oi.} \ jīva & \leftarrow \text{ie.} \ *gʰw\text{-}vō (“living”) which is also cognate with lat. vīvus
\end{align*}
\]
B.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

\[
\text{ASH} \quad \begin{array}{c}
\text{ie. } \text{gh-t} & \rightarrow & \text{oi. } g-dh \\
\text{ie. } \text{dh-t} & \rightarrow & \text{oi. } d-dh \\
\text{ie. } \text{bh-t} & \rightarrow & \text{oi. } b-dh \\
\text{but} & \text{ie. } \text{dh-s} & \rightarrow & \text{oi. } t-s \\
\text{ie. } \text{bh-s} & \rightarrow & \text{oi. } p-s
\end{array}
\]

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

- \textit{bud-dha} \rightarrow \textit{budh-ta}
- \textit{PPP lab-dha} \rightarrow \textit{labh-ta}

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

\begin{itemize}
  \item While aspiration can shift away from \textit{b}, \textit{s} cannot assume the aspiration.
  \item Voice cannot be forwarded to \textit{s}.
\end{itemize}

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

\begin{align*}
  \text{ie. } *\text{lebh-sy-e-toi} \text{ (full grade with future sign sy)} \\
  \rightarrow \text{labh-sy-a-tê} \\
  \rightarrow \text{lap-sy-a-tê (ASH)}
\end{align*}

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 [Romashko][2000].) Imagine having two syllable-initial aspirated sounds. The first one becomes deaspirated:

\begin{align*}
  \text{DA} \quad \text{ie. } C^{\text{asp}} VC^{\text{asp}} V \rightarrow \text{oi. } C^{\text{unasp}} VC^{\text{asp}} V
\end{align*}

Many examples are provided by reduplicated forms.

\begin{itemize}
  \item From \textit{oi. bhû (“to be”)}, we have the perfect \textit{ba-bhûva (“he was”)}. \\
  \item The present tense for “to stand” is reduplicated: \textit{sthã, ti-sthã-ti (RUKI after i).} \\
  \item Verbs of class 3 are reduplicated and provide the examples such as \textit{dhã, da-dhã-ti (“to put”)}
\end{itemize}

Consider \textit{oi. budh, bôdhati} which goes back to \textit{ie. *bheudh}. Interestingly, the word initial \textit{bh} appears in the future form \textit{bhôt-sy-ati}. Think about it this way:

\begin{itemize}
  \item \textbf{ASH} is applied: \\
    \textit{dh} lost its aspiration in the consonant cluster and became voiceless before voiceless \textit{s}. \textit{sy} could not assume the aspiration.
  \item \textbf{DA} is not applied: \\
    Deaspiration did not take place the second (originally aspirated) consonant \textit{dh} is not followed by a vowel.
\end{itemize}

Finally, compare...
B.3. Consonants

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

◊ acc. kāma-duh-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), we obtain k so that there is no need to deaspirate the word-initial dh. In contrast, in many other forms, the aspirated sound is still present, so that Grassmann’s law needs to be applied.

B.3.4. Assimilations

Assimilations and dissimilations for syllable-initials

Some assimilations and dissimilations do not concern immediately adjacent sounds, but syllable-initials in neighbouring syllables. One could have placed DA here, as an example of aspiration dissimilation:

\[
\begin{align*}
\text{SI} & \quad \text{ie. } C^{\text{asp}} V C^{\text{asp}} V & \rightarrow & \quad \text{oi. } C^{\text{nas}} V C^{\text{asp}} V \\
\text{oi. } & \quad \hat{s}.s \quad \rightarrow \quad \text{oi. } \hat{s}.\hat{s} \\
\text{oi. } & \quad \hat{s}.\hat{s} \quad \rightarrow \quad \text{oi. } \hat{s}.\hat{s}
\end{align*}
\]

\(\text{šaša} ("hare")\) is a forward-assimilation example of the second line. \(\text{svašura} ("father in law")\) is similar, but works backwards.

Backward assimilations

Within the Old Indian language, many assimilations occurred. Some, but not all of them, are considered sandhi rules. Most assimilations work backward, where a sound influences the preceding one. Let us take note of some important and rather obvious classes:

<table>
<thead>
<tr>
<th>BA</th>
<th>motivation</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>voicelessness</td>
<td>yuk-ta ← ie. *yug-to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tat kamalam ← tad</td>
<td></td>
</tr>
<tr>
<td>voice</td>
<td>gramād vanam ← gramāt</td>
<td></td>
</tr>
<tr>
<td>nasalizing (of dentals)</td>
<td>tan mitram ← tad</td>
<td></td>
</tr>
<tr>
<td></td>
<td>un-mārgas, m. (&quot;a wrong or evil way&quot;) ← ud-mārgas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sān-māsas, m. (&quot;period of six months&quot;) ← sat-māsas</td>
<td></td>
</tr>
</tbody>
</table>

Backward dissimilation also occurs. See p. 41.

Backward assimilation: SZ

For intermediate steps, we need three so-called s-z laws. z is a voiced sibilant. It can originate from voiceless s before voiced consonant. Alternatively, it can go back to ie. ġ, again before voiced consonants. These are the sound laws:
B. Sound laws

| SZ  | ie. \( s \) before vowel or voiced stop \( \rightarrow *z \) |
|     | ie. \( \hat{g} \) before voiced stop \( \rightarrow *z \) |
|     | ie. \( \hat{g} \) before voiceless stop \( \rightarrow *s \) |

For examples concerning the first two sound laws, please, wait until pp. 44. An example for the third law, is provided by PPP \( isi-ta \) of \( \text{oi. } yaj \) ("to sacrifice"):

- ie. \( *\hat{i}\hat{g}-to \) (zero grade and to PPP marker)
- \( \rightarrow isi-ta \) (SZ before voiceless cons.)
- \( \rightarrow isi-ta \) (RUKI)
- \( \rightarrow isi-ta \) (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:

- \( a-bhar-an ca \) \( \rightarrow a-bhar-am-\hat{s} ca \)
- \( has-an t\hat{\i}kat\hat{e} \) \( \rightarrow has-am-\hat{s} t\hat{\i}kat\hat{e} \)
- \( d\hat{e}v\hat{\i}n tat\hat{r}a \) \( \rightarrow d\hat{e}v\hat{\i}m-\hat{s} tat\hat{r}a \)

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. \( *-o-n\)s and hence \( \text{oi. } \hat{a}\hat{n} \) in line with COMLs (p. 46). Apparently, the final consonant \( s \) was not dropped if standing right before the above consonants. Instead it was joined with, and assimilated to, these consonants (backward assimilation).

Forward assimilations: overview

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

1. Aspiration shift ASH (p. 35):
   - A prominent example is the PPP \( \text{bud-dha } \leftarrow \text{budd-ta} \). Both aspiration and voice go forward.

2. Cerebralization:
   - \( \diamond \) of \( s \) after \( i \) and other sounds (RUKI, p. 39) as in loc. pl. \( nadi\hat{s}u \) of \( nadi \), f. ("river")
   - \( \diamond \) of dentals after \( \hat{s}, \hat{g}, \) or \( z \) (CERD, p. 39), for example, PPP \( dr\hat{s}-ta \) of \( \text{oi. root } dr\hat{s}, \text{pa\hat{s}yat\hat{i}} \) ("to see")
   - \( \diamond \) of \( n \) after \( r \) (CERN, p. 40) as in \( mam\hat{\i}n\hat{\i}m, \text{n. ("death")} \)

3. Palatalization of \( n \) after \( j \):
   - \( \diamond \) The stem for "king" is \( r\hat{\i}j-\hat{\i}m \) and the instr. sg. is \( r\hat{\i}j-\hat{n}-\hat{\i}i \).
   - \( \diamond \) From ie. \( *\hat{\i}n\hat{\i}h_{3} \) ("to know"), we have \( \text{oi. root } \hat{\i}n\hat{\i}i \).
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Forward cerebralization: RUKI

One famous cerebralization law is called after the sounds that precede oi ː s, leading to cerebralization. These sounds are

- oí ː r-sounds, such as r and r with examples
  - karsa (“ploughing”) and
  - krṣa (“black, dark”)

- oí ː u-sounds such as u and ó (see DIPH, p. [24] with example gō-ṣtham (“cowshed”)
  ← stem gō (“cow”) + sthā (“to stand”)

- oí ː k with example loc. pl. vākṣu ← vāc (“word”)

- oí ː i-sounds such as i and é with examples
  - sthā, ti-ṣthati (“to stand”) with i-reduplication
  - dēva (“god”) with loc. pl. dēvēṣu
  - sad, ni-ṣidati

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

RUKI

<table>
<thead>
<tr>
<th>oí ː r/u/ō/k/i/ē + s not w.f., not before voiced stop</th>
<th>→</th>
<th>oí ː r/u/ō/k/i/ē + s</th>
</tr>
</thead>
<tbody>
<tr>
<td>ie. ks</td>
<td></td>
<td>oí ː ks</td>
</tr>
<tr>
<td>oí ː us/is before voiced stop</td>
<td></td>
<td>oí ː ur/ir</td>
</tr>
<tr>
<td>oí ː is-r</td>
<td></td>
<td>oí ː is-r (“no RUKI”)</td>
</tr>
</tbody>
</table>

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 vaś (“to wish”) with 2. pers. sg. present tense vak-ṣi ← ie. *vek-ṣi.

The third line is necessitated the neuter noun havis (“oblation”) with

- with instr. pl. havir-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:

CERD

<table>
<thead>
<tr>
<th>oí. ː s/ʃ + t</th>
<th>→</th>
<th>oí. ʃt</th>
</tr>
</thead>
<tbody>
<tr>
<td>ː + d/dh</td>
<td>→</td>
<td>ː + d/gh</td>
</tr>
</tbody>
</table>

The first line is which shows up in these examples.
B. Sound laws

◇ PPP *dry-ta* of oi. root *dry, paśyati* (“to see”)

◇ oi. *astā ←* ie. oktō ("eight"), but not in ie. *esty* ("he is") → oi. asti, where we have *s* rather than *ś* or *š*

For the second line consider

| ie. *misdho* | → *mizdha* (SZ before voiced cons.) | → *mizdha* (RUKI) | → *mizdha* (CERD) | → *mīḍha* (CL) |

and the PPP *is-ta* of oi. *yaj, yajatē* (“to sacrifice”) by this chain of sound laws:

| ie. *iṣ-to* (zero grade and to PPP marker) | → *iṣ-ta* (SZ before voiceless cons.) | → *iṣ-ta* (RUKI) | → *iṣ-ta* (CERD) |

**Forward cerebralization: CERN**

The rules for the cerebralization of *n* are complex. Roughly speaking, we have

\[ \text{CERN} \quad \text{oi. } n \text{ after } r/y/ṛ \text{ not word-final} \text{ (see below)} \rightarrow \text{oi. } n \]

Compare

◇ *jīvanam* (“life”) without *r*-sounds or *ś* before *n* versus

◇ *maranām* (“death”) where the *r* cerebralizes *n*.

Apparently, *r*-ś 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*-ś 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

◇ *rathena* (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

◇ *brahmaṇā* (instr. sg. of *brahman* (“god”)) where *h* and *m* do not involve the tip of the tongue.
B.3. Consonants

Dissimilations

Two sibilants lead to a dissimilation process. I also mention sound laws that involve an ie. palatal together with a sibilant:

\[
\begin{align*}
\text{DIS} & \quad \text{ie. } ss \rightarrow \text{oi. } ts \\
ss & \rightarrow \text{oi. } ks \\
\text{ie. } p-bh & \rightarrow \text{oi. } d-bh
\end{align*}
\]

The first two lines are dissimilation processes also described by SIBs. An example for the first line is \textit{ap-bhis} \rightarrow \textit{ad-bhis} (“with the waters”).

B.3.5. Consonant clusters and word-final consonants

Simplification of consonant clusters (CCL)

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:

\[
\begin{align*}
\text{CCL} & \quad \text{oi. } V C_1 C_2 \text{ word-final} \rightarrow \text{oi. } V C_1 \\
& \quad \text{oi. } V C_1 C_2 C_3 V \text{ word-interior} \rightarrow \text{oi. } V C_2 C_3 V
\end{align*}
\]

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

\begin{itemize}
\item From an Indo-European perspective, \textit{s} is often taken as the sign of nom. sg., both masculine and feminine, for example, in the thematic noun \textit{dev-a-s}, m. (“god”). In athematic nouns, \textit{s} is directly attached to the stem so that we might expect \textit{*marut-s}, but find nom. sg. \textit{marut} (“wind”) instead.
\item Parasmâipada imperfect sg. of athematic verbs also present suitable examples, for example
\end{itemize}

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

It is more difficult to find examples for simplification of word-interior clusters. Consider the desiderative \textit{bhik-s-u} (“beggar”) which derives from

\[
\begin{align*}
*\text{bhi-bhj-s-u} & \\
\rightarrow & \text{bhi-bj-s-u} \ (s \text{ cannot be aspirated}) \\
\rightarrow & \text{bhi-pk-s-u} \ (\text{backward ass. twice}) \\
\rightarrow & \text{bhi-k-s-u} \ (\text{CCL})
\end{align*}
\]
B. Sound laws

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>AFP</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 $\rightarrow$ k</td>
<td>g $\rightarrow$ k</td>
<td>gh $\rightarrow$ k</td>
<td>h $\rightarrow$ ??,</td>
</tr>
<tr>
<td>palatals</td>
<td>c $\rightarrow$ k/t</td>
<td>ch $\rightarrow$ k/t</td>
<td>j $\rightarrow$ k/t</td>
<td>jh $\rightarrow$ k/t</td>
<td>s $\rightarrow$ k</td>
</tr>
<tr>
<td>cerebrals</td>
<td>t</td>
<td>th $\rightarrow$ t</td>
<td>d $\rightarrow$ t</td>
<td>dh $\rightarrow$ t</td>
<td>ks $\rightarrow$ t, st $\rightarrow$ t</td>
</tr>
<tr>
<td>dentals</td>
<td>t</td>
<td>th $\rightarrow$ t</td>
<td>d $\rightarrow$ t</td>
<td>dh $\rightarrow$ t</td>
<td>s $\rightarrow$ h, nasals?</td>
</tr>
<tr>
<td>labials</td>
<td>p</td>
<td>ph $\rightarrow$ p</td>
<td>b $\rightarrow$ p</td>
<td>bh $\rightarrow$ 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>drś $\leftarrow$ ie. *derk</td>
<td>drk $\leftarrow$ ie. *drk-s</td>
<td>sight</td>
</tr>
<tr>
<td>bhaj</td>
<td>bhuk</td>
<td>enjoyment, utility</td>
</tr>
<tr>
<td>madhu-lih $\leftarrow$ ie. *medhu + ie. *leih</td>
<td>madhu-lit $\leftarrow$ ie. *medhu-lih-s</td>
<td>honey licker, bee</td>
</tr>
<tr>
<td>mṛd</td>
<td>mṛt</td>
<td>clay</td>
</tr>
<tr>
<td>viś $\leftarrow$ ie. *veik</td>
<td>viṭ $\leftarrow$ ie. *vik-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 AL and SP AL (see pp. 34), the change into k is the expected one because these palatal orginate from ie. velar or ie. palatal. Indeed, the palatalization has probably not occurred at all in absolute final position.

In view of viṭ and madhu-liṭ, we can postulate the development

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

B.3.6. Minor sound laws

Dialectal confusion of r and l

Ie. r may lead to oi. r or l and the same is true for ie. l. Thus, when we have 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:

◊ car-a-ti (“he wanders”) versus cal-a-ti (“he moves, he swings”)
B.3. Consonants

◊ rēkh-ā ("line, strip, picture") versus lēkh-ā ("line, strip, picture"), both of which are related to likh-ā-ti ("he writes")

Roots with and without word-initial s

A number of ie. roots come in two version, with and without word-initial s. See the dictionary chapter at oi. stan, (s)tHeg, kṛt, carman, paśyati, and lih.

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 \( D^{\text{vd}} \)). On the other hand, s (voiceless sibilant) is deleted between voiceless dentals:

\[
\begin{align*}
\text{DzD} & : \quad \text{ie. } D^{\text{vd}}D^{\text{vd}} \rightarrow \text{oi. } D^{\text{vd}}_2D^{\text{vd}} \\
\text{svD} & : \quad \text{ie. } D^{\text{vd}}_2sD^{\text{vd}}_2 \rightarrow \text{oi. } D^{\text{vd}}_2D^{\text{vd}}
\end{align*}
\]

The first sound law (sprouting of \( z \) between voiced dentals) is exemplified on p. 45. The second one is obvious from the gerund ut-thāya from ud-sthā.

Sibilants and palatals before s

Two sibilants lead to a dissimilation process. I also mention sound laws that involve an ie. palatal together with a sibilant:

\[
\begin{align*}
\text{SIBs} & : \quad \text{ie. } s, ss \rightarrow \text{oi. } t, ts \\
\text{SPAL} & : \quad \text{ie. } k, k\acute{s} \rightarrow \text{oi. } k\acute{s} \\
\text{PPAL, SZ} & : \quad \text{ie. } g, g\acute{s} \rightarrow \text{oi. } k\acute{s}
\end{align*}
\]

The last three lines are also instances of BA. Future forms present examples for sound law SIBs, in the order of the lines:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>( \sqrt{} )</td>
<td>translation</td>
<td>infinitive</td>
</tr>
<tr>
<td>vas</td>
<td>to dwell</td>
<td>vas-( t )um</td>
</tr>
<tr>
<td>hūs</td>
<td>to enjoy</td>
<td>hūs-( t )um</td>
</tr>
<tr>
<td>spr̥ś</td>
<td>to touch</td>
<td>spr̥ś-( t )um, spr̥ś-( t )um</td>
</tr>
<tr>
<td>vac</td>
<td>to say</td>
<td>vak-( t )um</td>
</tr>
<tr>
<td>yaj</td>
<td>to sacrifice</td>
<td>yas-( t )um</td>
</tr>
</tbody>
</table>

\( z \) to \( r \) before voiced consonant

A relatively late development is

\[
\begin{align*}
\text{ZR} & : \quad \text{oi. } isC^{\text{vd}} \rightarrow \text{oi. } irC^{\text{vd}} \\
& \quad \text{oi. } usC^{\text{vd}} \rightarrow \text{oi. } urC^{\text{vd}}
\end{align*}
\]

This sound law is exemplified by dur-ga, havir-bhis (see p. 195) or āyur-bhis (see p. 196).
B. Sound laws

B.3.7. Compensatory lengthening for suppression of z

DIPH shows how ō and ō go back to i.e. diphthongs. There is one other source for ō and ō, compensatory lengthening for the suppression of (voiced) z (in intermediate steps). The latter originates from (voiceless) s before vowels or voiced consonants by SZ [38]. We find:

\[
\text{COMLz} \\
\begin{array}{c}
oi. \text{as} C^{\text{red}} \\
oi. \text{is} C^{\text{red}} \\
oi. \text{as} C^{\text{red}} / V \\
oi. \text{as} + a \\
oi. \text{as} + i / /u//u/\text{ai} \\
\end{array} \rightarrow \\
\begin{array}{c}
oi. \text{œ}, \text{at the end of words} \\
oi. \text{ê}, \text{not w.-f., unclear} \\
oi. \text{œ}, \text{not w.-f., before cons. + i} \\
oi. \text{œ} + \varnothing \text{ (second w.-i. a is deleted)} \\
oi. \text{œ} + i / /u//u/\text{ai} \\
\end{array} \\
\text{C}^{\text{red}}
\]

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

\[
\begin{align*}
naras \text{ dhavati} & \text{ (without sandhi)} \\
\rightarrow & \text{ naraz dhavati} \text{ (SZ before voiced stop)} \\
\rightarrow & \text{ narō dhavati} \text{ (COMLz)}
\end{align*}
\]

Similarly (but internal sandhi), the instr./dat./abl. dual of manas, n.:

\[
\begin{align*}
\ast \text{manas-bhyām} & \rightarrow \text{manō-bhyām}
\end{align*}
\]

and the number 13:

\[
\begin{align*}
\ast \text{traya-s-daśa} & \rightarrow \text{trayo-daśa}
\end{align*}
\]

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

\[
\begin{align*}
\text{sas-daśa} & \text{ (without sandhi)} \\
\rightarrow & \text{sas-daśa} \text{ (SZ before voiced stop)} \\
\rightarrow & \text{sas-śaśa} \text{ (CERD)} \\
\rightarrow & \text{sō--daśa} \text{ (COMLz)}
\end{align*}
\]

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

\[
\begin{align*}
\text{ie. \ast veśh-tum} \text{ (full grade and infinitive marker tum)} \\
\rightarrow & \text{vajh-tum} \text{ (AĀ)} \\
\rightarrow & \text{vajj-dhum} \text{ (ASH)} \\
\rightarrow & \text{vajj-dhum} \text{ (SZ)} \\
\rightarrow & \text{vō-dhum} \text{ (COMLz)} \\
\rightarrow & \text{vō-dhum} \text{ (leveling with PPP ūdha, p. 105)}
\end{align*}
\]

Still within the first line, within a word before a consonant + i, one obtains the 2. sg. impv. of “to be”
B.3. Consonants

*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-dhī-dhi  
→ da-dzdhī (DzD, p. 43)  
→ da-dhī (CCL, p. 41)  
→ dāz-dhī  
→ dē-dhī (COMLz)  
→ dē-hi (analogy)

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

<table>
<thead>
<tr>
<th>bhi</th>
<th>with imperative ending hi:</th>
<th>bi-bhī-hi</th>
</tr>
</thead>
<tbody>
<tr>
<td>dāh</td>
<td>with imperative ending hi:</td>
<td>dē-hi</td>
</tr>
</tbody>
</table>

Turning to the second and third lines, compensatory lengthening amounts to just that: lengthening without qualitative change. Consider śūdatī from the root sad (“to sit”)  

sī-sd-ati (reduplication with i and zero grade, without sandhi)  
→ sī-zd-ati (SZ law before voiced cons.)  
→ sī-zd-ati (RUKI)  
→ sī-zd-ati (CERD)  
→ sūd-ati (COMLz)  
→ sūd-ati (leveling)

where leveling restores the dental:

<table>
<thead>
<tr>
<th>śūda-ati</th>
<th>influenced by sa-sūd-a (perf. 3. pers. sg.) or other forms from sad</th>
<th>with dental</th>
</tr>
</thead>
<tbody>
<tr>
<td>turns into</td>
<td>sūd-ati</td>
<td>with dental</td>
</tr>
</tbody>
</table>

For similar examples, consult the etymological dictionary for nīdam or mīdham. In the same environment, but within Old Indian, one observes the sound law zr (p. 43).

Turning to the third line, consider this development that leads to the PPP of vah ← ie. *vejh:

ie. *vej-h-to (zero grade and to-marker of PPP)  
→ uṣṭ-ha (hV)  
→ uṣ-dha (ASH)  
→ uz-dha (SZ)  
→ uz-dha (RUKI)  
→ uz-dha (CERD)  
→ ū-dha (COMLz)

According to a well-known sandhi rule, s is dropped from ās before voiced sounds. This is the fourth line of COMLz above and best understood as the result of two steps:
B. Sound laws

\[ \text{narās gacchanti} \text{ (without sandhi)} \]
\[ \rightarrow \text{narāgz gacchanti} \text{ (SZ)} \]
\[ \rightarrow \text{narāg gacchanti} \text{ (COMLz, ā is already long)} \]

A second example is provided by the 2. pl. present tense of ās (“to sit”):

\[ \text{ās-dhvē} \text{ (without sandhi)} \]
\[ \rightarrow \text{āz-dhvē} \text{ (SZ)} \]
\[ \rightarrow \text{ā-dhvē} \text{ (COMLz, ā is already long)} \]

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

\[ \text{narās īkṣantē} \text{ (without sandhi)} \]
\[ \rightarrow \text{narāz īkṣantē} \text{ (SZ)} \]
\[ \rightarrow \text{narā īkṣantē} \text{ (COMLz, ā is already long)} \]

As in the first line, ās turns to ō also before ā (fifth line), but the latter is then deleted as in

\[ \text{rāmas atra} \text{ (without sandhi)} \]
\[ \rightarrow \text{rāmaz atra} \text{ (SZ)} \]
\[ \rightarrow \text{narō atra} \text{ (COMLz)} \]
\[ \rightarrow \text{narō ‘tra} \text{ (a of second word drops)} \]

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

\[ \text{rāmas īkṣatē} \text{ (without sandhi)} \]
\[ \rightarrow \text{rāmaz īkṣatē} \text{ (SZ)} \]
\[ \rightarrow \text{rāma īkṣatē} \text{ (z drops)} \]

B.3.8. Word-final compensatory lengthening

Apart from COMLz, other types of compensatory lengthening occur:

\[ \text{COMLr} \text{ } \text{oi. } \text{Vr} + r \rightarrow \text{oi. } \hat{V} + r \]
\[ \text{COMLs} \text{ } \text{oi. } \text{VCs} \rightarrow \text{oi. } \hat{V} + C \]

The first line is exemplified by the sandhi rule

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

but is not fulfilled in

\[ \text{*nētar-s} \rightarrow \text{oi. } \text{nēlā} \text{ pp. 211} \]

where additional information is given at the pages indicated.

The second line is present in

\[ \text{*bala-vant-s} \rightarrow \text{oi. } \text{bala-vān} \text{ pp. 199} \]
\[ \text{*su-manas-s} \rightarrow \text{oi. } \text{su-manās} \]
\[ \text{*gir-s} \rightarrow \text{oi. } \text{gīr} \]
\[ \text{acc. pl. ie. } \text{*deiv-o-ns} \rightarrow \text{deiv-ān} \text{ pp. 192} \]
\[ \text{acc. pl. ie. } \text{*nei-tr-ns} \rightarrow \text{nei-tr-ṇ} \text{ pp. 211} \]
B.4. Middle and New Indian

Against COMLs, we find

\[ *gach-an-t-s \rightarrow \text{oi. } gach-an \text{ (CCL)} \] pp.
\[ *rāj-an-s \rightarrow \text{oi. } rājā \quad \text{pp. 206} \]
\[ *gōg-in-s \rightarrow \text{oi. } gōgī \quad \text{pp. 209} \]

B.3.9. Old Indian \( h \)

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

\( \diamond \) from ie. palatal \( gh \) through primary palatalization,
\( \diamond \) from ie. velar \( gh \) or from ie. labiovelar \( g^w h \) through secondary palatalization,

It may also be dialectal from

\( \diamond \) ie. \( dh \) (see the past participle \( hita \) of \( dhā \) ) or
\( \diamond \) ie. \( bh \) (see oi. \( grh \) besides oi. \( grbh \) “to grab”)

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

\( \diamond \) oi. \( hanu \) “chin” versus lat. \( gena \sim nhg. \) Kinn
\( \diamond \) oi. \( ahām \) versus lat. \( ego \sim Berlinish icke \), where courageous laryngalists assume this development:

\[ \begin{align*}
\text{ogr. } ego & \quad \leftarrow \quad \text{ie. } *h₁e\dot{g}₂ʾm \\
& \rightarrow \quad h₁e\dot{g}₂om \text{ (laryngeal metathesis of } h₂ \text{ and } o) \\
& \rightarrow \quad e\dot{g}hom \text{ (LAR)} \\
& \rightarrow \quad ahām \text{ (PPAL, AĀ)} \\
\end{align*} \]

\( \diamond \) oi. \( mahan \) “great” versus ogr. \( megas \sim \text{lat. } magnus \sim \text{e. } much \)

\( \diamond \) oi. \( duhatar \) “daughter” versus ogr. \( thugār \) again involving laryngeals: ie. \( *dhuq-h₂ter \)

\( \diamond \) oi. \( hrd \) (“heart”) versus lat. \( cor, condis \) where \( h \) represents an ie. (voiceless!) palatal (???) (ie. \( *kərd \))

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 Śaurasenī, Māghadhī, or
B. Sound laws

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 Pāṇinī) is not a mother tongue of Pali or of (a) Prakrit, it is surely more conservative than these Middle Indian languages in most respects. In some features, Pali is more conservative than Sanskrit. With this in mind, we feel justified to use the arrow → in

oi. ava → mi. o

or

oi. dugdha → pa. duddha

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

This section has benefitted from Hinterber [1986], Woolner [1996], Masica [1991], and Oberlies [2003]. We give some important (selected) sound laws to help understanding the examples given in the dictionary part.

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 ï or ü, respectively.

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

Now, mi. ê and ô basically have three origins:

oi. ê/äi/ayä → mi. ê
oi. ô/äu/ava → mi. ô

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

oi. tâla ("oil") → pa. têla ~ pkt. têla

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

oi. apa mi. ô → mi. ô

Mi. ê has additional sources:

oi. âyi/ayi/avi → mi. ê

Thus, oi. long diphthongs äi or äu 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 (or more) consonants, in Middle Indian, either the long vowel has to be shortened or the double consonant simplified. This can be seen in oi. *upēkkhā* which corresponds to

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

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*:

\[
\begin{align*}
i. \text{RC} & \rightarrow \text{mi. RiC} \\
i. \text{CR} & \rightarrow \text{mi. CiR}
\end{align*}
\]

but *u*

- 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 *klīd*, “to get wet”) → pkt. *kliṇṇa* (see also p. 51) oi. *varṣa* (“rain”) → pkt. *varisa* (together with oi. *ś/s/s → mi. s*)
- oi. *padma* (“lotus”) → pa. *paduma* ~ pkt. *paūma*
- oi. *śvas* (“tomorrow”) → pkt. *suvo* (near half vowel *v*)
- oi. *smarati* (“he remembers”) → pa. *sarati* ~ pkt. *sumadī* (near labial *m*)
- oi. *harṣa* (“joy, delight”) → pkt. *harisa*

Vocalic *r*

Oi. *r* turns into *i*, *a*, or *u*:

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

as can be seen in these examples. We have

- oi. *r* → mi. *i* after or before light vowel
B. Sound laws

- oi. ṛṇa ("debt") → pa. ṯṇa
- oi. ṛṣi ("seer") → pa. ṯsi
- oi. kṛta (PPP of kṛ) → pkt. kida (see subsection B.4.3 pp. 52)
- oi. kṛmi ("worm") → pa. kimi (see also pp. 56)
- *sṛthiṃ ("loose", reconstructed PPP of śrath ("to loosen, to resolve")) → pkt. śithira (in the Ṛgveda!)

◇ oi. ṛ → mi. u after labial
- oi. prochati ("he asks") → pa. pucchatipucchati

◇ oi. ṛ → mi. i/a otherwise
- oi. grha ("house") → pa. gaha
- oi. bhṛta ("servant") → pa. bhata

Other rare developments

We also note

- oi. upa → mi. u
- oi. aya/āya → mi. ā

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 well 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. *padita*
  - oi. *prathama* (“first, prior, principal”) → pkt. *padhama* (see B.4.3 and B.4.3)

- n is often cerebralized as in
  - oi. *nayana* (“driving, eye”) → pkt. *naña*
  - oi. *bhôjana* (“eating, nutrition”) → pkt. *bhoña*

Other cerebral peculiarities

We sometimes see lenition, as in

\[ \text{mi. } t/θ/\theta \rightarrow \text{mi. } ɾ/dh/\delta \]

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

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

\( ɾ \) is then sometimes changed into \( ʃ \) as in

- oi. *kr̥ḍa* (“game”) → pkt. *kṛḍa* (see B.4.3)

Convergence of the three sibilants

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

\[ \text{oi. } s/s/s \rightarrow \text{mi. } s \]

Examples are

- oi. *pra-viś-a-ti* (“he enters”) → pa. *pa-vis-a-ti*
- oi. *bhāṣati* (“he speaks”) → pa. *bhāṣati*
- oi. *sasa* (“hare”) → pa. *sasa*
- oi. *śiṣya* (“pupil”) → pa. *sissa* (see also pp. 56)
B. Sound laws

Aspiration, compensatory and otherwise

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

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

Here are some examples:

◊ oī. kṣatriya (“warrior”) \(\rightarrow\) pkt. khattia (p. 56 and p. 55)
◊ oī. kṣipta (PPP of oī. kṣip) \(\rightarrow\) pkt. khitta (p. 56)
◊ oī. spṛṣati (“touches”) \(\rightarrow\) pa. phusati \(\sim\) pkt. phusaï

Alternatively, we may find ch rather than kh, as in

◊ oī. kṣatta (“wounded”) \(\rightarrow\) pa. khatta \(\rightarrow\) pkt. chaya/khaya
◊ oī. kṣetra (“field”) \(\rightarrow\) pa. khëtta \(\rightarrow\) pkt. chëtta/khëtta

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

◊ oī. aksi, n. (“eye”) \(\rightarrow\) pkt. akkhi
◊ oī. asti (“he is”) \(\rightarrow\) pkt. athhi
◊ oī. hasta (“hand”) \(\rightarrow\) pkt. hattha

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

◊ oī. kubja (“crooked, bent”) \(\rightarrow\) pkt. khujja
◊ skt./pkt. vata (“fig tree”) \(\rightarrow\) *vatha \(\rightarrow\) pkt. *vadha

Intervocalic lenition or loss of non-aspirated plosives

Between vowels, we may find

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

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

\[
\text{oī. } t & \rightarrow & \text{mi. } d
\]

Examples:

◊ oī. avalokita (“looked at”) \(\rightarrow\) pkt. ōloīa
◊ oī. ēti (“he goes”) \(\rightarrow\)
B.4. Middle and New Indian

- Šaurasenī pkt. ēdi
- Māhārāṣṭrī pkt. ēi

- o. nakula (“mangosteen”) → pkt. nauła
- o. nagaram (“town”) →
  - pkt. nayara (where y occurs to avoid hiatus)
  - pkt. nayara (see subsection B.4.3)
- o. bhōjanam (“eating, nutrition”) → pkt. bhoana
- o. latā (“creep”) →
  - Šaurasenī pkt. ladā
  - Māhārāṣṭrī pkt. laā
- o. loka (“world”) →
  - Šaurasenī pkt. loga
  - Māhārāṣṭrī pkt. lōa
- o. suca (“cleanliness”) → pkt. sōa
- o. sakala (“total, complete”) → pkt. saala
- o. hita (PPP of dhā) →
  - Šaurasenī pkt. hīda
  - Māhārāṣṭrī pkt. hīa

Note that these plosives sometimes remain or that the unvoiced ones are voiced. Examples for voiced consonants for unvoiced ones are
- o. athiti (“guest”) → pkt. adhidi
- o. kṛta (PPP of kṛ) → pkt. kita
- o. gata (PPP of gam) → pkt. gada

Intervocalic lenition or loss of aspirated plosives

In line with the above sound laws

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

we find

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

Consider these examples:

- **oi. atha** ("and, now") \(\rightarrow\)
  - Śāurasenī pkt. adha
  - Māhārāṣṭrī pkt. aha

- **oi. katham** ("how? in what manner?") \(\rightarrow\)
  - Śāurasenī pkt. kadham
  - Māhārāṣṭrī pkt. kaham

- **oi. nakha** ("finger nail") \(\rightarrow\) pkt. naha
- **oi. mukha** ("mouth") \(\rightarrow\) pkt. muha
- **oi. mēgha** ("cloud") \(\rightarrow\) pkt. mēha
- **oi. vadhū** ("bride") \(\rightarrow\) pkt. vahū

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

- **oi. citra-phalakam** ("painting") \(\rightarrow\) pkt. citta-phalaa

### Doubling of aspirated and non-aspirated consonants

In contrast to the two previous subsections, aspirated and non-aspirated consonants may be doubled instead of being dropped. Then, the law of morae has to be observed:

- **oi. êka** ("one") \(\rightarrow\) pkt. êkka
- **oi. êvam** ("thus") \(\rightarrow\) pkt. êvam
- **oi. tāilam** ("oil") \(\rightarrow\) pkt. tēlla
- **oi. nakha** ("finger nail") \(\rightarrow\) pkt. nakkha
- **oi. yāuvanam** ("youth") \(\rightarrow\) pkt. jōvan(a)(see p. 51)

### 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** \(\rightarrow\) pkt. jathā
- **oi. yuddha** ("battle") \(\rightarrow\) pkt. juddha
B.4. Middle and New Indian

Diamond. *yogī → pkt. jōgī*

but see also (in non-initial position) *aryaputra → pkt. ajjāṭṭa* (see law of morae and subsection B.4.3)

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. tyaṇa* (“abandonment”) → *pa. cāṇa*
- *oi. dyāta* (“gambling”) → *pa. jāta*
- *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:

*oi. k/p → mi. kh/ph*

In the *oi. root bhū*, we often have *mi. h* for *bh* and find

- *oi. and pa. bhav-a-ti* (“he is”) versus *pkt. ho-ti* or even *hoī*
- *oi. bhav-i-sy-a-ti* (“he will be”) → *pkt. havissadī* (see subsection B.4.3)

**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:

- *oi. rūpam* (“form, beauty”) → *pkt. rūa*

*Oi. y* tends to be dropped:

- *oi. priya* (“dear, pleasant”) → *pkt. pia* (see subsection B.4.3)
- *oi. vi-yoga* (“disjunction, separation”) → *pkt. vioa*
B. Sound laws

Clusters: Backward assimilation for non-palatal plosives

If two 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

- \( \text{oi. utkramati ("he ascends") } \rightarrow \text{pa. ukkamati} \)
- \( \text{oi. kubja ("crooked, bent") } \rightarrow \text{pkt. khajja (see also subsection B.4.3)} \)
- \( \text{oi. dugdha ("milk") } \rightarrow \text{pa. duddha} \)
- \( \text{oi. labdha (PPP labh, "to obtain") } \rightarrow \text{pa. laddha} \)
- \( \text{oi. vāk-pati-rāja ("king who is also a master of language") } \rightarrow \text{pkt. vap-pai-rāa} \)
- \( \text{oi. śābda ("sound") } \rightarrow \text{pa. sadda} \)
- \( \text{oi. sakta ("attached") } \rightarrow \text{pa. satta (as in oi. "bodhisakta ("who clings to enlightenment") } \rightarrow \text{bodhisatta, according to Hinüber [2007, pp.387-390]} \)
- \( \text{oi. sapta ("seven") } \rightarrow \text{pa. satta} \)

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:

\[ P_{\text{unpal}} > S > N > P_{\text{pal}} > l > v > y > r \]

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:

- \( \text{oi. agni ("fire") } \rightarrow \text{pa. aggi} \)
- \( \text{oi. ardha ("half") } \rightarrow \text{mi. addha/āḍḍha} \)
- \( \text{oi. alpa ("small ") } \rightarrow \text{pa. appa} \)
- \( \text{oi. kalpa ("eon, ritual, rule") } \rightarrow \text{pa. kappa} \)
- \( \text{oi. triloka ("three worlds") } \rightarrow \text{pkt. tilōa} \)
- \( \text{oi. tvacam ("skin") } \rightarrow \text{pa. taco} \)
B.4. Middle and New Indian

- oi. *durbala* (“weak”) → pkt. *dubbala*
- oi. *dṛṣṭi* (“sight”) → pkt. *diṭṭhi*
- oi. *dṛṣṭya* (“visible”) → pkt. *dassa*
- oi. *dvija* (“twice born”) → pa. *dīja*
- oi. *pakva* (“cooked, ripe”) → pa. *pakka*
- oi. *bharta* → mi. *bhatta*
- oi. *yogya* (“exercise”) → pa. *yoggā* (law of morae)
- oi. *rātrī* (“night”) → pa. *rattī* (law of morae)
- oi. *śak-no-ti* (“he is able”) → pa. *sak-kō-ti*

**Palatals are weaker than nasals:**
- oi. *ājñāpayati* (“he orders”) → pkt. *ānāvedi*
- oi. *yajñam* (“sacrifice”) → pkt. *jaṅṇa*

**Sibilants occupy second position in hierarchy:**
- oi. *śvāra* (“lord”) → pa. *issara*
- oi. *dṛṣṭya* (“visible”) → pa. *dassa*
- oi. *varṣa* (“rain”) → pa. *vassa*
- oi. *śyāma* (“dark”) → pa. *sāma*
- oi. *sahasra* (“thousand”) → pa. *sahassa*
- oi. *sravati* (“it flows”) → pa. *savati*

**r is weakest:**
- oi. *argha* (“price”) → pkt. *aggha*
- oi. *ardha* (“half”) → pkt. *addha*
- oi. *ava-tīrṇa* (“come down”, PPP of *tīrṇa* → pkt. *o-ṝṇa* → *o-ṝṇa* → *o-ṝṇa*
- oi. *karna* (“ear”) → pa. *kaṁṇaoi. priya* (“dear, pleasant”) → pa. *pia*
- oi. *grāma* (“village”) → pa. *gāma*
- oi. *cakram* (“wheel”) → pa. *cakka*
B. Sound laws

- oi. durlabha ("difficult to obtain") → pa. dullabha
- 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. vippa ("Brahmin") → pa. vippa
- oi. vyagra ("indifferent, undisturbed") → pa. vagga
- oi. vrīhi ("rice") → pa. vihi

Exceptions to the above hierarchy concern three groups:

1. Dental + y yields new palatals (where voice and aspiration remains):
   - oi. tyāga ("abandonment") → pa. cāga
   - oi. dyūta ("gambling") → pa. jūta
   - oi. dhyānam ("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. pānca ("five") → pa. pānca
   - 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:

Middle Indian double consonants are simplified with two effects:

1. The preceding vowel is lengthened (compensatory lengthening).

2. In Hindi (more than in some other New Indian languages), this compensatory lengthening often (not always) occurs together with nasalisation.
A very similar development is witnessed for NP sequences:

1. The consonant cluster is simplified and only the plosive remains.

2. The preceding vowel is lengthened and nasalised. Of course, since the nasal is present, here, in the first place, this nasalisation is no surprise.

In Apabhraṃśa, Middle Indian final long vowels are shortened. In New Indian, final short vowels are lost. Together, these three developments clearly show in the our examples.

1. Double consonants simplified without nasalisation:
   - oi. dudhha (“milk”) → pa. duddha → hi. ṅūdh
   - oi. rāṭṛi (“night”) → pa. ratti → hi. rāt
   - oi. sapta (“seven”) → pa. satta → hi. sāṭ

2. Double consonants simplified with nasalisation (where ṅ stands for nasalised ā):
   - oi. aksi, n. (“eye”) → pkt. akkhi → hi. ṅākh
   - oi. sarpa (“serpent”) → pa. sappa → hi. sāp

3. Nasal lost under nasalisation and compensatory lengthening
   - oi. aīka (“mark, sign”) → pa. aīka → hi. ṅāk
   - oi. kampa (“tremble”) → pa. kampa → hi. kāp
   - oi. danta (“tooth”) → pa. danta → hi. dāt
   - oi. pāṅca (“five”) → pa. pāṅca → hi. pāc

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. We 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,
B. Sound laws

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

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

\[
\text{LAT\_V} \quad \begin{align*}
\text{ie. } e \text{ before } u \text{ or } v & \rightarrow \text{ lat. } o \\
\text{olat. } ei & \rightarrow \text{ lat. } i \\
\text{olat. } ou & \rightarrow \text{ lat. } ū
\end{align*}
\]

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

For the second line, consider \text{lat. } dīcere ("to say") that goes back to \text{olat. } deīcere with PPP in zero grade \text{dictum}.

The third line can often be seen as the result of the first two ones:

\[
\text{ie. } *\text{deuk} \text{ (full grade)} \rightarrow \text{douk (LAT\_V first line)} \rightarrow \text{dūk (LAT\_V second line)}
\]

which is found in \text{lat. } dūcere ("to lead").

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 where \text{murmeln} means to \text{murmur}). Examples are \text{e. seven} and \text{nhg. sieben} and \text{e. eat} versus \text{nhg. essen}.

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

\[
\text{NHG\_V} \quad \begin{align*}
\text{ie. } a/o & \rightarrow \text{nhg. } a \\
\text{ie. } ā/ō & \rightarrow \text{nhg. } ā \\
\text{ie. } e & \rightarrow \text{nhg. } ĭ
\end{align*}
\]

For the first line, consider

\begin{itemize}
\item \text{ie. } *\text{oktō} \rightarrow \text{lat. octō} \sim \text{nhg. } acht
\item \text{lat. } toga \sim \text{nhg. } Dach
\item \text{lat. } monere \sim \text{nhg. } mahnen
\end{itemize}

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

\begin{itemize}
\item \text{lat. } cārus (\text{clear}, fr. cher) \sim \text{e. whore} \sim \text{nhg. } Hure
\item \text{ie. } *\text{brātēr} \rightarrow \text{lat. frāter} \sim \text{nhg. } Bruder
\end{itemize}

And here two examples for the third line:

\begin{itemize}
\item \text{ie. } *\text{brāndh} \rightarrow \text{oi. bandh} \sim \text{nhg. } binden
\item \text{ie. } *\text{asti} \rightarrow \text{lat. est} \sim \text{oi. asti} \sim \text{nhg. } ist
\end{itemize}

A more detailed treatment can be found in \text{Wiese} \text{2010}.
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:

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

A very instructive example is the negating prefix ie. \( n \).

◊ Sanskrit examples between consonants: \( a\text{-}\text{gatika} \) ("without way out"), \( a\text{-}\text{kriya} \) ("lazy"), \( a\text{-}\text{k\dh{a}}la \) ("wrong time"), \( a\text{-}\text{n\dh{a}yaka} \) ("without leader"), \( a\text{-}\text{r\ata}ha \) ("without charriot"), \( a\text{-}\text{putra} \) ("without son")

◊ Sanskrit examples before vowel: \( an\text{-}\text{anta} \) ("without end"), \( an\text{-}\text{\dh{a}ma\dh{j\sa}}a \) ("not knowing oneself")

◊ Germanic examples: nhg. \( un\text{-}\text{gl\d{a}ubig} \), e. \( un\text{-}\text{happy} \), e. \( un\text{-}\text{believable} \)

◊ Greek-based FW: \( a\text{-}\text{theist} \), \( a\text{-}\text{archy} \)

◊ Latin-based FW: \( \text{in\text{-}\text{effective}} \), \( \text{im\text{-}\text{perfect}} \)

We sometimes have mixtures such as \( a\text{-}\text{social} \) (the first part Greek, the second Latin) or German \( un\text{-}\text{effektiv} \) (German-Latin) versus e. \( \text{in\text{-}\text{effective}} \) (where both parts are from Latin).

The past participle is build with the zero grade. Compare nhg. \( \text{ge\text{-}\text{bund-en}} \) with oi. \( \text{bad\dh{d}ha} \), both from from ie. \( \text{*bhendh} \).

Syllabic liquids follow these sound laws:

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

Consider a few examples

◊ ie. \( *\text{wrkw} \rightarrow \text{oi. } \text{vrka} \sim \text{e. } \text{wolf} \sim \text{nhg. } \text{Wolf} \)
B. Sound laws

◇ ie. *drīk → oi. drī-
◇ ie. *gʷru → oi. gurū ~ огр. baru as in the FW baro-meter
◇ ie. *pl ꞉ → oi. paru

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></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

- full grade er: werden (“to become”)
- o-grade or: ward (“he became”), a as in ie. *oktō → nhg. acht
- zero grade ꞉: geworden (PPP “become”), as in Wolf, p. 61

According to this pattern, we also find due to sound laws and due to analogy:

◇ werben, warb, geworden
◇ werfen, warf, geworfen
◇ bergen, barg, geborgen
◇ sterben, starb, gestorben
◇ helfen, half, geholfen

With ꞉ instead of r, we have

- full grade en: finden (“to find”)
- o-grade on: fand (“he found”), a as in ie. *oktō → nhg. acht
- zero grade ꞉: gefunden (PPP “found”)

The English language also shows this ablaut pattern:

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>full grade</td>
<td>sing</td>
<td>singen</td>
</tr>
<tr>
<td>o-grade</td>
<td>sang</td>
<td>sang</td>
</tr>
<tr>
<td>zero grade</td>
<td>sung</td>
<td>gesungen</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. For Greek, you remember the first line of the sound law OGR.

<table>
<thead>
<tr>
<th>OGR</th>
<th>ie. ( bh/dh/gh )</th>
<th>( kw/gw/gw'h ) before cons., ( a, i, o )</th>
<th>g</th>
<th>( k/w/gw/'h ) before nasal</th>
<th>ie. ( vh )</th>
<th>ie. ( s )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>→ ogr. ( ph/th/kh ) (written)</td>
<td>→ ogr. ( p/b/bh ) (written)</td>
<td>→ ogr. ( t/d/dh ) (written)</td>
<td>→ ogr. ( k/g/gh ) (written)</td>
<td>→ ogr. ( \emptyset )</td>
<td>→ ogr. ( h )</td>
</tr>
</tbody>
</table>

This sound law is responsible for the fact that you can often recognize Greek foreign words by

- \( \diamond \) **ph**: philosophy, phobia
- \( \diamond \) **th**: theology, theatre, mathematics
- \( \diamond \) **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, \( gw'h \) before \( e \) finally turns into \( th \).

For the fifth line of OGR compare

- \( \diamond \) lat. vox with gr. FW epic (see dictionary at vac)
- \( \diamond \) lat. FW vicinity with gr. FW economics
- \( \diamond \) oi. kravis with ogr. kreas ← ie. *kreuh2s-

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. \( s \) 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. FW salto \( \sim \) agr. halma (as in board game)
- e. same \( \sim \) gr.-lat. FW homosexual
- lat. FW semi-final \( \sim \) gr. FW hemisphere
- lat. FW serpent \( \sim \) gr. FW herpes (a skin disease, spreading like a snake)
B. Sound laws

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

OGR _DA

\[ \text{ie. } \overset{\text{Casp}}{V} \overset{\text{Casp}}{V} \rightarrow \text{oi. } \overset{\text{Cmasp}}{V} \overset{\text{Casp}}{V} \]

In Latin, the development \( b^h/d^h/g^h \) is complicated. It pays to remember

LAT_F

\[ \text{ie. } b^h/d^h/g^h \rightarrow \text{lat. } f \]

For example, \( *b^h\text{reg} \) leads to the lat. FWs \( \text{fragile or faction} \).

The consonant 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:

GER

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

In words:

- Voiceless unaspirated \( p/t/k \) turn into fricatives. Compare lat. \( \text{pecas } (\text{cow}) \) as in the FW \( \text{pecuniary } \sim \text{e. fee} \) and also the Latin based FW \( \text{pedal or pedicure with e. foot} \).

- Voiced unaspirated plosives turn voiceless. This can be seen from lat. \( \text{ego } \sim \text{Berlin low German icke or also ital. gelato } (\text{ice}) \sim \text{e. cold} \).

- Voiced aspirated sounds lose the aspiration. Compare ie. \( *b^h\text{reg} \) with lat. FW \( \text{fragile with e. break} \)

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 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.:

NHG_C

\[
\begin{align*}
germs. t & \rightarrow \text{ng. } \{ s/ss \text{ after vowel } \} \\
germs. k & \rightarrow \text{ng. } \{ ch \text{ after vowel } \} \\
germs. p & \rightarrow \text{ng. } \{ f/ff \text{ after vowel } \} \\
germs. b & \rightarrow \text{e. th } \sim \text{ng. d} \\
germs. d & \rightarrow \text{e. d } \sim \text{ng. t}
\end{align*}
\]
where \( \breve{p} \) (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 NHG\textsubscript{C}, consider these examples after a vowel:

\[
\begin{align*}
\text{e. eat} & \sim \text{nhg. essen} & \text{e. nettle} & \sim \text{nhg. Brennnessel} \\
\text{e. what} & \sim \text{nhg. was} & \text{e. let} & \sim \text{nhg. lassen} \\
\text{e. out} & \sim \text{nhg. aus} & \text{e. shoot} & \sim \text{nhg. schießen} \\
\text{e. white} & \sim \text{nhg. weiß} & \text{e. goat} & \sim \text{nhg. Geiß} \\
\text{e. hot} & \sim \text{nhg. heiß} & \text{e. sprout} & \sim \text{nhg. sprießen}
\end{align*}
\]

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

\[
\begin{align*}
\text{e. town} & \sim \text{nhg. Zaun} & \text{e. timber} & \sim \text{nhg. Zimmer} \\
\text{e. tide} & \sim \text{nhg. Zeit} & \text{e. tongue} & \sim \text{nhg. Zunge} \\
\text{e. tear} & \sim \text{nhg. zerren} & \text{e. fif-ty} & \sim \text{nhg. fünfzig} \\
\text{e. till} & \sim \text{nhg. Ziel} & \text{e. ten} & \sim \text{nhg. zehn}
\end{align*}
\]

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

\[
\begin{align*}
\text{e. weak} & \sim \text{nhg. weich} & \text{e. break} & \sim \text{nhg. brechen} \\
\text{e. duck} & \sim \text{nhg. tauchen} & \text{e. seek} & \sim \text{nhg. suchen} \\
\text{e. lock} & \sim \text{nhg. Loch} & \text{e. spoke} & \sim \text{nhg. Speiche} \\
\text{lat. cocus} & \rightarrow \text{e. cook} & \sim \text{nhg. Koch} & \text{lat. sicilis} \rightarrow \text{Sichel} \\
\text{lat. sēcūrus} (\sim \text{se cūrā, “without worry, carefree”}) & \rightarrow \text{sicher} & \text{lat. dictāre (,,to speak\(\,\)\)} & \rightarrow \text{dichten}
\end{align*}
\]

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

\[
\begin{align*}
\text{e. path} & \sim \text{nhg. Pfad} & \text{e. hip} & \sim \text{nhg. Hilfe} \\
\text{e. leap} & \sim \text{nhg. laufen} & \text{e. heap} & \sim \text{nhg. Haufen} \\
\text{e. sleep} & \sim \text{nhg. schlafen} & \text{e. sheep} & \sim \text{nhg. Schaf} \\
\text{lat. planta} & \rightarrow \text{e. plant} & \sim \text{nhg. Pflanze} & \text{lat. piper} \rightarrow \text{e. pepper} \rightarrow \text{Pfeffer}
\end{align*}
\]

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

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

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

- e. bed ~ nhg. Bett
- e. bed ~ nhg. Beet
- e. board ~ nhg. Brett
- e. ride ~ nhg. reiten
- e. day ~ nhg. Tag
- e. deep ~ nhg. tie
- e. door ~ nhg. Tür
- e. do ~ nhg. tun
- e. spade ~ nhg. Spaten
- e. good ~ nhg. gut
- e. red ~ nhg. rot
- e. ladder ~ nhg. Leiter
- e. dead ~ tot
- e. seed ~ Saat
- e. drink ~ nhg. trinken
- e. duck ~ nhg. tauchen
- e. deer ~ nhg. Tier
- e. lead ~ nhg. leiten
- e. mood ~ nhg. Mut
- e. daughter ~ nhg. Tochter
- e. tide ~ nhg. Zeit
- e. under ~ nhg. unter
- e. wide ~ nhg. weit
- e. widow ~ nhg. Witwe
- e. dear ~ nhg. teuer
- e. shoulder ~ nhg. Schulter
- e. need („Bedarf“) ~ Not

Exceptions

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

1. Germ. t remains after f, s or ch:
   - □ lat. captivus ~ nhg. Haft
   - □ e. stone ~ nhg. Stein, but not Szein (just you try)
   - □ e. starve ~ nhg. sterben
   - □ e. is ~ nhg. ist ← ie. *esti → oi. 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 seems closer to Germanic than New High German. However, sometimes, New High German is more conservative than English:

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B.5. Sound laws of other IE languages

| NHG_E | germ. b | → | nhg. b | ~ | e. v/f |
| germ. ch not w.-i. | → | nhg. ch | ~ | e. Ø (written gh) |
| germ. g not w.-i. | → | nhg. g | ~ | e. Ø (written i or y) |
| germ. g w.-i. | → | nhg. g | ~ | e. y |
| germ. k | → | nhg. k | ~ | e. ch (near o.e. i or e) |
| germ. n/m | → | nhg. n/m | ~ | e. Ø (before f, th, or s) |

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. Nacht
- e. knight ~ nhg. Knecht
- e. weight ~ nhg. Ge-wicht
- e. plight ~ nhg. Pflicht
- e. eight ~ nhg. acht

and

- e. rain ~ Regen
- e. way ~ Weg
- e. to lie ~ liegen
- e. many ~ mannig-faltig
- 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 can point to these examples:

- e. church ← Old English cirice ~ nhg. Kirche
- e. choose ← Old English 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. wish ~ wünschen
- e. us ~ uns
- e. tooth ~ Zahn
- e. other ~ anderer
- e. goose ~ Gans

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B. Sound laws

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. *tres ~ e. three ~ nhg. drei
- lat. *tu ~ e. thou (old form) ~ nhg. du
- gr. FW *cardiology ~ fr. *cardialement ~ e. heart ~ nhg. Herz
- lat. FW *dental ~ e. tooth ~ nhg. Zahn
- *Dun (Laoghaire) (Irish town near Dublin) ~ e. town ~ nhg. Zaun
- gr. FW *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 after the ie. accent, we have

\[ \text{VER} \]

- ie. p/t/k/s not word-initial, no immediately after ie. accent
- germ. *d_{fric} / *d^{\text{fric}} / *g_{fric} / *r
- \{ e. v/th/g/r
- nhg. b/t/g/r

where “fric” stands for fricative. These sounds are consonants produced by forcing air through a narrow channel. Sibilants (like oi. s or š) 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}}.

\[ \text{NHG}_C \]

- germ. d ~ e. d (example red) ~ nhg. t (example rot)
- germ. *d^{fric} ~ e. d (example father) ~ nhg. t (example Vater)

The fricative nature shows more clearly in English words like father. Indeed, ie. *ph₂ær (where ə 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^{fric}.

Otherwise, we have the (more common) development:

\[ \text{NHG}_C \]

- ie. p/t/k/s word-initial or not immediately after ie. accent
- germ. f/h/s
- germ. f/d/h/s
- e. f/th/h/s

where the example of ie. *bʰrətər yields e. brother ~ 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. In particular,

\[
\begin{align*}
\text{SEQ1} & \quad \text{DA} \rightarrow \text{PPAL} \rightarrow \text{SPAL} \rightarrow \text{A\text{"A}} \\
\text{SEQ2} & \quad \text{DzD} \rightarrow \text{PPAL} \rightarrow \text{SPAL} \rightarrow \text{A\text{"A}}
\end{align*}
\]

Here, \( \text{DA} \rightarrow \text{PPAL} \) means that sound law \( \text{DA} \) is applied before sound law \( \text{PPAL} \).

\( \text{OGR} \rightarrow \text{OGR\_DA} \)
C. Grammar: verbal system

C.1. Roots

Learners of Sanskrit are used to memorize

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

where

- \( bhud \), \( vas \), and \( pat \) are referred to as oi. roots and
- \( bhôdati \) etc. are the forms for the 3. pers. sg. present tense (“he understands” etc.).

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. 100).

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 \( a-pa-pt-a-t \).)

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”. In the present book, the word “root” will be used for Old Indian or Indo-European roots which may be of any grade. We call

- a root with \( e \) 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),
- a root where the \( e \) was lost the zero-grade root (in Sanskrit: see pp. 23),
- the root with \( ê \) rather than \( e \) the lenghtened \( e \)-grade root (in Sanskrit: \( ā \)),

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C. Grammar: verbal system

◊ the root with $o$ instead of $e$ the $o$-grade root (in Sanskrit: $a$), and

◊ the root with $\ddot{o}$ the lengthened $o$-grade root (in Sanskrit: $\ddot{a}$).

Typically, (ie.) roots are mono-syllabic and of one of the following forms

<table>
<thead>
<tr>
<th>syllabic structure</th>
<th>example</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$CeC$</td>
<td>med</td>
<td>to measure</td>
</tr>
<tr>
<td>$eC$</td>
<td>$ed$</td>
<td>to eat</td>
</tr>
<tr>
<td>$C-L-eC$</td>
<td>trem</td>
<td>to tremble</td>
</tr>
<tr>
<td>$C-eL-C$</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 $^{*}h_1ed$ instead of just $^{*}ed$. Similarly, ie. $^{*}ag$ with root vowel $a$ is replayed by $^{*}h_2eg$ where $h_2$ 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 sometimes, we do not mind reconstructions as $^{*}ed$ if the laryngeals do not provide additional insight.

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 $bh\ddot{a}$ (second class) do not distinguish between strong forms (typically full grade) and weak forms (typically zero grade), but use $bh\ddot{a}$- throughout although $bh\ddot{a}$ is full grade.

4. A given ie. root may give rise to two different oi. roots, such as $\ddot{e}-ti$ versus $\ddot{y}a$-ti or $jay-a$-ti versus $jy\ddot{a}$-ti.

Turning to 3., consider the syllable structure $C-e-C$. If the final consonant is a laryngeal, we obtain $C-e-H$ so that we obtain long $\ddot{a}$ as in

<table>
<thead>
<tr>
<th>$\sqrt{}$</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$p\ddot{a}$</td>
<td>$p\ddot{a}$-ti</td>
<td>to protect</td>
</tr>
<tr>
<td>$bh\ddot{a}$</td>
<td>$bh\ddot{a}$-ti</td>
<td>to shine</td>
</tr>
<tr>
<td>$m\ddot{a}$</td>
<td>$m\ddot{a}$-ti</td>
<td>to measure</td>
</tr>
<tr>
<td>$\ddot{y}a$</td>
<td>$\ddot{y}a$-ti</td>
<td>to go</td>
</tr>
<tr>
<td>$v\ddot{a}$</td>
<td>$v\ddot{a}$-ti</td>
<td>to blow</td>
</tr>
</tbody>
</table>

With respect to 4., we have $C-e-L-H$ versus $C-L-e-C$ in the table on syllable structures. Here, the root vowel $e$ may change place with a liquid, but similar interchanges may also occur with half vowels (in particular: $i$) and nasals (in particular: $n$). Then, a given ie. root may give rise to two different oi. roots as the following table shows:
### 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. 129).

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

\[
\begin{array}{c}
\text{bhûd} & , & \text{bhôd} & - a - ti \\
\text{oi root} & & \text{root} & \text{thematic ending}
\end{array}
\]

<table>
<thead>
<tr>
<th>i (&quot;to go&quot;), ê-ti</th>
<th>yā (&quot;to go out, to go forth&quot;), yā-ti</th>
</tr>
</thead>
<tbody>
<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>jān (&quot;to get&quot;)</td>
<td>jān (&quot;to know&quot;), jān-ti</td>
</tr>
<tr>
<td>jī (&quot;to conquer, to overcome&quot;), jay-a-ti</td>
<td>jyā (&quot;to suppress, to grow old&quot;), jyā-ti</td>
</tr>
<tr>
<td>t̄ (&quot;to cross&quot;), tar-a-ti</td>
<td>trâ(i) (&quot;to protect, to save&quot;), trā-ti</td>
</tr>
<tr>
<td>man (&quot;to think&quot;), man-yā-tē</td>
<td>mnā (&quot;to remember, to praise&quot;), mnā-ti</td>
</tr>
</tbody>
</table>

The long-ā roots like mnā look as if they were build by this rule:

\[
\text{zero-grade root} + \hat{a}
\]

However, they are best understood as oi. roots in full grade of the forms

\[
\begin{align*}
C-\hat{a} & \rightarrow C-e-H \\
C-R-\hat{a} & \rightarrow C-R-e-H
\end{align*}
\]

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

◊ He goes (ê-ti) so that he escapes (yā-ti).

◊ He conquers (jay-a-ti) so that he (can) suppress (jyā-ti).
C. Grammar: verbal system

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

<table>
<thead>
<tr>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>krṣ</td>
<td>kars-a-ti</td>
</tr>
<tr>
<td>klp</td>
<td>kalp-a-ti</td>
</tr>
<tr>
<td>dyut</td>
<td>dyot-a-tê</td>
</tr>
<tr>
<td>bhū ← bhau</td>
<td>bhav-a-ti</td>
</tr>
<tr>
<td>mih</td>
<td>mēh-a-ti</td>
</tr>
<tr>
<td>sūc</td>
<td>sōc-a-ti</td>
</tr>
<tr>
<td>smr</td>
<td>smar-a-ti</td>
</tr>
</tbody>
</table>

Some oi. roots are given in full grade:

<table>
<thead>
<tr>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kamp</td>
<td>kamp-a-tê</td>
</tr>
<tr>
<td>tyaj</td>
<td>tyaj-a-ti</td>
</tr>
<tr>
<td>dah</td>
<td>dah-a-ti</td>
</tr>
<tr>
<td>vas</td>
<td>vas-a-ti</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:

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

\[ sī-sād-ati \text{ (reduplication with } i \text{ and zero grade, without sandhi)} \]
\[ \rightarrow sī-zād-ati \text{ (SZ before voiced cons.)} \]
\[ \rightarrow sī-zād-ati \text{ (RUKI)} \]
\[ \rightarrow sī-sād-ati \text{ (CERD)} \]
\[ \rightarrow sūḍ-ati \text{ (COMLz)} \]

where finally sūḍ-a-ti through leveling:

| sūḍ-ati |
|---------|-----------|
| influenced by | sa-sūḍ-a (perf. 3. pers. sg.) or other forms from sad | with dental |
| turns into | sūḍ-ati | with dental |

◊ sthā, tisthāti (“to stand”) is thought to go back to ie. *steh₂. Note that t in the ie. 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: h₂ aspirates t)
→ ti-sth-ati (RUKI)
→ ti-sth-ati (CERD)

The aspirated oi. root sthā (which is in full grade, as in the infinitive sthā-tum) is then explained by leveling.

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

*pi-ph₃-eti (reduplication with i and zero grade)
→ *pi-b-eti (LAR: 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>bhikṣ</td>
<td>bhikṣ-a-ti</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>krād</td>
<td>krād-a-ti</td>
<td>he plays</td>
</tr>
<tr>
<td>tik</td>
<td>tik-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>kāś</td>
<td>kāś-a-ti</td>
<td>he shines</td>
</tr>
<tr>
<td>khād</td>
<td>khād-a-ti</td>
<td>he eats</td>
</tr>
<tr>
<td>dhāv</td>
<td>dhād-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)
C. Grammar: verbal system

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:

\[
\begin{align*}
\text{sidh} & \quad \text{oi. root in zero grade} \\
\text{sidh - y - a - ti} & \quad \text{root suffix thematic ending 3. pers. sg.}
\end{align*}
\]

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

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kup</td>
<td>kup-y-a-ti</td>
<td>he is angry</td>
</tr>
<tr>
<td>kṣup</td>
<td>kṣup-y-a-ti</td>
<td>he is agitated</td>
</tr>
<tr>
<td>tüs</td>
<td>tüs-y-a-ti</td>
<td>he is pleased</td>
</tr>
<tr>
<td>trp</td>
<td>trp-y-a-ti</td>
<td>he is content</td>
</tr>
<tr>
<td>nṛt</td>
<td>nṛt-y-a-ti</td>
<td>he dances</td>
</tr>
<tr>
<td>sidh</td>
<td>sidh-y-a-ti</td>
<td>he is successful</td>
</tr>
<tr>
<td>snih</td>
<td>snih-y-a-ti</td>
<td>he loves</td>
</tr>
</tbody>
</table>

nasā, naś-y-a-ti may also belong here if it goes back to full grade *nasā or *namā (syllabic nasals turn into a). The latter kind (full-grade oi. root with nasal) is present in

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhraṇus</td>
<td>bhraṇ-y-a-ti ← bhramā</td>
<td>he falls</td>
</tr>
<tr>
<td>raṇj</td>
<td>raṇ-y-a-ti ← rāṇj</td>
<td>he reddens</td>
</tr>
</tbody>
</table>

Consider, now, the following full-grade oi. root and full-grade present tense:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>man</td>
<td>man-y-a-tē</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>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>jan</td>
<td>ja-y-a-tē ← janHetai</td>
<td>he is born</td>
</tr>
</tbody>
</table>

where we apply a laryngeal sound law (p. 27). The laryngeal in this case is clear from infinitive jan-i-tam. Laryngeals are also responsible for these three examples where we encounter full-grade oi. root and “lengthened-grade” present tense (which is, in reality, zero-grade present tense):

<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 ← dāmH</td>
<td>he tames</td>
</tr>
<tr>
<td>śam</td>
<td>śām-y-a-ti ← śāmH</td>
<td>he gets quiet</td>
</tr>
<tr>
<td>śrām</td>
<td>śrām-y-a-ti ← śrāmH</td>
<td>he toils</td>
</tr>
</tbody>
</table>
The reason for long à in *mad, mād-y-a-ti* is unclear.

**The sixth class**

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

\[
\begin{array}{cccc}
\text{oï root} & \text{root} & \text{thematic ending} \\
\text{in zero grade} & \text{in zero grade} & \text{vowel} & \text{3. pers. sg.} \\
\end{array}
\]

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

<p>|</p>
<table>
<thead>
<tr>
<th><strong>3. pers. sg.</strong></th>
<th><strong>translation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>kr̩</em></td>
<td><em>kr̩-a-ti</em></td>
</tr>
<tr>
<td><em>ks̩p</em></td>
<td><em>ks̩p-a-ti</em></td>
</tr>
<tr>
<td><em>tud</em></td>
<td><em>tud-a-ti</em></td>
</tr>
<tr>
<td><em>diš</em></td>
<td><em>diš-a-ti</em></td>
</tr>
<tr>
<td><em>nud</em></td>
<td><em>nud-a-ti</em></td>
</tr>
<tr>
<td><em>likh</em></td>
<td><em>likh-a-ti</em></td>
</tr>
<tr>
<td><em>viš</em></td>
<td><em>viš-a-ti</em></td>
</tr>
</tbody>
</table>

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

<p>|</p>
<table>
<thead>
<tr>
<th><strong>3. pers. sg.</strong></th>
<th><strong>translation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>muc</em></td>
<td><em>mauc-a-ti</em></td>
</tr>
<tr>
<td><em>kip</em></td>
<td><em>kim-p-a-ti</em></td>
</tr>
<tr>
<td><em>lup</em></td>
<td><em>lump-a-ti</em></td>
</tr>
<tr>
<td><em>vid</em></td>
<td><em>vind-a-ti</em></td>
</tr>
</tbody>
</table>

Finally, observe the verbs with (indo-european speaking) use *šk* to form the present tense:

<p>|</p>
<table>
<thead>
<tr>
<th><strong>3. pers. sg.</strong></th>
<th><strong>translation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>iš</em></td>
<td><em>icch-a-ti</em></td>
</tr>
<tr>
<td><em>pracch</em></td>
<td><em>pracch-a-ti</em></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. *gʰy-y-šk-e-ti*. Thus, *gacch-a-ti* is in zero grade.
C. Grammar: verbal system

The tenth class

For the tenth class, there are two typical examples:

\[
\begin{array}{cccc}
\text{cur} & \text{côr} & \text{ay} & \text{a} & \text{ti} \\
& \text{root} & \text{suffix} & \text{thematic} & \text{ending} \\
in \text{zero grade} & in \text{full grade} & & & 3. \text{pers. sg.}
\end{array}
\]

with a full-grade root in the present tense and

\[
\begin{array}{cccc}
\text{mr} & \text{môr} & \text{ay} & \text{a} & \text{ti} \\
& \text{root} & \text{suffix} & \text{thematic} & \text{ending} \\
in \text{zero grade} & in \text{lengthened grade} & & & 3. \text{pers. sg.}
\end{array}
\]

with a lengthened-grade root. There are two reasons for the lengthened grade:

\begin{itemize}
\item One reason is Brugmann’s law (p. 32) where \(o\) in ie. \(^{*}\text{mor-ey-eti}\) turns into \(\ddot{a}\) because the syllable is open.
\item A second (maybe related) reason concerns causatives which generally take the lengthened grade, as in
\end{itemize}

\[
\begin{array}{ll}
\text{pat-a-ti} & (\text{“he falls” versus}) \\
\text{pât-ay-a-ti} & (\text{“he makes fall”})
\end{array}
\]

The typical cases involve zero-grade oi. root and full-grade (\(o\)-grade!) present tense:

\[
\begin{array}{ccc}
\checkmark & 3. \text{pers. sg.} & \text{translation} \\
\text{ghus} & \text{ghôs-ay-a-ti} & \text{he proclaims} \\
\text{cur} & \text{côr-ay-a-ti} & \text{he steals} \\
\text{tul} & \text{ tôl-ay-a-ti} & \text{he weighs} \\
\text{drô} & \text{dar-ay-a-ti} & \text{he shows} \\
\text{muh} & \text{môh-ay-a-ti} & \text{he confuses}
\end{array}
\]

For the reasons given above, we often find the lengthened present tense:

\[
\begin{array}{ccc}
\checkmark & 3. \text{pers. sg.} & \text{translation} \\
\text{kr} & \text{kôr-ay-a-ti} & \text{he has (s.o.) make} \\
\text{chad} & \text{côd-ay-a-ti} & \text{he covers} \\
\text{dhr} & \text{dôr-ay-a-ti} & \text{he holds, he bears} \\
\text{bhô} & \text{bhô-ay-a-ti} & \text{he makes be} \\
\text{mr} & \text{môr-ay-a-ti} & \text{he kills} \\
\text{sôd} & \text{sôd-ay-a-ti} & \text{he makes sit}
\end{array}
\]

The oi. root may be in full-grade (see subsection \[C.1\]) so that we obtain
C.2. Ten verbal classes, overview

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kath</td>
<td>kath-ay-a-ti</td>
<td>he tells</td>
</tr>
<tr>
<td>jan</td>
<td>jan-ay-a-ti ← ie. *gonH-e-y-e-ti</td>
<td>he begets</td>
</tr>
<tr>
<td>dām</td>
<td>dām-ay-a-ti ← ie. *domH-e-y-e-ti</td>
<td>he tames</td>
</tr>
</tbody>
</table>

Rarely, we find a zero-grade oi. root together with zero-grade present tense (both with short i):

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>cint</td>
<td>cint-ay-a-ti</td>
<td>he thinks</td>
</tr>
</tbody>
</table>

or āy-a rather than ay-a:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gup</td>
<td>gōp-ay-a-ti</td>
<td>he protects</td>
</tr>
</tbody>
</table>

Finally, some roots ending in a form the causative with p-ay:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>dāp-ay-a-ti</td>
<td>he obliges to pay</td>
</tr>
<tr>
<td>sthā</td>
<td>sthāp-ay-a-ti</td>
<td>he makes stand, he puts</td>
</tr>
</tbody>
</table>

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 ē so that Sanskrit for “to go” is

\[ i \rightarrow ē \rightarrow ti \]

oi. root in zero grade root ending 3. pers. sg.

In zero grade

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:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>as (f.g.)</td>
<td>as-ti</td>
<td>i-mas</td>
<td>to be</td>
</tr>
<tr>
<td>i</td>
<td>ē-ti</td>
<td>i-mas</td>
<td>to go</td>
</tr>
<tr>
<td>dih</td>
<td>dēg-dhi (2) ← ie. *dheigh-ti</td>
<td>dih-mas</td>
<td>to grease</td>
</tr>
<tr>
<td>duh</td>
<td>dōg-dhā (2) ← ie. *dheugh-ti</td>
<td>duh-mas</td>
<td>to milk</td>
</tr>
<tr>
<td>dvēś</td>
<td>dvēś-ti (1)</td>
<td>dvēś-mas</td>
<td>to hate</td>
</tr>
<tr>
<td>līh</td>
<td>lē-dhi (3) ← ie. *leigh-ti</td>
<td>līh-mas</td>
<td>to lick</td>
</tr>
<tr>
<td>vaś (f.g.)</td>
<td>vaś-ti (1)</td>
<td>vaś-mas</td>
<td>to wish</td>
</tr>
<tr>
<td>vid</td>
<td>vēṭ-ti</td>
<td>vid-mas</td>
<td>to know</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

1. Sound laws oi. /s/ → /st/ (p. 39)

2. Both Grassmann (deaspiration of word-initial *dh) and Bartholomae (ie. *ght → oi. gdh in subsection B.3.3, pp. 35)

3. lê-dhi is to be explained by
   
   ie. *leig-ht (full grade)
   → leig-ht
   → leig-dhi (ASH)
   → lêz-dhi (SZ before voiced cons.)
   → lêz-dhi (RUKI)
   → lêz-dhi (CERD)
   → lê-dhi (COMLz, but ê already long)

However, full grade also in plural are sometimes observed:

<table>
<thead>
<tr>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ad (f.g.)</td>
<td>at-ì</td>
<td>ad-mas</td>
</tr>
<tr>
<td>vac (f.g.)</td>
<td>vak-ì</td>
<td>vac-mas</td>
</tr>
<tr>
<td>vas (f.g.)</td>
<td>vas-tê</td>
<td>vas-mahê</td>
</tr>
<tr>
<td>han (f.g.)</td>
<td>han-ì</td>
<td>han-mas</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>rud</td>
<td>rôd-ì-tì</td>
<td>rud-i-mas</td>
</tr>
</tbody>
</table>

However, some sêt roots show strong forms also in the plural:

<table>
<thead>
<tr>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>an (f.g.)</td>
<td>an-i-tì</td>
<td>an-i-mas</td>
</tr>
<tr>
<td>svap (f.g.)</td>
<td>svap-i-tì</td>
<td>svap-i-mas</td>
</tr>
<tr>
<td>svas (f.g.)</td>
<td>svas-i-tì</td>
<td>svas-i-mas</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nu</td>
<td>nau-tì</td>
<td>nu-mas</td>
</tr>
<tr>
<td>ru</td>
<td>rau-tì</td>
<td>ru-mas</td>
</tr>
<tr>
<td>stu</td>
<td>stâu-tì</td>
<td>stu-mas</td>
</tr>
</tbody>
</table>

Finally, long-ì verbs do not differ between strong and weak forms:
C.2. Ten verbal classes, overview

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>khyā</td>
<td>khyā-ti</td>
<td>khyā-mas</td>
<td>to tell</td>
</tr>
<tr>
<td>pā</td>
<td>pā-ti</td>
<td>pā-mas</td>
<td>to protect</td>
</tr>
<tr>
<td>bha</td>
<td>bha-ti</td>
<td>bha-mas</td>
<td>to shine</td>
</tr>
<tr>
<td>mā</td>
<td>mā-ti</td>
<td>mā-mas</td>
<td>to measure</td>
</tr>
<tr>
<td>yā</td>
<td>yā-ti</td>
<td>yā-mas</td>
<td>to go</td>
</tr>
<tr>
<td>vā</td>
<td>vā-ti</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  \( \ddot{a} \ \ddot{i} \ \ddot{u} \ \ddot{r} \)
reduplication vowel  \( a \ \ddot{i} \ \ddot{u} \ \ddot{i} \)

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

\[ \begin{array}{c}
\text{oi. root} \\
\text{reduplication} \\
\text{root} \\
\text{ending}
\end{array} \begin{array}{c}
\ddot{b}h\ddot{r} \\
\ddot{b}h \quad - \\
\dddot{b}h\dddot{r} \\
- \quad ti
\end{array}\]

Grassmann’s law ([DA], section B.3.2, pp. 35) is regularly applied. For example, the oi. root \( \ddot{h}u \) (“sacrifice”) goes back to i.e. * \( \ddot{g}heu \) and we obtain

\[ \text{io.*} \dddot{\ddot{g}}\dddot{h}u - \dddot{\ddot{g}}heu - ti \]
\[ \rightarrow \dddot{\ddot{j}}u - \dddot{\ddot{g}}h\ddot{\ddot{o}} - ti \quad (\text{DA}) \]
\[ \rightarrow \dddot{\ddot{j}}u - ho - ti \quad (\text{PPAL}, \text{p. 34}) \]

Here is a list with third-class verbs:

<table>
<thead>
<tr>
<th>√</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-gā-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>bhē</td>
<td>bi-bhē-ti</td>
<td>bi-bhē-mas</td>
<td>to be afraid</td>
</tr>
<tr>
<td>bhṛ</td>
<td>bi-bhṛ-ti</td>
<td>bi-bhṛ-mas</td>
<td>to carry</td>
</tr>
<tr>
<td>ḫa</td>
<td>ja-ḥā-ti</td>
<td>ja-ḥā-mas</td>
<td>to abandon</td>
</tr>
<tr>
<td>ḫu</td>
<td>ju-ḥō-ti</td>
<td>ju-ḥō-mas</td>
<td>to sacrifice</td>
</tr>
</tbody>
</table>
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

\[
\text{beginning of oi. root} \quad - \quad \text{sign} \quad - \quad \text{final root} \quad - \quad \text{ending}
\]

- *yug*,
- *yunakti*.

For example, the Sanskrit verb for “to join” is *yug*, *yunakti* which is best understood as

\[
\text{beginning of oi. root} \quad - \quad \text{sign} \quad - \quad \text{final root} \quad - \quad \text{ending}
\]

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

\[
\sqrt{\text{3. pers. sg.}} \quad \sqrt{\text{1. pers. pl.}} \quad \text{translation}
\]

- *sak* → *sak-nā-ti* → *sak-nu-mas* → to be able
- *tan* → *tan-ō-ti* → *tan-u-mas* → to stretch
- *pū* → *pū-nā-ti* → *pū-nā-mas* → to purify

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 [Fortson IV]. Here is how he argued (in principle).

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

\[
\begin{array}{|c|c|c|c|}
\hline
\text{class} & \text{gana sign} & \sqrt{\text{3. pers. sg.}} & \text{future} & \text{infinitive} \\
\hline
7 & nā & *yug* & *yu-nā-k-ti* & *yōk-ṣy-a-ti* & *yōk-tum* \\
9 & nā & *pū* & *pu-nā-ti* & *pavi-ṣy-a-ti* & *pavi-tum* \\
\hline
\end{array}
\]

The present tense in class 7 uses *na* as an infix, in our example between *u* 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 *pū* show *i* which seems to come out of nowhere. Traditional Sanskrit grammarians also noted this *i*. They call *pū* an oi. sêt root (*sêt ← sa-ī*), 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>*gana sign</th>
<th>3. pers. sg.</th>
<th>future</th>
<th>infinitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>*ne</td>
<td>*yu( \grave{\text{\textipa{g}}} )</td>
<td>*yu-ne-( \grave{\text{\textipa{g}}} )-ti</td>
<td>*yu-ne-( \grave{\text{\textipa{g}}} )-sy-e-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*pu( \grave{\text{\textipa{H}}} )</td>
<td>*pu-ne-( \grave{\text{\textipa{H}}} )-ti</td>
<td>*pu-ne-( \grave{\text{\textipa{H}}} )-sy-e-ti</td>
</tr>
</tbody>
</table>

Thus, the classes 7 and 9 turn out to have an identical origin. We will consider a lot of examples in the following subsections.

Long \( \text{i} \) in the weak class sign is \( n\text{\textipa{i}} \) as in \( pu-n\text{\textipa{i}}-\text{mas} \) is difficult.

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

\( \text{sru, s\text{\textipa{r}}-n\text{\textipa{o}}-ti} \) (“he hears”).

Now we understand this verb as one where, originally, the root-final consonant is the half vowel \( \text{v} \). Then, before consonants, i.e. \( *ne-v \) should regularly turn into Sanskrit \( n\text{\textipa{o}} \). This is, indeed, what happens here. The present tense sg. is best understood by this comparison:

<table>
<thead>
<tr>
<th>class</th>
<th>*gana sign</th>
<th>3. pers. sg.</th>
<th>gana sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>*ne</td>
<td>*yu( \grave{\text{\textipa{g}}} )</td>
<td>*yu-ne-( \grave{\text{\textipa{g}}} )-ti</td>
</tr>
<tr>
<td>5</td>
<td>*ne</td>
<td>*klu→( \text{sru} )</td>
<td>*kl-ne-u-ti</td>
</tr>
</tbody>
</table>

Thus, originally, we have the \( \text{na} \)-infix as in \( yu-na-k-ti \). However, this was not evident to the speakers who imagined an oi. root \( \text{s}\text{\textipa{r}} \) and, added to that root, \( \text{n\text{\textipa{o}}} \) (similar to \( \text{n\text{\textipa{a}}} \) in \( pu-n\text{\textipa{a}}-ti \)).

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>( \sqrt{\text{\textipa{}}\text{\textipa{}}} )</th>
<th>3. pers. sg.</th>
<th>gana sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>( \text{tan} )</td>
<td>( \text{tan-ð-} \text{\textipa{t}} )</td>
<td>( \text{ð} )</td>
</tr>
</tbody>
</table>

where \( \text{ð} \) is the characteristic gana sign of this class. However, it is better to see the comparison with the fifth-class verbs which are build 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→sr-n\text{\textipa{o}}-ti</td>
<td>( \text{n\text{\textipa{o}}} )</td>
</tr>
<tr>
<td>8</td>
<td>*ne</td>
<td>*( \text{t}\text{\textipa{n}}-)ne-u-ti→ta-n\text{\textipa{o}}-ti</td>
<td>( \text{n\text{\textipa{o}}} )</td>
</tr>
</tbody>
</table>

Thus, the \( \text{n} \) is a nasal infix and not the final root consonant. The root consonant turns into \( a \), according to the sound law SY\_N (pp. B.2.3).
C. Grammar: verbal system

According to the above arguments, the nasal classes 5, 7, 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-nô-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-Y-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>nâ</td>
<td>pu-nâ-ti</td>
<td>nî</td>
<td>pu-nî-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. 25). It is not quite clear why, in the 9. class, we have nî from nH which should lead to ni 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 weak gana nu:

\[ \text{*yu-ne-k-ti} \rightarrow \text{yu-na-k-ti} \]
\[ \text{*kl-ne-u-ti} \rightarrow \text{sr-nô-ti} \]
\[ \text{*pu-ne-H-ti} \rightarrow \text{pu-nâ-ti} \]
C.2. Ten verbal classes, overview

<table>
<thead>
<tr>
<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>to obtain</td>
</tr>
<tr>
<td>šak</td>
<td>šak-nô-ti</td>
<td>to be able</td>
</tr>
<tr>
<td>su</td>
<td>su-nô-ti</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 oi root, for example,

<table>
<thead>
<tr>
<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>to cut</td>
</tr>
<tr>
<td>piš</td>
<td>pi-na-š-ti</td>
<td>to grind</td>
</tr>
<tr>
<td>bhid</td>
<td>bhi-na-t-ti</td>
<td>to break</td>
</tr>
<tr>
<td>yuj</td>
<td>yu-na-k-ti</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

<table>
<thead>
<tr>
<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>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 kṛnôtī 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>3. pers. sg.</th>
<th>1. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛt</td>
<td>kṛt-nā-ti</td>
<td>to buy</td>
</tr>
<tr>
<td>pū</td>
<td>pū-nā-ti</td>
<td>to purify</td>
</tr>
<tr>
<td>vr</td>
<td>vr-nā-ti</td>
<td>to choose</td>
</tr>
</tbody>
</table>

Not quite clear ?? Why i long?
C. Grammar: verbal system

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>mr</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:

<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>ê-ê-ti</td>
<td>ê-tum</td>
<td>to go</td>
</tr>
<tr>
<td>kšip</td>
<td>kšip-a-ti</td>
<td>kšêp-tum</td>
<td>to throw</td>
</tr>
<tr>
<td>jê</td>
<td>jay-a-ti</td>
<td>jê-tum</td>
<td>to defeat</td>
</tr>
</tbody>
</table>

while roots with u exhibit ô:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>śru</td>
<td>śr-nô-ti</td>
<td>śrô-tum</td>
<td>to listen</td>
</tr>
<tr>
<td>stu</td>
<td>stâu-ti (Narten)</td>
<td>stô-tum</td>
<td>to praise</td>
</tr>
<tr>
<td>hu</td>
<td>ju-hô-ti (Narten)</td>
<td>hô-tum</td>
<td>to sacrifice</td>
</tr>
</tbody>
</table>

Expected 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>khêt-tum</td>
<td>to suffer</td>
</tr>
<tr>
<td>tud</td>
<td>tud-a-ti</td>
<td>tôl-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>nôt-tum</td>
<td>to push</td>
</tr>
<tr>
<td>pac (f.g.)</td>
<td>pac-a-ti</td>
<td>pak-tum</td>
<td>to cook</td>
</tr>
<tr>
<td>bhid</td>
<td>bhâ-na-t-ti</td>
<td>bhêt-tum</td>
<td>to break</td>
</tr>
<tr>
<td>muc</td>
<td>muñc-a-ti</td>
<td>môk-tum</td>
<td>to liberate</td>
</tr>
<tr>
<td>yuj</td>
<td>yu-na-k-ti</td>
<td>yôk-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>sid-a-ti</td>
<td>sal-tum</td>
<td>to sit</td>
</tr>
</tbody>
</table>
C.3. Infinitive and other normal-grade forms

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>ya-ech-a-ti</td>
<td>gan-tum</td>
<td>to go</td>
</tr>
<tr>
<td>tan</td>
<td>ta-nô-ti</td>
<td>tan-tum</td>
<td>to stretch</td>
</tr>
<tr>
<td>nam</td>
<td>nam-a-ti</td>
<td>nan-tum</td>
<td>to salute</td>
</tr>
<tr>
<td>man</td>
<td>man-y-a-tê</td>
<td>man-tum</td>
<td>to think</td>
</tr>
<tr>
<td>gam</td>
<td>yaczch-a-ti</td>
<td>yan-tum</td>
<td>to restrain</td>
</tr>
<tr>
<td>ram</td>
<td>ram-a-tê</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:

\[
\begin{align*}
\text{ASH} & \quad \text{ie. } g-h-t \rightarrow \text{oi. } g-d-h \\
& \quad \text{ie. } d-h-t \rightarrow \text{oi. } d-d-h \\
& \quad \text{ie. } b-h-t \rightarrow \text{oi. } b-d-h \\
& \quad \text{but} \quad \text{ie. } d-h-s \rightarrow \text{oi. } t-s \\
& \quad \text{ie. } b-h-s \rightarrow \text{oi. } p-s
\end{align*}
\]

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-tê</td>
<td>kṣôb-dhum</td>
<td>to be upset</td>
</tr>
<tr>
<td>yudh</td>
<td>yudh-y-a-tê</td>
<td>yôd-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 syllable-initial aspirated sounds, the first one becomes deaspirated:

\[
\begin{align*}
\text{DA} & \quad \text{ie. } C^{\text{asp}} V C^{\text{asp}} V \rightarrow \text{oi. } C^{\text{asp}} V C^{\text{asp}} V
\end{align*}
\]

We now need to mix these sound laws with the palatalization laws SPAL (pp. 35). 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>&quot;dheq&quot; h-tum→dag-dhum</td>
<td>to burn</td>
</tr>
<tr>
<td>dih</td>
<td>dêg-dhi</td>
<td>&quot;dheigh&quot;-tum→dêg-dhum</td>
<td>to smear</td>
</tr>
<tr>
<td>düh</td>
<td>dôg-dhi</td>
<td>&quot;dheugh&quot;-tum→dôg-dhum</td>
<td>to milk</td>
</tr>
<tr>
<td>snih</td>
<td>snih-y-a-ti</td>
<td>&quot;sneig&quot; h-tum→snê g-dhum</td>
<td>to love</td>
</tr>
</tbody>
</table>

In more detail, we have
C. Grammar: verbal system

ie. *sneig\textsuperscript{w}-h-tum (full grade and tum-marker for infinitive)
\[\rightarrow\] sne\textsuperscript{g}-tum (no SPAL before consonant)
\[\rightarrow\] snêg-dhum (ASH)

or

ie. *dheugh-tum (full grade and tum-marker for infinitive)
\[\rightarrow\] dhôgh-tum (no SPAL before consonant)
\[\rightarrow\] dôgh-tum (DA)
\[\rightarrow\] dôg-dhum (ASH)

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 \(\hat{s}\), but also after \(\hat{\pm}\):

\[
\text{CERD} \quad \text{oi. } s/\hat{s} + t \rightarrow \text{oi. } \hat{s}t \\
\text{z} + d/dh \rightarrow \text{z} + \hat{d} / \hat{dh}
\]

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>kr(\hat{s})</td>
<td>kr(\hat{s})-a-(\hat{t})</td>
<td>kar(\hat{s})-tum, kras-tum</td>
<td>to plough</td>
</tr>
<tr>
<td>kru(\hat{s})</td>
<td>krôs-a-(\hat{t})</td>
<td>krôs-tum</td>
<td>to cry out</td>
</tr>
<tr>
<td>tu(\hat{s})</td>
<td>tu(\hat{s})-y-a-(\hat{t})</td>
<td>tôs-tum</td>
<td>to enjoy</td>
</tr>
<tr>
<td>da(\hat{n})s (f.g.)</td>
<td>da(\hat{s})-a-(\hat{t})</td>
<td>da(\hat{n})-tum</td>
<td>to bite</td>
</tr>
<tr>
<td>di(\hat{s}) (z.g.)</td>
<td>di(\hat{s})-a-(\hat{t})</td>
<td>dês-tum</td>
<td>to show</td>
</tr>
<tr>
<td>dr(\hat{\imath}) (z.g.)</td>
<td>(pa(\hat{\imath})-(\hat{y})-a-(\hat{t}))</td>
<td>dra(\hat{s})-tum</td>
<td>to see</td>
</tr>
<tr>
<td>dv(\hat{\imath})</td>
<td>dv(\hat{\imath})-(\hat{t})</td>
<td>dvê(\imath)-tum</td>
<td>to hate</td>
</tr>
<tr>
<td>na(\hat{s}) (z.g.)</td>
<td>na(\hat{s})-y-a-(\hat{t})</td>
<td>nams-tum</td>
<td>to perish</td>
</tr>
<tr>
<td>pu(\hat{s})</td>
<td>pu(\hat{s})-y-a-(\hat{t})</td>
<td>pês-tum</td>
<td>to nourish</td>
</tr>
<tr>
<td>pracch (f.g.)</td>
<td>pracch-a-(\hat{t})</td>
<td>prâs-tum</td>
<td>to ask</td>
</tr>
<tr>
<td>vr(\hat{\imath})</td>
<td>vr(\hat{\imath})-a-(\hat{t})</td>
<td>vars-tum</td>
<td>to rain</td>
</tr>
<tr>
<td>sr(\hat{\imath})</td>
<td>sr(\hat{\imath})-a-(\hat{t})</td>
<td>sras-tum</td>
<td>to throw, to let loose</td>
</tr>
<tr>
<td>spr(\hat{\imath})</td>
<td>spr(\hat{\imath})-a-(\hat{t})</td>
<td>spr(\hat{s})-tum, spr(\hat{s})-tum</td>
<td>to touch</td>
</tr>
</tbody>
</table>

In contrast to section B.2.4 (pp. 25) and different from oi. root kr with infinitive kars-tum, we find ra rather than ar in some verbs above: kras-tum, dra\(\hat{s}\)-tum, and spr\(\hat{s}\)-tum.

Indeed, rs-t (as in kars-tum, vars-tum or spr\(\hat{s}\)-tum) is a rather heavy combination of consonants.

The infinitive of yaj “to sacrifice” is yas-tum, but should not be: Ie. *yeg should yield

ie. *yeg-tum (full grade and tum-marker for infinitive)
\[\rightarrow\] yas-tum (SZ before voiceless consonant)

Presumably, levelling (from the PPP) has done the rest (see p. 104):

<table>
<thead>
<tr>
<th>yas-tum</th>
</tr>
</thead>
<tbody>
<tr>
<td>influenced by</td>
</tr>
<tr>
<td>turns into</td>
</tr>
</tbody>
</table>

88
... both aspiration and cerebralization laws

The infinitive vôdhum from vah, vah-ati ("to flow, to drive") goes back to ie. *vēgh. Cerebralization has no sound-law justification. We should have obtained

\[
\text{ie.}^*\text{vēgh-tum} \quad (\text{full grade and tum-marker for infinitive}) \\
\rightarrow \text{vāšt-dhum} \quad (\text{ASH}) \\
\rightarrow \text{vaz-dhum} \quad (\text{SZ before voiced consonant}) \\
\rightarrow \text{vō-dhum} \quad (\text{COMLz, pp. 46})
\]

Here, leveling from regularly formed PPP ū-dha is responsible for vôdhum, with cerebral dh.

Similarly, but with Grassmann’s law, guh, gāhati (“to hide”) goes back to ie. *gheugh and we get

\[
\text{ie.}^*\text{gheugh-tum} \quad (\text{full grade and tum-marker for infinitive}) \\
\rightarrow \text{gōšt-dhum} \quad (\text{DA plus ASH}) \\
\rightarrow \text{gōz-dhum} \quad (\text{SZ before voiced consonant}) \\
\rightarrow \text{gōvp-dhum} \quad (\text{RUKI}) \\
\rightarrow \text{gōz-dhum} \quad (\text{CERD}) \\
\rightarrow \text{gō-dhum} \quad (\text{COMLz, but ō already long})
\]

Note that ō is long already so that ź drops without further changes.

A very parallel development leads to the infinitive lē-dhum of līhati ("he licks"):

\[
\text{ie.}^*\text{leįgh-tum} \quad (\text{full grade and tum-marker for infinitive}) \\
\rightarrow \text{lēg-dhum} \quad (\text{ASH}) \\
\rightarrow \text{lēz-dhum} \quad (\text{SZ before voiced consonant}) \\
\rightarrow \text{lēz-dhum} \quad (\text{RUKI}) \\
\rightarrow \text{lēz-dhum} \quad (\text{CERD}) \\
\rightarrow \text{lē-dhum} \quad (\text{COMLz, but ĕ already long})
\]

Sometimes, we may find cerebral sounds which are not justified by sound laws but by analogy. For example, the infinitive of ruh, rõhati “to climb” is rūdhum, but the ie. root is *h₁leudh (ie. *dh can produce oi. h according to subsection 3.3.9, pp. 47) which should have lead to rõddhum (similar to dōg-dhum or bōddhum) instead.

sah, sahati (“to tolerate”) with infinitive sō-dhum although the sound laws show a different result:

\[
\text{ie.}^*\text{seľght-tum} \quad (\text{full grade and tum-marker for infinitive}) \\
\rightarrow \text{sąg-dhum} \quad (\text{ASH}) \\
\rightarrow \text{saz-dhum} \quad (\text{SZ before voiced consonant}) \\
\rightarrow \text{sō-dhum} \quad (\text{COMLz})
\]

where the analogy with verbs like guh above is responsible for cerebralization. Equally mysterious is the infinitive gā-dhum of gāhati (“he dives”). Since ruki does not apply here, we should have obtained
C. Grammar: verbal system

ie. *gāḡh-
tum (full grade (??) and tum-marker for infinitive)
  → gāḡh-
dhum (ASH)
  → gāz-
dhum (SZ before voiced consonant)
  → gā-
dhum (COMLz, but ā already long)

C.3.4. Laryngeals

The infinitive of quite a few number of verbs can be explained by laryngeal theory (pp. 27), either in line with our sound laws or by later analogy. Remember:

ie. *CHC → oi. 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>verb</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
</table>
| av   | *h₂euH-e-
ti→av-a-ti | *h₂euH-
tum→av-i-
tum | to help     |
| khan | *khenH-
e-
ti→khan-
ti | *khenH-
tum→khan-
i-
tum | to dig      |
| jan  | *gʲnH-
y-e/o-
tei→gʲ-
y-a-tē | *gʲenH-
tum→jan-
i-
tum | to be born  |
| nē   | *neyH-
e-
ti→nay-
ai-
ti | *neyH-
tum→nay-
i-
tum | to lead     |
| bhā  | *bHENH-e-
ti→bhav-
a-
ti | bHENH-
tum→bhav-
i-
tum | to be       |

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: path-i-tum, pat-i-tum, cumb-i-tum, bhās-i-tum, ēs-i-tum, cōray-i-tum, kōpitum, kartitum, kathayitum, lēkh-i-tum

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 consonantal one. It stands between the consonants y and t and hence turns into i.

◊ In nê-tum, the laryngeal is of a rather consonantal quality. The diphthong ay before that consonant turns into the long vowel ē. When the laryngeal drops, this vowel cannot be lengthened any further.

There is also a class of verbs with long ā before tum. The sound law

ie. *eH → oi. ā

is responsible for these examples:

<table>
<thead>
<tr>
<th>ṣās-tum??</th>
<th>3. pers. sg.</th>
<th>infinitive</th>
<th>translation</th>
</tr>
</thead>
</table>
| dā       | *de-deh3-
ti→dā-
dā-
ti | *deh3-
tum→dā-
tum | to give     |
| dhā      | *de-dheh1-
ti→dā-
dhā-
ti | *dheh1-
tum→dā-
hā-
tum | to set, to place |
| pā       | pi-b-a-ti (p. 75) | *pēh1-
tum→pā-
tum | to drink    |
| stā      | ti-sth-
ti | *steh2-
tum→sthā-
tum (leveling!) | to stand   |
### C.3.5. Agent nouns, instrument nouns, and action nouns

#### C.3.5.1. 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-ā-gam-a-s</td>
<td>meeting</td>
</tr>
<tr>
<td>bhanj</td>
<td>to break</td>
<td>bhanq-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>

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>diś</td>
<td>to show</td>
<td>dēś-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>ê-a-s</td>
<td>sacred knowledge</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>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>

Similarly for *i* (“to go”) where the meanings vary with the prepositions:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>vi-i</th>
<th>to follow</th>
<th>av-i</th>
<th>to go up</th>
</tr>
</thead>
<tbody>
<tr>
<td>adhy-ay-a-s</td>
<td>adversarial, chapter, section</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>anu-i</td>
<td>to study</td>
<td>anu-i</td>
<td>to follow</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>succession, progeny</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>abhi-i</td>
<td>to arrive</td>
<td>abhi-i</td>
<td>to arrive</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>arrival of darkness</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</td>
<td>means, approach</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>succession, progeny</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>ati-i</td>
<td>to excel</td>
<td>aty-ay-a-s</td>
<td>transgression</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>adversarial, chapter, section</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>av-i</td>
<td>to go up</td>
<td>av-i</td>
<td>to go up</td>
</tr>
<tr>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</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>vi-i</th>
<th>to follow</th>
<th>av-i</th>
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<tr>
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<td>to study</td>
<td>anu-i</td>
<td>to follow</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
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<tr>
<td>av-i</td>
<td>to go up</td>
<td>av-i</td>
<td>to go up</td>
</tr>
<tr>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
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</tbody>
</table>

Consider

<table>
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<td>to study</td>
<td>anu-i</td>
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<tr>
<td>av-i</td>
<td>to go up</td>
<td>av-i</td>
<td>to go up</td>
</tr>
<tr>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
</tbody>
</table>

Secondary palatalization (SPAL) lies behind

\( \diamond \) palatal consonant \( j \) in \( yuj-a-tê \) (the ie. thematic vowel is \( e \)) versus

\( \diamond \) non-palatal consonant \( g \) in \( yôg-a-s \) (the suffix vowel \( a \) goes back to ie. \( o \))

This pattern can also be seen in

<table>
<thead>
<tr>
<th>vi-i</th>
<th>to follow</th>
<th>av-i</th>
<th>to go up</th>
</tr>
</thead>
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<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
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<td>to study</td>
<td>anu-i</td>
<td>to follow</td>
</tr>
<tr>
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<td>succession, progeny</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>abhi-i</td>
<td>to arrive</td>
<td>abhi-i</td>
<td>to arrive</td>
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<td>ud-ay-a-s</td>
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<td>ud-ay-a-s</td>
<td>appearance of a star</td>
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<td>transgression</td>
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<tr>
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<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>av-i</td>
<td>to go up</td>
<td>av-i</td>
<td>to go up</td>
</tr>
<tr>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>vi-i</th>
<th>to follow</th>
<th>av-i</th>
<th>to go up</th>
</tr>
</thead>
<tbody>
<tr>
<td>adhy-ay-a-s</td>
<td>adversarial, chapter, section</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>anu-i</td>
<td>to study</td>
<td>anu-i</td>
<td>to follow</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>succession, progeny</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>abhi-i</td>
<td>to arrive</td>
<td>abhi-i</td>
<td>to arrive</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>arrival of darkness</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</td>
<td>means, approach</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>succession, progeny</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>ati-i</td>
<td>to excel</td>
<td>aty-ay-a-s</td>
<td>transgression</td>
</tr>
<tr>
<td>adhy-ay-a-s</td>
<td>adversarial, chapter, section</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
<tr>
<td>av-i</td>
<td>to go up</td>
<td>av-i</td>
<td>to go up</td>
</tr>
<tr>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
<td>ud-ay-a-s</td>
<td>appearance of a star</td>
</tr>
</tbody>
</table>

92
Neuter nouns with suffix *ana

We find many neuter action nouns with suffix *ana. The first *a seems to go back to an ie. light vowel, i.e. *eno → oi. *ana. Otherwise bhōj-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>nī</td>
<td>to lead</td>
<td>nay-ana-m</td>
<td>leading (→ eye)</td>
</tr>
<tr>
<td>bhuj</td>
<td>to enjoy</td>
<td>bhōj-ana-m</td>
<td>enjoyment</td>
</tr>
<tr>
<td>mrd</td>
<td>to squeeze</td>
<td>mard-ana-m</td>
<td>rubbing, anointing</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 → upāy-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 → prāy-ana-m</td>
<td>going forth, beginning</td>
</tr>
</tbody>
</table>

Remember also vāma-ay-ana-m → rāmāy-ana-m, the going ?? of the hero Rāma.

Some common laryngeal roots also use the *ana suffix which looks like a na suffix. For example, from dā (“to give”), we obtain

* dā-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>dhā</td>
<td>to put, to place</td>
<td>dhā-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>

Masculine nouns with suffix *ana

Sometimes, the suffix *ana may also point to an agent noun (Pā: līnu):

<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>pav-ana-s</td>
<td>purifier → wind</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

Neuter nouns with suffix \textit{as}

Very common neuter words like \textit{namas} or \textit{tapas} take the suffix \textit{as} (with instr. case \textit{namas-ā}). Here is a list:

<table>
<thead>
<tr>
<th>\textbf{√}</th>
<th>\textbf{translation}</th>
<th>\textbf{n. action noun in f.g.}</th>
<th>\textbf{translation}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{cit}</td>
<td>to observe</td>
<td>\textit{cēt-as}</td>
<td>thought</td>
</tr>
<tr>
<td>\textit{tap}</td>
<td>to burn</td>
<td>\textit{tap-as}</td>
<td>austerity</td>
</tr>
<tr>
<td>\textit{nam}</td>
<td>to bow</td>
<td>\textit{nam-as}</td>
<td>bowing, homage</td>
</tr>
<tr>
<td>\textit{man}</td>
<td>to think</td>
<td>\textit{man-as}</td>
<td>thought</td>
</tr>
<tr>
<td>\textit{vac}</td>
<td>to speak</td>
<td>\textit{vac-as}</td>
<td>speech</td>
</tr>
</tbody>
</table>

Neuter nouns with suffix \textit{is}

Neuter nouns with suffix \textit{is} are rare. Examples are

<table>
<thead>
<tr>
<th>\textbf{√}</th>
<th>\textbf{translation}</th>
<th>\textbf{n. action noun in f.g.}</th>
<th>\textbf{translation}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{jyut}</td>
<td>to shine</td>
<td>\textit{jyōt-is}</td>
<td>light, star</td>
</tr>
<tr>
<td>\textit{hu}</td>
<td>to sacrifice</td>
<td>\textit{hav-is}</td>
<td>oblation</td>
</tr>
</tbody>
</table>

Agent nouns with suffix \textit{tar}

Infinitives and agent nouns share the special features

\bigdiamond of building on the full grade and

\bigdiamond of using a \textit{t}-suffix, \textit{tam} in the case of the infinitive and \textit{tar} for agent nouns:

<table>
<thead>
<tr>
<th>\textbf{√}</th>
<th>\textbf{infinitive}</th>
<th>\textbf{translation}</th>
<th>\textbf{m. agent noun in f.g.}</th>
<th>\textbf{translation}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{av}</td>
<td>\textit{av-i-tum}</td>
<td>to help</td>
<td>\textit{av-i-tar}</td>
<td>helper, friend</td>
</tr>
<tr>
<td>\textit{kṛ}</td>
<td>\textit{kar-tum}</td>
<td>to make</td>
<td>\textit{kar-tar}</td>
<td>doer, maker</td>
</tr>
<tr>
<td>\textit{kruś}</td>
<td>\textit{krōs-tum}</td>
<td>to shriek</td>
<td>\textit{krōs-tar}</td>
<td>shrieker \to jackal</td>
</tr>
<tr>
<td>\textit{gam}</td>
<td>\textit{gan-tum}</td>
<td>to go</td>
<td>\textit{gan-tar}</td>
<td>goer</td>
</tr>
<tr>
<td>\textit{jī}</td>
<td>\textit{jē-tum}</td>
<td>to defeat</td>
<td>\textit{jē-tar}</td>
<td>conqueror</td>
</tr>
<tr>
<td>\textit{dah}</td>
<td>\textit{dōg-dhum}</td>
<td>to milk</td>
<td>\textit{dōg-dhar}</td>
<td>milker, exploiter</td>
</tr>
<tr>
<td>\textit{nī}</td>
<td>\textit{nē-tum}</td>
<td>to lead</td>
<td>\textit{nē-tar}</td>
<td>leader</td>
</tr>
<tr>
<td>\textit{pā}</td>
<td>\textit{pā-tum}</td>
<td>to drink</td>
<td>\textit{pā-tar}</td>
<td>drinker</td>
</tr>
<tr>
<td>\textit{bhṛ}</td>
<td>\textit{bhar-tum}</td>
<td>to carry</td>
<td>\textit{bhar-tar}</td>
<td>husband</td>
</tr>
<tr>
<td>\textit{vac}</td>
<td>\textit{vak-tum}</td>
<td>to speak</td>
<td>\textit{vak-tar}</td>
<td>speaker</td>
</tr>
<tr>
<td>\textit{vah}</td>
<td>\textit{vō-ḏhum}</td>
<td>to drive</td>
<td>\textit{vō-ḏhr}</td>
<td>bridegroom</td>
</tr>
<tr>
<td>\textit{śrū}</td>
<td>\textit{śrō-tum}</td>
<td>to hear</td>
<td>\textit{śrō-tar}</td>
<td>hearer</td>
</tr>
<tr>
<td>\textit{sā}</td>
<td>\textit{sav-i-tum}</td>
<td>to beget</td>
<td>\textit{sav-i-tar}</td>
<td>activator, father, sun</td>
</tr>
<tr>
<td>\textit{hu}</td>
<td>\textit{hō-tum}</td>
<td>to sacrifice</td>
<td>\textit{hō-tar}</td>
<td>priest</td>
</tr>
</tbody>
</table>

Sometimes, the zero grade is taken instead. I.e. “\textit{khen-H} has zero grade \textit{khā} by the sound law “ie. \textit{CnH} \to \textit{oi. Cā}”. This is the form seen in \textit{khā-tar} (stem \textit{khā-tar}) (“digger”) \to \textit{khan} (“to dig”), besides the expected full-grade form \textit{khan-i-tar} \to “\textit{khen-H-t-}.”

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C.3. Infinitive and other normal-grade forms

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” *pā-tā* uses the “drinking-vessel” *pā-tram*.

<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><em>kr</em></td>
<td><em>kar-tum</em></td>
<td>to make</td>
<td><em>kar-tra-m</em></td>
<td>spell, charm</td>
</tr>
<tr>
<td><em>gā</em></td>
<td>to go</td>
<td><em>gā-tra-m</em></td>
<td>body limb</td>
<td></td>
</tr>
<tr>
<td><em>chad</em></td>
<td><em>chat-tum</em></td>
<td>to cover</td>
<td><em>chat-tra-m/chaṭra-m</em></td>
<td>umbrella</td>
</tr>
<tr>
<td><em>duh</em></td>
<td><em>dōg-dhum</em></td>
<td>to milk</td>
<td><em>dōg-dhra-m</em></td>
<td>milk-pail</td>
</tr>
<tr>
<td><em>nī</em></td>
<td><em>nē-tum</em></td>
<td>to lead</td>
<td><em>nē-tra-m</em></td>
<td>eye</td>
</tr>
<tr>
<td><em>pa</em></td>
<td><em>pat-i-tum</em></td>
<td>to fly</td>
<td><em>pat-tra-m/patra-m</em></td>
<td>wing, leaf</td>
</tr>
<tr>
<td><em>pā</em></td>
<td><em>pā-tum</em></td>
<td>to drink</td>
<td><em>pā-tra-m</em></td>
<td>cup, vessel</td>
</tr>
<tr>
<td><em>yan</em></td>
<td><em>yan-tum</em></td>
<td>to hold up/back</td>
<td><em>yan-tra-m</em></td>
<td>band, instrument</td>
</tr>
<tr>
<td><em>vas</em></td>
<td><em>vās-tum</em></td>
<td>to speak</td>
<td><em>vāk-tra-m</em></td>
<td>mouth</td>
</tr>
<tr>
<td><em>ṣas</em></td>
<td>to kill</td>
<td><em>ṣas-tra-m</em></td>
<td>weapon</td>
<td></td>
</tr>
<tr>
<td><em>śās</em></td>
<td><em>śās-tum</em></td>
<td>to instruct</td>
<td><em>śās-tra-m</em></td>
<td>scientific text</td>
</tr>
<tr>
<td><em>śrū</em></td>
<td><em>śrū-tum</em></td>
<td>to hear</td>
<td><em>śrū-tra-m</em></td>
<td>ear</td>
</tr>
<tr>
<td><em>hu</em></td>
<td><em>hō-tum</em></td>
<td>to sacrifice</td>
<td><em>hō-tra-m</em></td>
<td>sacrifice</td>
</tr>
</tbody>
</table>

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><em>kr</em></td>
<td><em>kar-tum</em></td>
<td>to make</td>
<td><em>kar-man</em></td>
<td>action</td>
</tr>
<tr>
<td><em>chad</em></td>
<td><em>chat-tum</em></td>
<td>to cover</td>
<td><em>chaṭ-man</em></td>
<td>roof, protection</td>
</tr>
<tr>
<td><em>jan</em></td>
<td><em>jan-i-tum</em></td>
<td>to beget</td>
<td><em>jan-man</em></td>
<td>birth</td>
</tr>
</tbody>
</table>

C.3.6. Comparative and superlative

Comparative and superlative forms are often formed *tara* and *tama* or with *īyas* and *īṭha*, respectively:

<table>
<thead>
<tr>
<th>adjective</th>
<th>translation</th>
<th>comparative</th>
<th>superlative</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>priya</em></td>
<td>dear</td>
<td><em>priya-tara</em></td>
<td><em>priya-tama</em></td>
</tr>
<tr>
<td><em>mahant</em></td>
<td>great</td>
<td><em>mahat-tara</em></td>
<td><em>mahat-tama</em></td>
</tr>
<tr>
<td><em>alpa</em></td>
<td>small</td>
<td><em>alp-īyas</em></td>
<td><em>alp-īṭha</em></td>
</tr>
<tr>
<td><em>uru</em></td>
<td>wide</td>
<td><em>var-īyas</em></td>
<td><em>var-īṭha</em></td>
</tr>
<tr>
<td><em>guru</em></td>
<td>heavy</td>
<td><em>gar-īyas</em></td>
<td><em>gar-īṭha</em></td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

Many of the īyas and īṣṭha forms are build 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>kṣip</td>
<td>to throw</td>
<td>kṣip-m (1)</td>
<td>fast</td>
<td>kṣep-īyas (1)</td>
<td>kṣep-īṣṭha (1)</td>
</tr>
<tr>
<td>kṣud</td>
<td>to crush</td>
<td>kṣud-m (1)</td>
<td>small</td>
<td>kṣōd-īyas (1)</td>
<td>kṣōd-īṣṭha (1)</td>
</tr>
<tr>
<td>mṛd</td>
<td>to rub</td>
<td>mṛd-u (1)</td>
<td>soft</td>
<td>mṛad-īyas (2)</td>
<td>mṛad-īṣṭha (2)</td>
</tr>
</tbody>
</table>

1. One class of adjectives is build from the zero grade plus ra (as shown on pp. 110). This r is lost in the comparative and superlative forms.

2. In contrast to mānd-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. 114). The future is formed from the full grade of the root:

full-grade root + sy + a + ending

Long-a roots (although stemming from laryngeals) provide simple examples:

<table>
<thead>
<tr>
<th></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>ḍāhā</td>
<td>to set, to place</td>
<td>ḍāhā-tum</td>
<td>ḍāḥa-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></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>yak-sy-a-ti</td>
</tr>
<tr>
<td>rām</td>
<td>to enjoy</td>
<td>rān-tum</td>
<td>rām-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:
### C.3. Infinitive and other normal-grade forms

<table>
<thead>
<tr>
<th>√</th>
<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>
<td></td>
</tr>
<tr>
<td>vydh</td>
<td>to grow</td>
<td>vardh-i-tum</td>
<td>vart-sy-a-ti</td>
<td></td>
</tr>
</tbody>
</table>

Roots with i lead to full grade è and hence to

<table>
<thead>
<tr>
<th>√</th>
<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>è-tum</td>
<td>è-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>kṣip</td>
<td>to throw</td>
<td>kṣēp-tum</td>
<td>kṣēp-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>ji</td>
<td>to defeat</td>
<td>jē-tum</td>
<td>jē-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>bhid</td>
<td>to break</td>
<td>bhēt-tum</td>
<td>bhēt-sy-a-ti</td>
<td></td>
</tr>
</tbody>
</table>

while roots with û lead to full grade ô clearly seen in

<table>
<thead>
<tr>
<th>√</th>
<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>mōk-tum</td>
<td>mōk-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>yuj</td>
<td>to join</td>
<td>yōk-tum</td>
<td>yōk-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>śru</td>
<td>to listen</td>
<td>śrō-tum</td>
<td>śrō-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>stu</td>
<td>to praise</td>
<td>stō-tum</td>
<td>stō-sy-a-ti</td>
<td></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.)</td>
<td>to be born</td>
<td>jan-i-tum</td>
<td>jan-i-sy-a-ti</td>
</tr>
<tr>
<td>bhū</td>
<td>to be</td>
<td>bhav-i-tum</td>
<td>bhav-i-sy-a-ti</td>
</tr>
</tbody>
</table>

By analogy, this convenient quasi-thematic i spreads to other roots without any laryngeal excuse:

<table>
<thead>
<tr>
<th>√</th>
<th>in f.g.</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛ</td>
<td>to make</td>
<td>kartum</td>
<td>kar-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>gam</td>
<td>to go</td>
<td>gan-tum</td>
<td>gam-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>tan</td>
<td>to stretch</td>
<td>tan-tum</td>
<td>tan-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>budh</td>
<td>to awake</td>
<td>bōdh-i-tum</td>
<td>bōdh-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>bhr</td>
<td>to carry</td>
<td>bhartum</td>
<td>bhar-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>man</td>
<td>to think</td>
<td>man-tum</td>
<td>man-i-sy-a-ti/tē</td>
<td></td>
</tr>
<tr>
<td>smr</td>
<td>to remember</td>
<td>smartum</td>
<td>smar-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>likh</td>
<td>to write</td>
<td>lēkh-i-tum</td>
<td>lēkh-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>vad</td>
<td>to speak</td>
<td>vad-i-tum</td>
<td>vad-i-sy-a-ti</td>
<td></td>
</tr>
<tr>
<td>vṛt</td>
<td>to turn round</td>
<td>vant-i-tum</td>
<td>vant-i-sy-a-tē</td>
<td></td>
</tr>
<tr>
<td>vydh</td>
<td>to grow</td>
<td>vardh-i-tum</td>
<td>vardh-i-sy-a-tē</td>
<td></td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

Aspiration laws (revelation of aspirated root-initial)

The aspiration laws lead to interesting future forms for these reasons:

1. Aspiration shift cannot happen with respect to s or sy.

2. Then, there is no need for root-initial deaspiration and ie. aspiration becomes apparent:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gāḥ</td>
<td>to dive</td>
<td>gāḥ-dhum</td>
<td>ḡāḥk-ṣy-a-tē ← ḡh??</td>
</tr>
<tr>
<td>dah</td>
<td>to burn</td>
<td>dag-dhum</td>
<td>ḍhak-ṣy-a-ti ← ḍhēq&quot;h-s-</td>
</tr>
<tr>
<td>dih</td>
<td>to smear</td>
<td>ḍēq-dhum</td>
<td>ḍhēk-ṣy-a-ti ← *dheigh-s-</td>
</tr>
<tr>
<td>dih</td>
<td>to milk</td>
<td>ḍōq-dhum</td>
<td>ḍhōk-ṣy-a-ti ← *dheugh-s-</td>
</tr>
<tr>
<td>bandh ← *bhendh</td>
<td>to bind</td>
<td>bad-dhum (z.g.!)</td>
<td>bhan-t-ṣy-a-ti ← *bhendh-s-</td>
</tr>
<tr>
<td>budh ← *bhudh</td>
<td>to awake</td>
<td>bōdh-i-tum</td>
<td>bhōt-ṣy-a-ti ← *bhudh-s-</td>
</tr>
</tbody>
</table>

Primary palatalization (revelation of root-final)

Primary palatalization is seen in the sound law

\[
e. \  \dot{k} \rightarrow \text{oī. } \dot{s}.
\]

Now, ie. \( \dot{k} \) manifests itself in oi. future forms as oi. \( \dot{s} \):

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>daṁś (f.g.)</td>
<td>da-a-ti</td>
<td>daṁś-tum</td>
<td>ḍaṁśk-ṣy-a-ti ← *demk-s- ??</td>
</tr>
<tr>
<td>diś</td>
<td>diś-a-ti</td>
<td>dēś-tum</td>
<td>dēk-ṣy-a-ti ← *dek-s- ??</td>
</tr>
<tr>
<td>dyś</td>
<td>to see</td>
<td>dras-tum</td>
<td>drak-ṣy-a-ti ← *derk-s- ??</td>
</tr>
<tr>
<td>naś (z.g.)</td>
<td>to perish</td>
<td>namś-tum</td>
<td>namk-ṣy-a-ti ← *nemk-s- ??</td>
</tr>
<tr>
<td>pracch (f.g.)</td>
<td>to ask</td>
<td>pras-tum</td>
<td>prak-ṣy-a-ti ← *prek-s- ??</td>
</tr>
<tr>
<td>spṛś</td>
<td>to touch</td>
<td>spars-tum, spṛas-tum</td>
<td>spark-ṣy-a-ti ← *sperk-s- ??</td>
</tr>
</tbody>
</table>

Observe oi. root naś which is zero grade from full grade *naṃś or *naṃś (syllabic nasals turn into a). The full-grade future then leads to expected namk-ṣy-a-ti or namk-ṣy-a-ti.

However, there exists a group of verbs with oi. \( \dot{s} \) after i, u, or r (so that ruki is responsible for ie. \( s \rightarrow \text{oi. } \dot{s} \)) which also exhibit k-ṣy in future forms:

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C.4. Past participle and other zero-grade forms

<table>
<thead>
<tr>
<th></th>
<th>translation</th>
<th>infinitive</th>
<th>future, 3. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>krṣ</td>
<td>to plough</td>
<td>karṣ-tum, kras-ṭum</td>
<td>kark-sy-a-ti</td>
</tr>
<tr>
<td>tus</td>
<td>to enjoy</td>
<td>tōs-tum</td>
<td>tōk-sy-a-ti</td>
</tr>
<tr>
<td>dvis</td>
<td>to hate</td>
<td>dvēs-ṭum</td>
<td>dvēk-sy-a-ti</td>
</tr>
<tr>
<td>puṣ</td>
<td>to nourish</td>
<td>pōṣ-tum</td>
<td>pōk-sy-a-ti</td>
</tr>
</tbody>
</table>

Here, the first sibilant dissimulation is at work:

oi. $s+s \rightarrow$ oi. $k+s$

oi. $s+s \rightarrow$ oi. $t+s$

The second one is present in

<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>
</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. Consider these categories:

Loss of voice and loss of aspiration, zero grade

Root nouns are typically indicated by

◇ the root in zero grade and

◇ the nom. sg. which does not exhibit any case ending.

According to section B.3.5 pp. 41 the nom. sg. undergoes the loss of voice and the loss of aspiration. Here are a few examples in nom. sg.:

◇ yut (stem yudh) (“battle”)

◇ mṛt (stem mṛd) (“clay”)

◇ vidyut (stem vidyut) (“flash of lightning”)

Loss of voice and loss of aspiration, full grade

The root may sometimes be in full grade, for reasons explained in section C.4 pp. 74

◇ upa-ni-ṣat (stem upa-ni-sad) (“the sitting down at the feet of another to listen to his words, and hence, secret knowledge given in this manner”) ← ie. *sed

◇ sam-ṣat (stem sam-sad) (“assembly”) ← ie. *sed

◇ pari-ṣat (stem pari-sad) (“assembly”) ← ie. *sed

◇ ā-pat (stem ā-pad) (“calamity”) ← ie. *ped
C. Grammar: verbal system

Palatals from ie. ʰk

When the root ends in oi, ō, we are not surprised to see oi ʰk instead, since oi ō goes back to ie. palatal ʰk (p. 34):

◊ drk (stem drš) (“sight”) ← ie. *derk

Unhistorical exceptions are

◊ viṭ (stem viṣ) (“house, people”) ← ie. *veik

Palatals from ie. ...

◊ bhuk (stem bhuj) (“enjoyment, utility”) ← ie. *??
◊ mi?? (stem mih) (“mist, haze, fog”)
◊ šuk (stem šuc) (“flame, to grief”)

C.4.2. General rule

Roughly speaking, the past participle (PPP) is constructed in this manner:

zero-grade root + ta (ie. *to

Consider these examples with root and PPP with syllabic r where the zero grade clearly shows:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kar-ō-ṭi</td>
<td>kr-ṭa</td>
<td>to make</td>
</tr>
<tr>
<td>bhṛ</td>
<td>bhar-a-ti</td>
<td>bhṛ-ṭa</td>
<td>to carry</td>
</tr>
<tr>
<td>mṛ</td>
<td>mṛ-ya-ṭe</td>
<td>mṛ-ṭa</td>
<td>to die</td>
</tr>
<tr>
<td>smṛ</td>
<td>smar-a-ti</td>
<td>smṛ-ṭa</td>
<td>to remember</td>
</tr>
<tr>
<td>hr</td>
<td>har-a-ti</td>
<td>hr-ṭa</td>
<td>to take, to rob</td>
</tr>
</tbody>
</table>

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>i</td>
<td>ē-ṭi</td>
<td>ē-ṭa</td>
<td>to go</td>
</tr>
<tr>
<td>ksip</td>
<td>ksip-a-ti</td>
<td>ksip-ṭa</td>
<td>to throw</td>
</tr>
<tr>
<td>ji</td>
<td>jay-a-ti</td>
<td>ji-ṭa</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>adhi-i</td>
<td>to study</td>
<td>adhi-ṭa</td>
<td>well read, learned</td>
</tr>
<tr>
<td>upa-i</td>
<td>to go towards</td>
<td>upa-ṭa</td>
<td>enclosed with</td>
</tr>
<tr>
<td>pra-i</td>
<td>to set off, to die</td>
<td>pra-ṭa</td>
<td>gone forth → dead</td>
</tr>
<tr>
<td>vi-i</td>
<td>to diverge, to disappear</td>
<td>vi-ṭa</td>
<td>gone, freed from</td>
</tr>
</tbody>
</table>
C.4. Past participle and other zero-grade forms

Likewise, roots with $u$ preserve this $u$ in the PPP:

<table>
<thead>
<tr>
<th>$\sqrt{}$</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>muc</td>
<td>mu$\tilde{u}$c-a-ti</td>
<td>muk-ta</td>
<td>to liberate</td>
</tr>
<tr>
<td>yu$\tilde{j}$</td>
<td>ya-na-k-ti</td>
<td>yak-ta</td>
<td>to join</td>
</tr>
<tr>
<td>vac (f.g.)</td>
<td>vak-ti</td>
<td>uk-ta</td>
<td>to speak</td>
</tr>
<tr>
<td>vap (f.g.)</td>
<td>vap-a-ti</td>
<td>up-ta</td>
<td>to sow</td>
</tr>
<tr>
<td>šru</td>
<td>š-r-nō-ti</td>
<td>šru-ta</td>
<td>to listen</td>
</tr>
<tr>
<td>stu</td>
<td>stāu-ti (Narten)</td>
<td>stu-ta</td>
<td>to praise</td>
</tr>
<tr>
<td>hu</td>
<td>ju-hō-ti</td>
<td>hu-ta</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>$\sqrt{}$</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>khid</td>
<td>khid-ya-ti</td>
<td>khin-na</td>
<td>to suffer</td>
</tr>
<tr>
<td>tsd</td>
<td>tund-a-ti</td>
<td>tun-na</td>
<td>to hit</td>
</tr>
<tr>
<td>nud</td>
<td>nund-a-ti</td>
<td>nun-na</td>
<td>to push</td>
</tr>
<tr>
<td>pad</td>
<td>pad-y-a-tê</td>
<td>pan-na</td>
<td>to fall, to go</td>
</tr>
<tr>
<td>bhid</td>
<td>bhī-na-t-ti</td>
<td>bhin-na</td>
<td>to break</td>
</tr>
<tr>
<td>sad (f.g.)</td>
<td>sīd-a-ti</td>
<td>san-na</td>
<td>to sit</td>
</tr>
</tbody>
</table>

But stems that end in oi. $j$ also use the $na$ marker:

<table>
<thead>
<tr>
<th>$\sqrt{}$ in f.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhānj</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. 61), a nasal that becomes syllabic turns into oi. $a$. Consider these examples:

<table>
<thead>
<tr>
<th>$\sqrt{}$ in f.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gam</td>
<td>ga-eh-a-ti</td>
<td>ie. $^*_g$m-to $\rightarrow$ gata</td>
<td>to go</td>
</tr>
<tr>
<td>tan</td>
<td>ta-nō-ti</td>
<td>ie. $^*_t$n$^\tilde{o}$-to $\rightarrow$ tata</td>
<td>to stretch</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

and this list:

<table>
<thead>
<tr>
<th>verb</th>
<th>root form</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></td>
<td>to salute</td>
</tr>
<tr>
<td>man</td>
<td>man-y-a-tê</td>
<td>mata</td>
<td></td>
<td>to think</td>
</tr>
<tr>
<td>yam</td>
<td>yacch-a-ti</td>
<td>yata</td>
<td></td>
<td>to restrain</td>
</tr>
<tr>
<td>ram</td>
<td>ram-a-tê</td>
<td>rata</td>
<td></td>
<td>to enjoy</td>
</tr>
<tr>
<td>han</td>
<td>han-ti</td>
<td>hata</td>
<td></td>
<td>to hit</td>
</tr>
</tbody>
</table>

The last example goes back ie. "g" when "to kill, to hit" where secondary palatalization (before ie. e) produces han-ti. However, secondary palatalization cannot be invoked for the zero grade where we should have obtained "g"-hₐ-to → gha-ta. ha-ta is easily explained by proportional analogy:

<table>
<thead>
<tr>
<th>verb</th>
<th>root form with root-initial consonant t:</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>han</td>
<td></td>
<td>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 ASH which is associated with the name of Christian Bartholomae (see section B.3.3, pp. 35):

<table>
<thead>
<tr>
<th>verb</th>
<th>root form</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ks ubh</td>
<td>ks ubh-y-a-ti</td>
<td>ks ubh-dha</td>
<td></td>
<td>to be upset</td>
</tr>
<tr>
<td>yudh</td>
<td>yudh-y-a-tê</td>
<td>yud-dha</td>
<td></td>
<td>to fight</td>
</tr>
<tr>
<td>labh (f.g.)</td>
<td>labh-a-tê</td>
<td>lab-dha (f.g.)</td>
<td></td>
<td>to obtain</td>
</tr>
<tr>
<td>vr dh</td>
<td>vardh-a-tê</td>
<td>vrd-dha</td>
<td></td>
<td>to grow</td>
</tr>
</tbody>
</table>

Note that lab-dha is full grade because neither l nor b could become syllabic.

Sometimes, Grassmann’s law is also applied. It says: If you have two syllable-initial aspirated sounds, the first one becomes deaspirated. Nice examples are provided by these PPP:

<table>
<thead>
<tr>
<th>verb</th>
<th>root form</th>
<th>future 3. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>bandh</td>
<td>*bhendh</td>
<td>bha-t-sy-a-ti</td>
<td>*bhendh-s-</td>
<td></td>
</tr>
<tr>
<td>budh</td>
<td>*bhudh</td>
<td>bhôt-sy-a-ti</td>
<td>*bhudh-s-</td>
<td></td>
</tr>
</tbody>
</table>

where

◇ the root initial bh becomes deaspirated because of Grassmann and
◇ the root final dh undergoes the aspiration shift due to Bartholomae.
We now need to mix these sound laws with the rules named secondary palatalization (SPAL, fig. B.2 on p. 53). For example, we have

\[
\text{ie.}^*\text{dhe}^w\text{h-to (zero grade and to-marker for PPP)} \\
\rightarrow \text{dhagh-ta (no SPAL before consonant t)} \\
\rightarrow \text{dagh-ta (DA)} \\
\rightarrow \text{dag-dha (ASH)}
\]

and

\[
\text{ie.}^*\text{snig}^w\text{h-to (zero grade and to-marker for PPP)} \\
\rightarrow \text{snigh-ta (no SPAL before t)} \\
\rightarrow \text{snig-dha (ASH)}
\]

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>*dhe\text{g}^w\text{h-to} \rightarrow \text{dag-dha (f.g.)}</td>
<td>to burn</td>
</tr>
<tr>
<td>dih</td>
<td>dêg-dhi</td>
<td>*dhigh-to \rightarrow \text{d}êg\text{-dhum}</td>
<td>to smear</td>
</tr>
<tr>
<td>duh</td>
<td>dôg-dhi</td>
<td>*dhugh-to \rightarrow \text{d}u\text{-dhum}</td>
<td>to milk</td>
</tr>
<tr>
<td>snih</td>
<td>snih-y-a-ti</td>
<td>*snig\text{g}^w\text{h-to} \rightarrow \text{snig-dha}</td>
<td>to love</td>
</tr>
</tbody>
</table>

A small mystery is provided by näh ("to bind") with PPP nad-dha. Presumably, nadh is the “correct” oi. full-grade stem from where näh was produced as a dialectal variant (see pp. 47). From nadh, the PPP nad-dha (“bound”) is obtained by Bartholomae’s law. The problem is that naddha would then be in full grade.\(^1\)

A final example is provided by drh, drôh-a-ti (“to fix”) which has PPP drdha ("fixed, hard"): 

\[
\text{ie.}^*\text{drh-to (zero grade and to-marker for PPP)} \\
\rightarrow \text{drh-ta (no SPAL before t)} \\
\rightarrow \text{dr-dha (ASH)} \\
\rightarrow \text{dr-dha (CERD)}
\]

The oi. (!) h is voiced and affects the following voiceless t in a very similar way as we have seen in bud-dha and the other examples above. The major difference is that h is “pure” aspiration, without an accompanying consonant.

**Applying cerebralization sound laws**

In a number of verbs, the PPP involves cerebralization, in particular due to

\[
\text{CERD} \\
\text{oi. } \breve{s}/\breve{s} \rightarrow \text{oi. } \breve{s}t \\
\text{z }+\text{ d/dh} \rightarrow \text{z }+\text{ d}^\prime/d\text{h}
\]

First, consider oi. roots that end in s that goes back to ie. ĉ:

\(^1\)The zero grade *addha is unattested as is a hypothetical full-grade root *nandh which could have produced the PPP nad-dha as bandh ("to bind") leads to bad-dha.
C. Grammar: verbal system

◇ *dəm*š (“to bite”) ← ie. *denk* with
   ie. *dəŋk*-to (zero grade and to-marker for PPP)
   → *daš*-ta (syllabic n → a, PPAL)
   → *daš*-ta (CERD)

◇ *d*yš (“to see”) ← ie. *derk* with
   ie. *dyk*-to (zero grade and to-marker for PPP)
   → *dyš*-ta (PPAL)
   → *dyš*-ta (CERD)

◇ *pracch* (“to ask”) ← ie. *prek-sk* with
   ie. *prék*-to (zero grade and to-marker for PPP)
   → *prék*-ta (PPAL)
   → *prék*-ta (CERD)

◇ *viš* (“to enter”) ← ie. *veiš* with
   ie. *veiš*-to (zero grade and to-marker for PPP)
   → *viš*-ta (PPAL)
   → *viš*-ta (CERD)

◇ *is* (“to wish”) ← ie. *h2eis* with
   ie. *h2eis*-to (zero grade and to-marker for PPP)
   → *is*-ta (RUKI)
   → *is*-ta (CERD)

◇ *kryš* (“to plough”) ← ie. *kers* with
   ie. *kryš*-to (zero grade and to-marker for PPP)
   → *kryš*-ta (RUKI)
   → *kryš*-ta (CERD)

◇ *dviš* (“to hate”) ← ie. *dveis* with
   ie. *dveis*-to (zero grade and to-marker for PPP)
   → *dveis*-ta (RUKI)
   → *dveis*-ta (CERD)

◇ *vryš* (“to rain”) ← ie. *vers* with
   ie. *vrys*-to (zero grade and to-marker for PPP)
   → *vrys*-ta (RUKI)
   → *vrys*-ta (CERD)

A second important cerebralization rule is the RUKI rule. It combines with CERD in these examples:

Finally, before application of RUKI, a SZ rule is sometimes applied in the PPP *iš*-ta of *oi. gaj* (“to sacrifice”):
C.4. Past participle and other zero-grade forms

ie. *i§-to (zero grade and to PPP marker)
→ is-ta (SZ before voiceless cons.)
→ i§-ta (RUKI)
→ i§-ta (CERD)

and, very similarly, for the PPP of srj (“to throw, to create”):

ie. *srj-§-to (zero grade and to PPP marker)
→ srj-s-ta (SZ before voiceless cons.)
→ srj-s-ta (RUKI)
→ srj-s-ta (CERD)

Interestingly, i§-ta is the regularly formed PPP of both

◇ i§ (“to wish”) ← ie. full grade *h2eis (see [104] and
◇ oi. yaj (“to sacrifice”) ← ie. full grade *yeg (see [105])

... both aspiration and cerebralization laws

Even more complicated is the explanation for the past participle of vah (“to flow”, “to carry”) which is CLUDha. Very strange? Well, yes. But regular. The ie. origin is *vegh, with zero grade *UGH (hV) so that we obtain

ie. *UGH-to (zero grade and to PPP marker)
→ ugh-dha (ASH)
→ uz-dha (SZ before voiced cons.)
→ uz-dha (RUKI)
→ uz-dha (CERD)
→ u-UGH (COMLz)

A very parallel development leads to the past participle lUGH of lih, lihati (“to lick”), this time lengthening i rather than u:

ie. *lUGH-to (zero grade and to PPP marker)
→ lUGH-dha (ASH)
→ liz-dha (SZ before voiced cons.)
→ liz-dha (RUKI)
→ liz-dha (CERD)
→ lUGH (COMLz)

Similarly, but with Grassmann’s law, guh (“to hide”) goes back to ie. *gheUGH and we get

ie. *gheUGH-to (zero grade and to PPP marker)
→ guh-dha (DA and ASH)
→ guz-dha (SZ before voiced cons.)
→ guz-dha (RUKI)
→ guz-dha (CERD)
→ guh-dha (COMLz)
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Sometimes, one finds cerebral sounds which are not justified by sound laws. For example, the PPP of ruh, rôhati (“to climb”) is rûdha, but the ie. root is *h₁leudh (ie. *dh can produce oi. h according to subsection B.3.9 pp. [17] which should have lead to rud-dha (similar to dug-dha or bud-dha) instead.

A second example is sah, sahati (“to tolerate”) with PPP sô-dha where the sound laws do not justify cerebral dh:

\[ \text{ie. } *sèh-to \text{ (full grade (!) and to PPP marker)} \]
\[ \rightarrow \text{ saj-dha (ASH)} \]
\[ \rightarrow \text{ saz-dha (SZ before voiced cons.)} \]
\[ \rightarrow \text{ sô-dha (COMLz)} \]

Here, as in rûdha above, some analogy must have come into play.

C.4.5. Larhyngeals

The PPP of quite a number of verbs can be explained by laryngeal theory. The reader is reminded of these sound laws:

<table>
<thead>
<tr>
<th>neighborhood of laryngeal</th>
<th>sound law</th>
</tr>
</thead>
<tbody>
<tr>
<td>after i/u/e/o</td>
<td>ie. iH/aH/eH/oH (\rightarrow) i/û/a/û/û</td>
</tr>
<tr>
<td>after (\ddot{u})</td>
<td>ie. (C\ddot{u}) (\rightarrow) Cû</td>
</tr>
<tr>
<td>after (\ddot{u})</td>
<td>ie. (C\ddot{u}) (\rightarrow) Cûm</td>
</tr>
<tr>
<td>after (C\text{ labial})</td>
<td>ie. (C\text{ labial}) (\ddot{u}) (\rightarrow) Cû</td>
</tr>
<tr>
<td>after (C\text{ not labial})</td>
<td>ie. (C\text{ not labial}) (\ddot{u}) (\rightarrow) Cû</td>
</tr>
<tr>
<td>between consonants</td>
<td>ie. CHC (\rightarrow) CûC</td>
</tr>
<tr>
<td>between consonant and vowel</td>
<td>ie. CHV (\rightarrow) 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 û:

<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>nî</td>
<td>*neyH-e-ti (\rightarrow) nay-a-ti</td>
<td>*nî-H-to (\rightarrow) nî-ta</td>
<td>to lead</td>
</tr>
<tr>
<td>bhî</td>
<td>*bhî-bheiH-ti (\rightarrow) bi-bhê-ti</td>
<td>*bhî-H-to (\rightarrow) bhê-ta</td>
<td>to be afraid</td>
</tr>
<tr>
<td>bhû</td>
<td>*bhuH-e-ti (\rightarrow) bhav-a-ti</td>
<td>*bhu-H-to (\rightarrow) bhû-ta</td>
<td>to be</td>
</tr>
<tr>
<td>pû</td>
<td>*pu-ne-H-ti (\rightarrow) pu-nû-ti</td>
<td>*pu-H-to (\rightarrow) pû-ta</td>
<td>to purify</td>
</tr>
</tbody>
</table>

These four PPP are pretty straightforward. Note, however,

<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>lî</td>
<td>*liH-(y) (\rightarrow) lî-ya-tê</td>
<td>*lî-H-no (\rightarrow) lî-na</td>
<td>to cling</td>
</tr>
<tr>
<td>lû</td>
<td>*lu-ne-H-ti (\rightarrow) lu-nû-ti</td>
<td>*lu-H-no (\rightarrow) lû-na</td>
<td>to cut</td>
</tr>
</tbody>
</table>

which are formed with PPP marker na rather than ta.

Rather difficult is

<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>pô</td>
<td>*pi-ph₃-e-ti (\rightarrow) pi-b-a-ti (p. 75)</td>
<td>*pi₃h₃-to (\rightarrow) *pi₃h₃-to (\rightarrow) pî-ta</td>
<td>to drink</td>
</tr>
</tbody>
</table>

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C.4. Past participle and other zero-grade forms

where the PPP is often explained by the metathesis *ph₃i → *pih₃.

Now, consider, these laryngeal roots where the PPP is explained by “ie. CHC → CiC”:

<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḍā</td>
<td>*de-deḥ₃-ti → da-dā-ti</td>
<td>*dh₃-to → di-ta (1)</td>
<td>to give</td>
</tr>
<tr>
<td>dhā</td>
<td>*de-dheḥ₁-ti → da-dhā-ti</td>
<td>*dh₁-to → hi-ta (2)</td>
<td>to set, to place</td>
</tr>
<tr>
<td>sthā</td>
<td>ti-ṣṭh-a-ti</td>
<td>*sth₂-to → sthi-ta (3)</td>
<td>to stand</td>
</tr>
</tbody>
</table>

1. ḍā has two different PPP, the regular di-ta given in the list above and the irregular (but more common) dat-ta. Perhaps, da-dā-mī 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. 47).

3. The aspirated root sthā is explained by analogy as is aspiration in the PPP sthi-ta where the laryngeal seems to have 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, bhās-i-ta, uṣ-i-ta (from vas with ruki).

Laryngeals can lengthen syllabic nasals:

<table>
<thead>
<tr>
<th>√ in f.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kam (f.g.)</td>
<td>no present tense</td>
<td>*k₇-H-to → kān-ta (2)</td>
<td>to love</td>
</tr>
<tr>
<td>kram (f.g.)</td>
<td>*krem-H-y/e/to → krām-ya-ti (1)</td>
<td>*krm-H-to → krān-ta (2)</td>
<td>to walk</td>
</tr>
<tr>
<td>khan (f.g.)</td>
<td>*khen-H-e/to → khan-a-ti</td>
<td>*kh₇-H-to → khā-ta</td>
<td>to dig</td>
</tr>
<tr>
<td>jan (f.g.)</td>
<td>*g₇-H-y/e/to → jā-ya-tē</td>
<td>*g₇-H-to → jā-ta</td>
<td>to be born</td>
</tr>
</tbody>
</table>

1. krām-ya-ti is regular 4. class (i.e., zero-grade root). Then “ie. C₇H → Cām” (LAR) is regularly applied.

2. kān-ta is readily explained by LAR and BA.

How about jān-ta??

Finally, we comment on a group of verbs where long vowels ī or ū go back to ṕ H:

ie. C₇labial ṕ H → Cār
ie. C₇any labial ṕ H → Cār

All these forms have na as the PPP marker (as do lī-na and lū-na from above):
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<table>
<thead>
<tr>
<th>√ in z.g.</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$k\overline{r}$</td>
<td>*$ker\overline{r}$-e-ti?% → $kir-a-ti$</td>
<td>*$k\overline{r}$-H-no → $kər-\gamma na$</td>
<td>to scatter</td>
</tr>
<tr>
<td>$j\overline{r}$</td>
<td>*$j\gamma r$-y-e-ti → $ji\gamma r-a-ti$</td>
<td>*$j\gamma r$-H-no → $ji\gamma r-\gamma na$</td>
<td>to waste away</td>
</tr>
<tr>
<td>$t\overline{r}$</td>
<td>*$ter\overline{r}$-e-ti → $tar-a-ti$</td>
<td>*$t\overline{r}$-H-no → $t\overline{r}-\gamma na$</td>
<td>to pass</td>
</tr>
<tr>
<td>$d\overline{r}$</td>
<td>*$d\gamma r-ne-H-ti → $d\gamma r-n\overline{a}-t\overline{i}$</td>
<td>*$d\gamma r-H-no → $d\gamma r-\gamma na$</td>
<td>to tear</td>
</tr>
<tr>
<td>$p\overline{r}$</td>
<td>*$pl-ne-H-ti → $pr-n\overline{a}-t\overline{i}$</td>
<td>*$pl-H-no → $pr-\gamma na$</td>
<td>to fill</td>
</tr>
</tbody>
</table>

It seems that $str$, $str\overline{n\hat{a}}ti$ (“to spread”) also belongs to his list because one has the PPP $st\overline{r}-\gamma na$ similar to $st\overline{r}-\gamma na$. Presumably, the ie. root is *terH. Note, however, the second PPP $st\overline{r}ta$.

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>*$divH-y-e-ti → $div-y-a-ti$</td>
<td>*$divH-to → $dy\overline{u}-ta$</td>
<td>to play</td>
</tr>
</tbody>
</table>

Perhaps, $div-y-a-ti$ may be the result of metathesis *$divH-y-e-ti → diHv-y-e-ti$? In the PPP, $y$ has to become a consonant so that the laryngeal lengthens $u$.

It seems that there is no etymologically justified case of a PPP with marker $i-ta$. Nevertheless, $i-ta$ PPPs exist:

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>PPP</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<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 $i$ helps to prevent confusion with forms like n.at. $patta$.

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. 99). 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>$k\gamma ip$</td>
<td>$k\gamma ip$-ta</td>
<td>to throw</td>
<td>$k\gamma ip$-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>$m\gamma c$</td>
<td>$m\gamma c$-ta</td>
<td>to liberate</td>
<td>$m\gamma c$-ti-s</td>
<td>liberation</td>
</tr>
<tr>
<td>$m\gamma r$</td>
<td>$m\gamma r$-ta</td>
<td>to die</td>
<td>$m\gamma r$-ti-s</td>
<td>death</td>
</tr>
<tr>
<td>$yu\gamma j$</td>
<td>$yu\gamma j$-ta</td>
<td>to join</td>
<td>$yu\gamma j$-ti-s</td>
<td>connection</td>
</tr>
<tr>
<td>vac (f.g.)</td>
<td>ak-ta</td>
<td>to speak</td>
<td>ak-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>$\acute{s}ru$</td>
<td>$\acute{s}ru$-ta</td>
<td>to listen</td>
<td>$\acute{s}ru$-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>smr</td>
<td>smr-ta</td>
<td>to remember</td>
<td>smr-\kappa ti-s</td>
<td>tradition</td>
</tr>
</tbody>
</table>
C.4. Past participle and other zero-grade forms

The very common root *i* ("to go") is contained in these ti-nouns:

<table>
<thead>
<tr>
<th>√/i in z.g.</th>
<th>PPP</th>
<th>translation</th>
<th>ti-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>adhi-i</td>
<td>adhi-ta</td>
<td>to study</td>
<td>adhi-ti-s</td>
<td>study</td>
</tr>
<tr>
<td>anu-i</td>
<td>anu-ta</td>
<td>to follow</td>
<td>anu-ti-s</td>
<td>following after</td>
</tr>
<tr>
<td>abhi-i</td>
<td>abhi-ta</td>
<td>to arrive</td>
<td>abhi-ti-s</td>
<td>attack</td>
</tr>
<tr>
<td>ud-i</td>
<td>ud-ta</td>
<td>to go up</td>
<td>ud-ti-s</td>
<td>sunrise</td>
</tr>
<tr>
<td>upa-i</td>
<td>up-ta</td>
<td>to go towards</td>
<td>up-ti-s</td>
<td>approach</td>
</tr>
<tr>
<td>pra-i</td>
<td>pra-ta</td>
<td>to set off</td>
<td>pra-ti-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>ti-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>gam</td>
<td>ga-ta</td>
<td>to go</td>
<td>ga-ti-s</td>
<td>path</td>
</tr>
<tr>
<td>tan</td>
<td>ta-ta</td>
<td>to stretch</td>
<td>ta-ti-s</td>
<td>mass, crowd</td>
</tr>
<tr>
<td>nam</td>
<td>na-ta</td>
<td>to salute</td>
<td>na-ti-s</td>
<td>salutation</td>
</tr>
<tr>
<td>man</td>
<td>ma-ta</td>
<td>to think</td>
<td>ma-ti-s</td>
<td>thought</td>
</tr>
<tr>
<td>yam</td>
<td>ya-ta</td>
<td>to restrain</td>
<td>ya-ti-s</td>
<td>control</td>
</tr>
<tr>
<td>ram</td>
<td>m-ta</td>
<td>to enjoy</td>
<td>ra-ti-s</td>
<td>pleasure</td>
</tr>
<tr>
<td>han</td>
<td>ha-ta</td>
<td>to hit</td>
<td>ha-ti-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>ti-noun</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>iṣ</td>
<td>iṣ-ta</td>
<td>to wish</td>
<td>iṣ-ti-s</td>
<td>wish</td>
</tr>
<tr>
<td>krṣ</td>
<td>krṣ-ta</td>
<td>to plough</td>
<td>krṣ-ti-s</td>
<td>ploughing, harvest</td>
</tr>
<tr>
<td>drṣ</td>
<td>drṣ-ta</td>
<td>to see</td>
<td>drṣ-ti-s</td>
<td>sight</td>
</tr>
<tr>
<td>budh</td>
<td>bud-dha</td>
<td>to awake</td>
<td>bud-dhi-s</td>
<td>idea, understanding</td>
</tr>
<tr>
<td>yaj</td>
<td>yaj-ta</td>
<td>to sacrifice</td>
<td>yaj-ti-s</td>
<td>sacrifice</td>
</tr>
<tr>
<td>vah</td>
<td>u-dha</td>
<td>to flow, to carry</td>
<td>u-dhi-s</td>
<td>carrying</td>
</tr>
<tr>
<td>viṣ</td>
<td>viṣ-ta</td>
<td>to enter</td>
<td>viṣ-ti-s</td>
<td>compulsory work</td>
</tr>
<tr>
<td>vrṭha</td>
<td>vrṭ-dha</td>
<td>to grow</td>
<td>vrṭ-dhi-s</td>
<td>growth</td>
</tr>
<tr>
<td>vṛṣ</td>
<td>vṛṣ-ta</td>
<td>to rain</td>
<td>vṛṣ-ti-s</td>
<td>rain</td>
</tr>
<tr>
<td>srj</td>
<td>srj-ta</td>
<td>to create</td>
<td>srj-ti-s</td>
<td>creation</td>
</tr>
</tbody>
</table>

Funny? *vrṭ-dhi-s* ("growth, lengthened grade") is in zero grade!

And, of course, consider all these laryngeal roots:
C. Grammar: verbal system

<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-ta</td>
<td>to love</td>
<td>kān-ti-s</td>
<td>desire, female beauty</td>
</tr>
<tr>
<td>khan (f.g.)</td>
<td>khā-ta</td>
<td>to dig</td>
<td>khā-ti-s</td>
<td>digging</td>
</tr>
<tr>
<td>jan (f.g.)</td>
<td>jā-ta</td>
<td>to be born</td>
<td>jā-ti-s</td>
<td>birth, caste</td>
</tr>
<tr>
<td>jīra</td>
<td>jīr-ṇa</td>
<td>to waste away</td>
<td>a-jīr-ti-s</td>
<td>indigestibility</td>
</tr>
<tr>
<td>dā</td>
<td>dī-ta</td>
<td>to give</td>
<td>dī-ti-s</td>
<td>offering, largess</td>
</tr>
<tr>
<td>dat-ta</td>
<td>to give</td>
<td>dat-ti-s</td>
<td>giving, gift</td>
<td></td>
</tr>
<tr>
<td>dā</td>
<td>dī-ta</td>
<td>to bind</td>
<td>a-di-ti-s</td>
<td>freedom, name of a goddess</td>
</tr>
<tr>
<td>dhā</td>
<td>hi-ta</td>
<td>to set, to place</td>
<td>hi-ti-s</td>
<td>mission, mandate</td>
</tr>
<tr>
<td>nī</td>
<td>nī-ta</td>
<td>to lead</td>
<td>nī-ti-s</td>
<td>conduct, policy</td>
</tr>
<tr>
<td>pā</td>
<td>pī-ta</td>
<td>to drink</td>
<td>pī-ti-s</td>
<td>drinking, tavern</td>
</tr>
<tr>
<td>pā</td>
<td>pī-ta</td>
<td>to purify</td>
<td>pī-ti-s</td>
<td>purity</td>
</tr>
<tr>
<td>pīr</td>
<td>pūr-ṇa</td>
<td>to fill</td>
<td>pūr-ti-s</td>
<td>filling, reward</td>
</tr>
<tr>
<td>bhā</td>
<td>bhā-ta</td>
<td>to be afraid</td>
<td>bhā-ti-s</td>
<td>fear, danger</td>
</tr>
<tr>
<td>bhā</td>
<td>bhā-ta</td>
<td>to be</td>
<td>bhā-ti-s</td>
<td>existence, welfare</td>
</tr>
<tr>
<td>sthā</td>
<td>sthī-ta</td>
<td>to stand</td>
<td>sthī-ti-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 stī-pā ("protecting the dependents").

Adjectives with ra

A few adjectives exist that are build 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>kṛp?</td>
<td>??</td>
<td>to lament</td>
<td>kṛcch-ra</td>
<td>dangerous</td>
</tr>
<tr>
<td>kṛ (n.at.) (1)</td>
<td>to form a crust</td>
<td>kṛ-r</td>
<td>bloody</td>
<td></td>
</tr>
<tr>
<td>kṣip</td>
<td>kṣip-ta</td>
<td>to throw</td>
<td>kṣip-r</td>
<td>fast, quick</td>
</tr>
<tr>
<td>kṣud</td>
<td>kṣud-da (n.at.)</td>
<td>to crunch</td>
<td>kṣud-r</td>
<td>mean</td>
</tr>
<tr>
<td>grdh</td>
<td>grd-dha</td>
<td>to be greedy</td>
<td>grdh-r</td>
<td>greedy</td>
</tr>
<tr>
<td>cit</td>
<td>cit-ta</td>
<td>to observe</td>
<td>cit-r</td>
<td>bright</td>
</tr>
<tr>
<td></td>
<td></td>
<td>also cit-r-m</td>
<td>picture</td>
<td></td>
</tr>
<tr>
<td>chid</td>
<td>chit-ta</td>
<td>to cut</td>
<td>chid-r</td>
<td>leaky, hole</td>
</tr>
<tr>
<td>nādh</td>
<td>to be needy</td>
<td>ādh-r (1)</td>
<td>poor, weak</td>
<td></td>
</tr>
<tr>
<td>vip</td>
<td>to tremble</td>
<td>vip-r</td>
<td>excited, wise</td>
<td></td>
</tr>
<tr>
<td>sthā</td>
<td>sthī-ta</td>
<td>to stand</td>
<td>sthī-r</td>
<td>steady, durable</td>
</tr>
<tr>
<td>hīṃs</td>
<td>sthī-ta</td>
<td>to hurt</td>
<td>hīṃs-r</td>
<td>hurting, vicious</td>
</tr>
</tbody>
</table>

1. See kravis in dictionary chapter.
2. *nHdh-ro → ādh-ra

If the oi. root begins with a, we see the full grade (which is the oi. root!) instead. Thus,
C.4. Past participle and other zero-grade forms

° ajira (“fast”) uses the full grade from aj, ajati (“to drive”)

° asra (“throwing, painful”) is build on the full grade of as, asyati (“to throw, to shoot”)

Unclear as yet:

° tū-ra (“severe, violent, intense”) is build on ??

° dhā-ra (“steady, head-strong”) is build on ??

° sīgh-ra (“quick”) is build on ??

° miś-ra (“mixed”) is build on ??

° vaj-ra (“as hard as diamond”) is build on ??

° vak-ra (“crooked, curved, cruel, dishonest”) is build on ??

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>ie. root with er</th>
<th>3. pers. sg. active</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>krṣ</td>
<td>krṣ-a-ti</td>
<td>krṣ-y-a-tē</td>
<td>to plough</td>
</tr>
<tr>
<td>drṣ</td>
<td>(paṣyati)</td>
<td>drṣ-y-a-tē</td>
<td>to see</td>
</tr>
<tr>
<td>srj</td>
<td>srj-a-ti</td>
<td>srj-y-a-tē</td>
<td>to create</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ie. root with ei</th>
<th>3. pers. sg. active</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>iṣ</td>
<td>icch-a-ti</td>
<td>icch-y-a-tē</td>
<td>to wish</td>
</tr>
<tr>
<td>kliṣ</td>
<td>kliṣ-y-a-tē (1)</td>
<td>kliṣ-y-a-tē (1)</td>
<td>to suffer</td>
</tr>
<tr>
<td>kṣp</td>
<td>kṣp-a-ti</td>
<td>kṣp-y-a-tē</td>
<td>to throw</td>
</tr>
<tr>
<td>viś</td>
<td>viś-a-ti</td>
<td>viś-y-a-tē</td>
<td>to enter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ie. root with eu</th>
<th>3. pers. sg. active</th>
<th>3. pers. sg. passive</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nud</td>
<td>nud-a-tē</td>
<td>nud-y-a-tē</td>
<td>to push</td>
</tr>
<tr>
<td>budh</td>
<td>budh-a-ti</td>
<td>budh-y-a-tē</td>
<td>to awake</td>
</tr>
<tr>
<td>mud</td>
<td>mōd-a-ti</td>
<td>mōd-y-a-tē</td>
<td>to rejoice</td>
</tr>
</tbody>
</table>

1. kliṣ-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:
C. Grammar: verbal system

<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>yaj-y-a-tê</td>
<td>to sacrifice</td>
</tr>
<tr>
<td>vac</td>
<td>vak-ti</td>
<td>uc-y-a-tê</td>
<td>to speak</td>
</tr>
<tr>
<td>vad</td>
<td>vad-a-ti</td>
<td>ud-y-a-tê</td>
<td>to speak</td>
</tr>
<tr>
<td>vas</td>
<td>vas-a-ti</td>
<td>uz-y-a-tê</td>
<td>to dwell</td>
</tr>
<tr>
<td>vah</td>
<td>vah-a-ti</td>
<td>uh-y-a-tê</td>
<td>to flow, to carry</td>
</tr>
</tbody>
</table>

Another class over of verbs with intricate zero grades are those nasal verbs where the

<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>bandh-nā-ti</td>
<td>bandh-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. 22), we know the mr-iy-a-tê rule:

\[CryV \rightarrow CryyV\]

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-o-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>vṛi-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, tīr-ṇa versus tīr-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>kṛ</td>
<td>kīr-ṇa</td>
<td>kīr-y-a-tê</td>
<td>to scatter</td>
</tr>
<tr>
<td>jṛ</td>
<td>jūr-ṇa</td>
<td>jūr-y-a-tê</td>
<td>to waste away</td>
</tr>
<tr>
<td>lṛ</td>
<td>lūr-ṇa</td>
<td>lūr-y-a-tê</td>
<td>to pass</td>
</tr>
<tr>
<td>dṛ</td>
<td>dūr-ṇa</td>
<td>dūr-y-a-tê</td>
<td>to tear, to pierce</td>
</tr>
<tr>
<td>pṛ</td>
<td>pūr-ṇa</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:

<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 (f.g.)</td>
<td>khā-ta</td>
<td>khā-y-a-tê</td>
<td>to dig</td>
</tr>
<tr>
<td>nī</td>
<td>nī-ta</td>
<td>nī-y-a-tê</td>
<td>to lead</td>
</tr>
<tr>
<td>pū</td>
<td>pū-ta</td>
<td>pū-y-a-tê</td>
<td>to purify</td>
</tr>
<tr>
<td>bhṛ</td>
<td>bhṛ-ta</td>
<td>bhṛ-y-a-tê</td>
<td>to be afraid</td>
</tr>
<tr>
<td>bhū</td>
<td>bhū-ta</td>
<td>bhū-y-a-tê</td>
<td>to be</td>
</tr>
</tbody>
</table>
C.4. Past participle and other zero-grade forms

In many of these examples, long $i$ 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>$pī-ta$</td>
<td>$pī-ya-tē$</td>
<td>to drink</td>
</tr>
</tbody>
</table>

where long $i$ might be explainable by metathesis $^{*}ph_{3}i \rightarrow ^{*}pih_{3}$.

All these passive forms with long $i$ are responsible for those where long $i$ 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>$di-ta$</td>
<td>$di-ya-tē$</td>
<td>to give</td>
</tr>
<tr>
<td>$dhā$</td>
<td>$hi-ta$</td>
<td>$dhī-ya-tē$</td>
<td>to set, to place</td>
</tr>
<tr>
<td>$sthā$</td>
<td>$sthī-ta$</td>
<td>$sthī-ya-tē$</td>
<td>to stand</td>
</tr>
</tbody>
</table>

Similarly, long $u$ is expected in $pūr-ya-tē$, $pū-ya-tē$, or $bhū-ya-tē$ above but not 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>$stu$</td>
<td>$stu-ta$</td>
<td>$stū-ya-tē$</td>
<td>to praise</td>
</tr>
<tr>
<td>$hā$</td>
<td>$hā-na/hĀ-ta$</td>
<td>$hī-ya-tē$</td>
<td>to abandon</td>
</tr>
<tr>
<td>$hu$</td>
<td>$hu-ta$</td>
<td>$hū-ya-tē$</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>$ghās$</td>
<td>$ghās-ta$</td>
<td>$ghōs-ya-tē$ (1)</td>
<td>to proclaim</td>
</tr>
<tr>
<td>$cur$</td>
<td></td>
<td>$cōr-ya-tē$ (1)</td>
<td>to steal</td>
</tr>
<tr>
<td>$path$</td>
<td>$pāth-i-ta$ (2)</td>
<td>$pāth-ya-tē$ (3)</td>
<td>to read</td>
</tr>
<tr>
<td>$pat$</td>
<td>$pāt-i-ta$ (2)</td>
<td>$pāt-ya-tē$ (3)</td>
<td>to fall</td>
</tr>
<tr>
<td>$tyaj$ (f.g.)</td>
<td>$tyaj-ta$</td>
<td>$tyaj-ya-tē$ (3)</td>
<td>to abandon</td>
</tr>
<tr>
<td>$labh$ (f.g.)</td>
<td>$lab-dha$ (f.g.)!</td>
<td>$labh-ya-tē$ (3)</td>
<td>to obtain</td>
</tr>
<tr>
<td>$sad$ (f.g.)</td>
<td>$san-na$</td>
<td>$sad-ya-tē$ (3)</td>
<td>to sit</td>
</tr>
<tr>
<td>$smṛ$</td>
<td>$smṛ-ta$</td>
<td>$smar-ya-tē$ (4)</td>
<td>to remember</td>
</tr>
</tbody>
</table>

1. Passive forms for (3) could have used the zero grade (n.at. $ghās-ya-tē$) 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. Therefore, the full grade cannot be avoided.

4. At a first glance, u.at. $smṛ-ya-tē$ seems possible. However, it would violate the $mr-iy-a-tē$ rule (pp. 22):

$$CryV \rightarrow CryV$$
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>√</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 ← *nما- (where a derives from syllabic ن. And na-ya-tê might easily be understood nay-a-tê from ن (“to lead”).

C.4.8. Desideratives

Reduplication

Desideratives\(^2\) and frequentatives (next subsection) use reduplication. Additionally, reduplications are found in three other grammatical instances as well:

- The reader is invited to compare the verbs of the third class (pp. 81) which also function with reduplication.
- Sanskrit perfect forms are mostly formed in a reduplicative fashion (see pp. C.7, pp. 171).
- One of the aorist formations is by way of reduplication (see pp. C.8 pp. 179).
- Frequentative verbs also use reduplication (see pp. 124).

Simple examples from the zero grade or, occasionally, the full grade

Roughly speaking, desideratives are built according to this rule:

\[
\begin{align*}
\text{ie. root} & \rightarrow \text{desiderative} \\
C_1FgC_2 & \rightarrow C_1Zg-C_1ZgC_2-s- 
\end{align*}
\]

Consider the following quite transparent example yuj with

- u-reduplication,
- zero grade, and

\(^2\)Future forms with sy are desideratives originally-“I want to go” became “I will go”. They do not use reduplication but the full grade together with the sy suffix (pp. 96).
C.4. Past participle and other zero-grade forms

◇ s marker:

\[ *yu-yug-s- \]
\[ \rightarrow \text{yu-yuk-s- (backward ass.)} \]
\[ \rightarrow \text{yu-yuk-s- (RUKI)} \]
\[ \rightarrow \text{yu-yuk-s-} \text{-.a-ti} \text{ he wishes to yoke} \]

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

\[ *yu-yudh-s- \]
\[ \rightarrow \text{yu-yuth-s- (BA)} \]
\[ \rightarrow \text{yu-yut-s- (ASH, but s cannot be aspirated)} \]
\[ \rightarrow \text{yu-yut-s-} \text{.a-ti} \text{ he wishes to fight} \]
\[ \rightarrow \text{yu-yut-s-u} \text{ combative} \]
\[ \rightarrow \text{yu-yut-s-} \text{.a} \text{ desire to fight} \]

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

<table>
<thead>
<tr>
<th>√</th>
<th>3. pers. sg.</th>
<th>adjective</th>
<th>noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>jiā</td>
<td>ji-jiā-s-a-tē</td>
<td>ji-jiā-s-u</td>
<td>ji-jiā-s-ā</td>
</tr>
<tr>
<td></td>
<td>he wants to know</td>
<td>inquisitive</td>
<td>curiosity</td>
</tr>
<tr>
<td>pā</td>
<td>pi-pā-s-a-tē</td>
<td>pi-pā-s-u</td>
<td>pi-pā-s-ā</td>
</tr>
<tr>
<td></td>
<td>he wants to drink</td>
<td>thirsty</td>
<td>thirst</td>
</tr>
<tr>
<td>man</td>
<td>mu-man-i-s-a-tē (1)</td>
<td>he examines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mu-man-i-s-a-tē (4)</td>
<td>he examines</td>
<td></td>
</tr>
<tr>
<td>muc</td>
<td>mu-muk-s-a-ti</td>
<td>mu-muk-s-u</td>
<td>mu-muk-s-ā</td>
</tr>
<tr>
<td></td>
<td>he wants to liberate</td>
<td>wanting liberation</td>
<td>desire for liberation</td>
</tr>
<tr>
<td>vac (2)</td>
<td>vi-vak-s-a-ti (2)</td>
<td>vi-vak-s-u (2)</td>
<td>vi-vak-s-ā (2)</td>
</tr>
<tr>
<td></td>
<td>he wants to say</td>
<td>wanting to say</td>
<td>desire to speak</td>
</tr>
<tr>
<td>vrt</td>
<td>vi-vrt-s-a-ti (3)</td>
<td>he wishes to turn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>vi-vrt-i-s-a-ti (4)</td>
<td>he wishes to turn</td>
<td></td>
</tr>
<tr>
<td>vrdh</td>
<td>vi-vrdh-s-a-ti (3)</td>
<td>he wants to grow</td>
<td></td>
</tr>
<tr>
<td>vardhay (5)</td>
<td>vi-vardhay-i-s-a-ti (4)</td>
<td>he wants to grow</td>
<td>vi-vardhay-i-s-u (4)</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

1. *mi-mam-s-a-tê is build irregularly from the full grade. Theoretically, the zero-grade desiderative of *ma is u.at. *mi-ma-s-a-tê where syllabic ê would have turned into a. For ñ before s, compare the future man-sy-a-ti.

2. *vi-vak-s-a-ti is irregular in that it builds on the full grade. Theoretically, the zero-grade desiderative of vac is u.at. *vyuk-s-a-ti. In the syllabic conflict between i/y and u/v the latter wins.

3. These desideratives from roots vrt and vrđh coincide (backward assimilation, s not aspiratable).

4. In order to avoid difficult forms, quasi-thematic i is sometimes introduced.

5. Causative of vrđh

Applying Grassmann’s deaspiration

We look at a few desiderative examples in some detail. The first three involve Grassmann’s deaspiration:

\[
\begin{align*}
*bhi-bhid-s- & \rightarrow bi-bhid-s- \text{(DA)} \\
& \rightarrow bi-bhat-s- \text{(BA)} \rightarrow bi-bhit-s-a-tê \text{ he wishes to split} \\
& \phantom{\rightarrow bi-bhat-s-} \rightarrow bi-bhit-s-u \text{ wishing to split} \\
& \phantom{\rightarrow bi-bhat-s-} \rightarrow bi-bhit-s-ā \text{ desire to split}
\end{align*}
\]

and

\[
\begin{align*}
*bhu-bhuH-s- & \rightarrow bu-bhuj-s- \text{(DA)} \\
& \rightarrow bu-bhuj-s- \text{(BA)} \\
& \rightarrow bu-bhuk-s- \text{(RUKI)} \rightarrow bu-bhuk-s-a-tê \text{ he wishes to eat} \\
& \phantom{\rightarrow bu-bhuk-s-} \rightarrow bu-bhuk-s-u \text{ hungry} \\
& \phantom{\rightarrow bu-bhuk-s-} \rightarrow bu-bhuk-s-ā \text{ hunger}
\end{align*}
\]

and

\[
\begin{align*}
*bhu-bhaH-s- & \rightarrow bu-bhū-s- \text{(DA)} \\
& \rightarrow bu-bhū-s- \text{(RUKI)} \rightarrow bu-bhū-s-a-tê \text{ he wishes to be} \\
& \phantom{\rightarrow bu-bhū-s-} \rightarrow bu-bhū-s-u \text{ wishing to be} \\
& \phantom{\rightarrow bu-bhū-s-} \rightarrow bu-bhū-s-ā \text{ desire of being}
\end{align*}
\]

In the last example, the root-final consonant is not repeated so that the reduplication syllable is u rather than ë.
Merging of the reduplication syllable with the zero-grade root

In contrast to these examples, deaspiration does not take place for bhaj (“to allot, to divide”) ← ie. *bhej, gain with zero grade:

*bhi-bhág-s.-
→ bhi-bj-s.- (ASH, but s cannot be aspirated)
→ bhi-pk-s.- (BA)
→ bhi-k-s.- (CCL)
→ bhi-k-š.- (RUKI) → bhik-š-a-ti he wishes to share
→ bhik-š-u beggar
→ bhik-š-ā the act of begging

Here are a few other examples (and see him-s- below) where the reduplication syllable merges with the z.g. root. Consider šak (“to be able”) ← ie. *kek:

*ši-šk-s.- (PPAL)
→ ši-k-s.- (CCL)
→ ši-k-š.- (RUKI) → šik-š-a-ti he learns
→ šik-š-u helpful, generous
→ šik-š-ā science

and ēp (“to obtain”) ← ie. *h₁ep:

*h₁i-h₁p-s.-
→ ēp-s.- (ie. iH → oi. ē) → ēp-s-a-ti he wishes to obtain
→ ēp-s-u desirous of
→ ēp-s-ā desire to obtain

and ie. *h₃ekʷ:

*h₃i-h₃kʷ-s.-
→ ēkʷ-s.- (ie. iH → oi. ē) → ēk⁻s-a-ti he watches over
→ ēk-š-ā sight

and ie. *dēh₃:

*dh₃i-dh₃-s.-
→ di-d-s.-
→ di-t-s.- (BA) → dit-s-a-ti he wishes to give
→ dit-s-u desirous of giving
→ dit-s-ā desire to give
C. Grammar: verbal system

\[
\begin{align*}
\ast dh_1i-dh_1-s- \\
\rightarrow dhi-dh-s \\
\rightarrow dhi-th-s- (BA) \\
\rightarrow dhi-t-s- (ASH) \rightarrow dhit-s-a-ti & \text{ he wishes to set} \\
\end{align*}
\]

and ie. \(*dek:\)

\[
\begin{align*}
\ast di-dk-s- \\
\rightarrow dik-s- (CCL) \rightarrow dik-s-a-ti & \text{ he consecrates} \\
\rightarrow dik-s-ā & \text{ consecration} \\
\end{align*}
\]

where compensatory lengthening occurs in contrast to bhik-s-a-ti (p. 117)

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-s-a-ti (1)</td>
<td>ci-kṛ-s-ū (1)</td>
<td>ci-kṛ-s-ā (1)</td>
</tr>
<tr>
<td></td>
<td>he wants to serve</td>
<td>intending to make</td>
<td>desire to make</td>
</tr>
<tr>
<td>granth</td>
<td>ji-granth-i-s-a-ti (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>he wants to string together</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gam</td>
<td>ji-gam-i-s-a-ti (2)</td>
<td>ji-gam-i-s-ū (2)</td>
<td>ji-gam-i-s-ā (2)</td>
</tr>
<tr>
<td></td>
<td>he wants to go</td>
<td>intending to go</td>
<td>intending to go</td>
</tr>
</tbody>
</table>

1. \(ci-kṛ-s-a-ti\) etc. show lengthening of non-reduplicated syllable (see below).

2. \(ji-gam-i-s-a-ti\) etc. use “thematic” \(i\) without etymological justification.

Laryngeal roots ending on \(rH\)

Roots with long syllabic \(į\) form the desiderative from the full grade or from the zero grade.
C.4. Past participle and other zero-grade forms

<table>
<thead>
<tr>
<th>✓ CerH</th>
<th>3. pers. sg.</th>
<th>adjective</th>
<th>noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>k Epidemic grade</td>
<td>ci-kar-i-ś-a-ti (1, 2)</td>
<td>ci-kar-i-ś-u (1, 2)</td>
<td>he wants to throw out</td>
</tr>
<tr>
<td>t Epidemic grade</td>
<td>ti-tūr-ś-a-ti (3)</td>
<td>ti-tūr-ś-u (3)</td>
<td>he wants to cross</td>
</tr>
<tr>
<td>p Epidemic grade</td>
<td>pu-par-ś-a-ti (2)</td>
<td>pu-par-ś-u (2)</td>
<td>he wants to spend completely (time)</td>
</tr>
<tr>
<td></td>
<td>pu-pūr-ś-a-ti (4)</td>
<td>pu-pūr-ś-a (4)</td>
<td>he wants to spend completely (time)</td>
</tr>
</tbody>
</table>

1. With expected secondary palatalization.

2. As ji-gam-ś-a-ti above, full grade plus “thematic” i.

3. Lengthening of the main syllable in zero grade is regular here due to ie. *terH, i.e., ie. *tr°H → tūr, with i after non-labial.

4. Lengthening of the main syllable in zero grade is regular here due to ie. *perH, i.e., ie. *pr°H → pūr, with ā after labial.

Laryngeal suffix

It seems that instead of the desiderative suffix s, alternatively a desiderative suffix Hs was employed:

<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 Epidemic grade</td>
<td>ji-gē-ś-a-ti (1)</td>
<td>ji-gē-ś-u (1)</td>
<td>ji-gē-ś-ā (1)</td>
</tr>
<tr>
<td>m Epidemic grade</td>
<td>mu-mūr-ś-a-ti (2)</td>
<td>mu-mūr-ś-u (2)</td>
<td>mu-mūr-ś-ā (2)</td>
</tr>
<tr>
<td>š Epidemic grade</td>
<td>šu-śrū-ś-a-tē (1)</td>
<td>šu-śrū-ś-u (1)</td>
<td>šu-śrū-ś-ā (1)</td>
</tr>
<tr>
<td>s Epidemic grade</td>
<td>si-śrē-ś-a-ti (3)</td>
<td>si-śrē-ś-u (3)</td>
<td>he wants to run</td>
</tr>
</tbody>
</table>

1. Long ī in ji-gē-ś-a-ti may be explainable by a suffix Hs rather than just s. Similarly, long ā in šu-śrū-ś-a-tē may also be due to suffix Hs.

2. The same laryngeal is responsible for mu-mūr-ś-a-ti. Similar to pu-pūr-ś-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-ś-a-ti above, one obtains īr-ś from r°Hs, but note

   a) ie. root *terH and desiderative *ti-tr°H-s- → ti-tūr-ś- versus
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b) ie. root *ser and desiderative *si-śṛ-Hs- → si-śū-ś-

There exist several desideratives for man (“to think”) ← ie. *men 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:

\[ *mi-mn_0-Hs- \]
\[ → *mi-mn H-s- \]
\[ → mi-mū-s- (laryngeal after syllabic \( \eta \)) \]
\[ → mi-mām-s- (lev. from māṃ-sy-a-ti?) \]
\[ → mī-māṃ-s- (long t for unclear reasons) → mū-māṃ-s-a-tē \ he doubts \]
\[ → mū-māṃ-s-ā \ investigation \]

There exist two different desideratives for han (“to kill”) ← ie. *gwhen, depending on the suffix. On the one hand, we have the Hs desiderative:

\[ *g^w-hi-g^w hn_0-Hs- \]
\[ → g^w-hi-g^w hā-s- (laryngeal after syllabic \( \eta \)) \]
\[ → g^w-i-g^w hā-s- \ (DA) \]
\[ → ji-ghā-s- \ (SPAL) \]
\[ → ji-ghāṃ-s- (lev. from ham-sy-a-ti?) \]
\[ → ji-ghāṃ-s-a-tī \ he wishes to kill \]
\[ → ji-ghāṃ-s-u \ revengeful \]
\[ → ji-ghāṃ-s-ā \ revenge \]

On the other hand, the s suffix yields:

\[ *g^w-hi-g^w hn-s- \]
\[ → hi-g^w hn-s- \ (SPAL) \]
\[ → hi-n-s- \ (CCL) \]
\[ → hi-m-s- → him-s-a-ti \ he injures \]
\[ → him-s-ā \ injury \]

Apparently, cluster simplification occurred before \( n \) between consonants turns into \( n_0 \) and then into \( a \).

C.4.9. Compound-final zero grades

At the end of compounds, we often found 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:

- gam, gacch-a-ti (“to go”) with PPP ga-ta
  - kha-ga (“flying”)
  - a-ga (“not going → tree”)
- dhā, dadhāti (“to set”) with PPP *dhh1-to → hi-ta
C.4. Past participle and other zero-grade forms

- **ab-dhis**, m. (“holding water → ocean”) ← *ap* (“water”) with apparent backward assimilation

◊ **nī, nayati** (“to lead”) with PPP *niH-to → nī-ta*
  - **pat-nī**, f. (“lead by husband *pati → wife”)
  - **sēna-nī**, m. (“army leader, general”)
  - **grāma-nī**, m. (“village leader”)
  - **agra-nī**, m. (“leader”)

◊ **vid, vēt-ti** (“to know”) with PPP *vit-ta, vid-i-ta*
  - **ēa-vit** (“Veda knowing”)
  - **ātma-vit** (“knower of the self”)

One odd example adds *t* (perhaps in analogy to *ēa-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 (probably due to analogy with *apsu-ja* where the loc. makes sense)

The other examples presented below do not use the zero grade, but just short *a*:

◊ **jan, jāyatē** (“to beget, to be born”) with PPP *ṛn-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, jñatē** (“to know”) with PPP *ṛn-hi-ta → jñā-ta*
  - **sarva-jñā** (“all-knowing”)

◊ **dā, dadāti** (“to give”) with PPP *dh3-to → dī-ta* besides *dat-ta*
  - **vara-da** (“giving boons”) with *vara-das*, m. (“Brahmā”)”
  - **ab-das**, m. (“water giver → cloud”, “when clouds reappear → year”) ← *ap* (“water”) with apparent backward assimilation

◊ **pā, pibati**, 1. class (“to drink”) with PPP *ph3-to → *pīh3-to → pī-ta*
  - **sōma-pa** (“drinking Soma”)

◊ **pā, pā-ti** (“to protect”) with PPP *pā-na*
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- *pra-jē-pa* (“protecting the subjects’”)
- *mr-pa* (“man protecting, king”)

- *sthā, ti-sth-a-ti* (“to stand”) with PPP *sth₂-to → sthi-ta*
  - *yṛha-stha* (“householder”)
  - *sattva-stha* (“established in sattva, firm in purity”)
  - *grantā-stha* (“knowledge present in a book”)
  - *kantha-stha, m.* (“knowledge present in the throat” → “knowledge known by heart”)

Unclear is *bhū, bhavati* (“to be”) with PPP *bhuH-to → bhū-ta* with the corresponding *pra-bhu, m.* (“lord, master”) ?.

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:

- *jāyā, f.* (“she who has been captured, the wife”)
- *bhāv-a* (“being, state”)

Sometimes, the root is not in zero grade. Then, the lengthened grade becomes more likely, as in

- *anu-tāpa, m.* (“remorse”) ← tap, tapati (“to heat”)
- *vi-sāda, m.* (“sorrow”) ← sad, sīdati (“to sit”)
- *bhāga, m.* (“part”) ← bhaj, bhajati (“to divide, to allot”)

Also, with suffix *ana*, most verbs use the full grade like

- *gam-ana* (“going”) ← gam (“to go”)
- *nay-ana* (“eye”) ← nī (“to lead”) (instrument noun: “eye” = “means of leading”)

Here, we present the few that are built on the lengthened grade:

- ???ās-ana* (“seat”) ← ās (“to sit”) (an instrument noun: “seat” = “means of sitting”)
- causative?? vāh-ana* (“carrying, vehicle”) ← vah (“to carry”)

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C.5. Lengthened-grade forms and forms using several grades

C.5.2. Derivatives

Derivative adjectives regularly use the lengthened grade. Examples abound:

- manas-a ("mental") ← manas, n. ("mind") ← man ("to think")
- tāpas-a ("ascetic") ← tapas, n ("asceticism") ← tap ("to burn")
- pāca-ka ("cook") ← pac ("to cook")

Other derivatives seem to use the lengthened grade. However, they do not use (or seem not to use) the lengthened grade of the verb, like pāutr-a ("grandson") ← putra ("son"). We consider these derivatives on pp. 226.

C.5.3. Causatives

More often than not, causatives build on the lengthened grade:

- bhāv-aya-ti ("causes to be → makes") ← bhū ("to be") ← ie. *bhuh
- pāl-aya-ti ("causes to read → teaches") ← pat ("to read")
- tyāj-aya-ti ("causes to abandon") ← tyaj ("to abandon")
- kār-aya-ti ("causes to do → orders") ← kr ("to make")
- vāc-aya-ti ("make [a text] speak → read") ← vac ("to speak")
- śrāv-aya-ti ("causes to hear → teaches") ← śru ("to hear")

Oī. roots ending on long vowel ā (which is the full grade yngeal) use p to mark causatives:

- sthā-p-aya-ti ("causes to stand → sets") ← sthā ("to stand")
- dā-p-aya-ti ("causes to give") ← dā ("to give")
- snā-p-aya-ti ("causes to swim" → transitive “bathe”) ← snā ("swim" → intransitive “bathe”)
- jñā-p-aya-ti ("causes to know → inform") ← jñā ("to know")

Full grade is also typical for roots with i or u or in oī. closed syllables. With i we find

- viś-aya-ti ("causes to enter") ← viś ("to enter")

and with u

- bhūd-aya-ti ("causes to be awake → awakens") ← budh ("to be awake")
- kōp-aya-ti ("causes to be angry → enrages") ← kup ("to be angry")
- śōbh-aya-ti ("causes to shine, to be beautiful") ← subh ("to shine")

Zero grade rarely happens with u in oī. closed syllables:

- cumb-aya-ti ("causes to kiss") ← cumb ("to kiss")
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C.5.4. 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>→ frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>C₁FgC₂</td>
<td>→ C₁Fg-C₁ZgC₂-ya + ātm.</td>
</tr>
<tr>
<td>ī marker</td>
<td>C₁FgC₂</td>
<td>→ C₁Fg-C₁ZgC₂-ī + par.</td>
</tr>
</tbody>
</table>

Example

<table>
<thead>
<tr>
<th>marker</th>
<th>reud</th>
<th>→ rō-rud-ya-tē</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya</td>
<td>reud</td>
<td>→ rō-rud-ya-tē</td>
</tr>
<tr>
<td>ī</td>
<td>reud</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>bō-budh-ī-ti</td>
<td>to know</td>
</tr>
<tr>
<td>bhid</td>
<td>bè-bhid-ya-tē</td>
<td>bè-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>suc</td>
<td>sō-suc-ya-tē</td>
<td>sō-suc-ī-ti</td>
<td>to grieve</td>
</tr>
<tr>
<td>subh</td>
<td>sō-subh-ya-tē</td>
<td>sō-subh-ī-ti</td>
<td>to shine</td>
</tr>
<tr>
<td>svap (f.g.)</td>
<td>sō-svap-ya-tē</td>
<td>see second construction</td>
<td>to sleep</td>
</tr>
</tbody>
</table>

1. car (“to go, to stir”) ← ie. *kʷel has the frequentive adjective ca-kr-a (“unsteady” → “wheel”). Secondary palatalization is seen in the oi. root and in the reduplication syllable, but not, any more, before r.
C.5. Lengthened-grade forms and forms using several grades

**Second construction**

The first construction uses the sequence $Fg-Zg$, the second construction employs higher grades, i.e., $Lg-Fg$:

<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>$C_1 Lg - C_1 Fg C_2 - ya + \text{atm.}$</td>
</tr>
<tr>
<td>i marker</td>
<td>$C_1 Fg C_2$</td>
<td>$C_1 Lg - C_1 Fg C_2 - i + \text{par.}$</td>
</tr>
</tbody>
</table>

**Example**

<table>
<thead>
<tr>
<th>ya marker</th>
<th>sed</th>
<th>$s\text{-sad-ya-tē}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>i marker</td>
<td>sed</td>
<td>$s\text{-sad-ī-tī}$</td>
</tr>
</tbody>
</table>

All the examples are transparable:

<table>
<thead>
<tr>
<th>3. sg. yatm. (ya suffix)</th>
<th>3. sg. par. (ī suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>jval</td>
<td>jvā- jval-ya-tē</td>
<td>to burn</td>
</tr>
<tr>
<td>pac</td>
<td>pā- pac-ī-tī</td>
<td>to cook</td>
</tr>
<tr>
<td>yac</td>
<td>yā- yac-ī-tī</td>
<td>to sacrifice</td>
</tr>
<tr>
<td>vad</td>
<td>vā- vad-ī-tī</td>
<td>to speak</td>
</tr>
<tr>
<td>smr</td>
<td>sma-smar-ī-tī</td>
<td>to remember</td>
</tr>
<tr>
<td>svap</td>
<td>see first construction</td>
<td>to sleep</td>
</tr>
</tbody>
</table>

As in desideratives like $s\text{u-śrū-ś-}\text{-u}$, 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>$C_1 Fg C_2 - C_1 Fg C_2 - ya + \text{atm.}$</td>
</tr>
<tr>
<td>i marker</td>
<td>$C_1 Fg C_2$</td>
<td>$C_1 Fg C_2 - C_1 Fg C_2 - i + \text{par.}$</td>
</tr>
</tbody>
</table>

**Example**

<table>
<thead>
<tr>
<th>ya marker</th>
<th>nem</th>
<th>$n\text{an-nam-ya-tē}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>i marker</td>
<td>nem</td>
<td>$n\text{an-nam-ī-tī}$</td>
</tr>
</tbody>
</table>

Here are a few examples:

<table>
<thead>
<tr>
<th>3. sg. yatm. (ya suffix)</th>
<th>3. sg. par. (ī suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kram</td>
<td>can-kram-ya-tē (1, 2)</td>
<td>to walk</td>
</tr>
<tr>
<td>gam</td>
<td>jān-gam-ī-tī (1, 2)</td>
<td>to go</td>
</tr>
<tr>
<td>car</td>
<td>car-car-ī-tī (2)</td>
<td></td>
</tr>
<tr>
<td>bhram</td>
<td>bam-bhram-ya-tē (1, 3)</td>
<td>to roam</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

1. Regularly, only the first word-initial consonant gets reduplicated. Therefore: cañkram-yatè and bam-bhram-yatè.

2. Secondary palatalization is seen in cañkram-yatè and jai-gam-yatè. This shows that the root vowel is truly reduplicated for the case of frequentatives. For example, ie. *kem-krem- → cañkram. These verbs also show expected backward assimilation where the suitable class nasal (here: the vēdar 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 all 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>→</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>C₁FᵧC₂</td>
<td>→</td>
<td>C₁Fᵧ-N-C₁FᵧC₂-yan-atm.</td>
</tr>
<tr>
<td>i marker</td>
<td>C₁FᵧC₂</td>
<td>→</td>
<td>C₁Fᵧ-N-C₁FᵧC₂-yan-par.</td>
</tr>
</tbody>
</table>

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. atm. (ya suffix)</th>
<th>3. sg. par. (i suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>cal</td>
<td>ca-ñ-cal-ya-tè (1)</td>
<td></td>
<td>to stir, to quiver</td>
</tr>
<tr>
<td>jap</td>
<td>ja-ñ-jap-ya-tè</td>
<td>ja-ñ-jap-i-ti</td>
<td>to recite</td>
</tr>
<tr>
<td>dah</td>
<td>da-ñ-dah-ya-tè</td>
<td>da-ñ-dah-i-ti</td>
<td>to burn</td>
</tr>
</tbody>
</table>

1. ca-ñ-cal-ya-tè is clearly related to the adjective ca-ñ-cal-a (“unsteady”).

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>→</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ya marker</td>
<td>C₁erC₂</td>
<td>→</td>
<td>C₁ar-i-C₁rC₂-yan-atm.</td>
</tr>
<tr>
<td>i marker</td>
<td>C₁erC₂</td>
<td>→</td>
<td>C₁ar-i-C₁rC₂-i+par.</td>
</tr>
</tbody>
</table>

Consider these examples that are exactly formed like sar-i-syp-i-ti:

<table>
<thead>
<tr>
<th>√</th>
<th>3. sg. atm. (ya suffix)</th>
<th>3. sg. par. (i suffix)</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nṛt</td>
<td>nār-i-nṛt-ya-tè</td>
<td></td>
<td>see fifth construction</td>
</tr>
<tr>
<td>vṛt</td>
<td>var-i-vṛt-ya-tè</td>
<td>var-i-vṛt-i-ti</td>
<td>to dance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>to turn</td>
</tr>
</tbody>
</table>
C.5. Lengthened-grade forms and forms using several grades

Fifth construction

The fifth construction is similar to the fourth one. It shows up only in parasmâipada, but without the immediately preceding i suffix:

<table>
<thead>
<tr>
<th>5. construction</th>
<th>ie. root</th>
<th>→</th>
<th>frequentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>C\textit{1}erC\textit{2}</td>
<td>C\textit{1}ar-i-C\textit{1}arC\textit{2}+par.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>examples</th>
<th>vert</th>
<th>→</th>
<th>var-į-var-ti</th>
</tr>
</thead>
<tbody>
<tr>
<td>mer</td>
<td>→</td>
<td>mar-į-mar-ti</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-į-a-tē</td>
<td>dā-ďā-ti</td>
<td>to give</td>
</tr>
<tr>
<td>pā</td>
<td>pe-pā-į-a-tē</td>
<td>pā-pā-ti</td>
<td>to drink</td>
</tr>
</tbody>
</table>

C.5.5. Gerunds in \textit{am}

There exists a rare gerund that is formed with \textit{am}. It mostly uses the lengthened grade:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>ām-gerund, lengthened grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṛ</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>dāh</td>
<td>to burn</td>
<td>dāh-am</td>
</tr>
<tr>
<td>pāt</td>
<td>to read</td>
<td>pāt-am</td>
</tr>
<tr>
<td>vāh</td>
<td>to carry</td>
<td>vāh-am</td>
</tr>
<tr>
<td>śrū</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>

but full grades are also common:

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>ām-gerund, full grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>kṣip</td>
<td>to throw</td>
<td>kṣēp-am</td>
</tr>
<tr>
<td>dṛś</td>
<td>to see</td>
<td>dār-ś-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>

Verbs like trāi regularly lead to trāy-am:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>ām-gerund, full grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>gā́</td>
<td>to sing</td>
<td>gā́y-am</td>
</tr>
<tr>
<td>ṭrā́y</td>
<td>to protect</td>
<td>ṭrā́y-am</td>
</tr>
<tr>
<td>dhṛ́yā</td>
<td>to meditate</td>
<td>dhṛ́yāy-am</td>
</tr>
</tbody>
</table>

However, ṭrā́y-am might be misunderstood as ṭrā́-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>ām-gerund, full grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḍā</td>
<td>to give</td>
<td>ḍā-yam</td>
</tr>
<tr>
<td>ḍhā́</td>
<td>to set, to place</td>
<td>ḍhā-yam</td>
</tr>
<tr>
<td>pā́</td>
<td>to drink</td>
<td>pā-yam</td>
</tr>
<tr>
<td>mā́</td>
<td>to measure</td>
<td>mā-yam</td>
</tr>
</tbody>
</table>

C.5.6. Gerundives

Gerundives are formed with tavya, anīva 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>kṛ́ to make</td>
<td>kār-tavya (1), kar-anīva</td>
<td>kār-ya</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gam to go</td>
<td>gam-tavya (1), gam-anīva, gam-ya</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ji to conquer</td>
<td>jē-tavya (1), jē-ya, jay-ya (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tyāj to abandon</td>
<td>tyāj-ya</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dvēś to hate</td>
<td>dvēś-ya</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bhā́ to be</td>
<td>bhāv-i-tavya (1, 3), bhāv-ya</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. All tavya-forms are all build on the full grade as the infinitives on -tum or the agent nouns on -tar (pp. 86).

2. jē-ya versus jay-ya is not totally clear. If the ya-forms begin with a consonant, jē-ya is expected and jay-ya in need of an explanation.

3. bhāv-i-tavya is regular as is the infinitive bhāv-i-tum due to the laryngeal root ie. *bhuvH.

Some gerunds surprisingly exhibit ेव, such as

<table>
<thead>
<tr>
<th>√</th>
<th>translation</th>
<th>f.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḍā</td>
<td>to give</td>
<td>ḍē-ya</td>
</tr>
<tr>
<td>ḍhā́ to set, to place</td>
<td>ḍhē-ya, vi-hē-ya (“to be determined”), vi-dē-ya (“duty”)</td>
<td></td>
</tr>
<tr>
<td>jnā́ to know</td>
<td>jnē-ya</td>
<td></td>
</tr>
<tr>
<td>pā́ to drink</td>
<td>pē-ya</td>
<td></td>
</tr>
<tr>
<td>sthā́ to stand</td>
<td>sthē-ya</td>
<td></td>
</tr>
</tbody>
</table>
C.6. Thematic and athematic verbs

Perhaps, pé-ya is regularly formed in the following manner:

\[ *\text{pēh}_3\text{-yo} \]
\[ \rightarrow \text{pāi-ya (LAR, pp. 27)} \]
\[ \rightarrow \text{pê-ya (MVS, pp. 29)} \]

while the other long ā verbs do not exhibit \( i \) in the root and are built by analogy with pé-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 \( \sqrt{bh}r \) (“to carry”) with the athematic third-class verb \( \sqrt{bh}h \) (“to be afraid”):

<table>
<thead>
<tr>
<th>Thematic: ( \sqrt{bh}r )</th>
<th>Athematic: ( \sqrt{bh}h )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  bhar-ā-mi</td>
<td>bi-bhē-mi</td>
</tr>
<tr>
<td>2  bhar-a-si</td>
<td>bi-bhē-si</td>
</tr>
<tr>
<td>3  bhar-a-ti</td>
<td>bi-bhē-ti</td>
</tr>
<tr>
<td>1  a-bhar-a-m</td>
<td>a-bi-bhay-a-m</td>
</tr>
<tr>
<td>2  a-bhar-a-s</td>
<td>a-bi-bhē-s</td>
</tr>
<tr>
<td>3  a-bhar-a-t</td>
<td>a-bi-bhē-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.

Endings for thematic verbs, parasmāipada

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. The thematic endings are given in the following table:

<table>
<thead>
<tr>
<th>Thematic verbs parasmāipada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

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. (See the discussion in Szemerényi [1989, pp. 359].) 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 *mê* (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*. The drop of *t* is regular: at the end of a word, only the first consonant of a consonant cluster remains (p. 41).

5. ∅ indicates the zero ending.

We now turn to a specific paradigm where we build forms according to the formula

\[
\text{present stem} + \text{theme vowel} + \text{ending}
\]

This pattern is of ie. origin:

<table>
<thead>
<tr>
<th>ie. root <em>bher</em></th>
<th>1. sg.</th>
<th>2. sg.</th>
<th>3. sg.</th>
<th>1. pl.</th>
<th>2. pl.</th>
<th>3. pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>bher-ā</em> (1)</td>
<td><em>bher-ō</em> (2)</td>
<td><em>bher-e-s</em></td>
<td><em>bher-e-te</em></td>
<td><em>bher-e-ō</em></td>
<td><em>bher-e-nt</em></td>
</tr>
<tr>
<td>1. pres.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. tense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. (primary ending)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. imperfect</td>
<td><em>e-bher-ō</em> (1)</td>
<td><em>e-bher-ō</em> (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. (secondary ending)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. with augment <em>e</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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:
C.6. Thematic and athematic verbs

### Parasmāipada

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bhar-ā-mi (1)</td>
<td>bhar-ā-vas (2)</td>
<td>bhar-ā-mas (2)</td>
<td>present</td>
</tr>
<tr>
<td>2</td>
<td>bhar-a-si</td>
<td>bhar-a-thas</td>
<td>tha</td>
<td>tense</td>
</tr>
<tr>
<td>3</td>
<td>bhar-a-ti</td>
<td>bhar-a-tas</td>
<td>n-ti (1,3)</td>
<td>(primary ending)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-bhar-a-m</td>
<td>a-bhar-ā-va (2)</td>
<td>a-bhar-ā-ma (2)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2</td>
<td>a-bhar-a-s</td>
<td>a-bhar-a-tam</td>
<td>a-bhar-a-ta</td>
<td>(secondary ending)</td>
</tr>
<tr>
<td>3</td>
<td>a-bhar-a-t</td>
<td>a-bhar-a-tām</td>
<td>a-bhar-a-n</td>
<td>with augment a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bhar-ā-ni (2)</td>
<td>bhar-ā-va (2)</td>
<td>bhar-ā-ma (2)</td>
<td>imperative</td>
</tr>
<tr>
<td>2</td>
<td>bhar-a</td>
<td>bhar-a-tam</td>
<td>bhar-a-ta</td>
<td>active</td>
</tr>
<tr>
<td>3</td>
<td>bhar-a-tu</td>
<td>bhar-a-tām</td>
<td>bhar-a-n-tu</td>
<td>(secondary ending)</td>
</tr>
</tbody>
</table>

1. Instead of theme vowel a, 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.

2. For a different reason than 1., we have ā in all forms with R-endings (i.e., endings whose first sound is a resonant) m, v, or n. For example, 1. pl. present tense of bhar-ā-mas goes back to ie. *bher-o-mes. Long ā for short ie. a is results from Brugmann’s law (pp. 32).

### 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:

<table>
<thead>
<tr>
<th></th>
<th>thematic verbs ātmanēpada</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sg.</td>
<td>dual</td>
</tr>
<tr>
<td>1</td>
<td>è (1, 2)</td>
<td>ā-vahē (3)</td>
</tr>
<tr>
<td>2</td>
<td>a-sè (1, 2)</td>
<td>èthē</td>
</tr>
<tr>
<td>3</td>
<td>a-tè (1, 2)</td>
<td>ètē</td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>è (4)</td>
<td>ā-vahi (3)</td>
<td>ā-mahi (1)</td>
</tr>
<tr>
<td>2</td>
<td>a-thās (1)</td>
<td>èthām</td>
<td>a-dhwam</td>
</tr>
<tr>
<td>3</td>
<td>a-ta (1)</td>
<td>ètām</td>
<td>a-n-tā (1)</td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ái</td>
<td>ā-vahāi (3)</td>
<td>ā-mahāi (1, 3)</td>
</tr>
<tr>
<td>2</td>
<td>a-sva</td>
<td>èthām</td>
<td>a-dhwam</td>
</tr>
<tr>
<td>3</td>
<td>a-tām (1)</td>
<td>ètām</td>
<td>a-n-tām (1)</td>
</tr>
</tbody>
</table>

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 è rather than mê in the 1. pers. sg.
C. Grammar: verbal system

2. Similar to the parasmâipada endings, we again the “here and now” particle i in the present tense sg.; ê goes back to ie. oi.

3. As in the parasmâipada case, we see ā in all forms with m- or v-ending by Brugmann’s law (pp. 32).

4. Think of 1. pers. imperfect ê as a-i (in the athematic paradigm we have just i).

Presenting a paradigm, we use

\[
\text{present stem} \quad + \quad \text{theme vowel} \quad a \quad \text{together with ending}
\]

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-ê</td>
<td>labh-ā-pahê</td>
<td>labh-mahê</td>
<td>present tense</td>
</tr>
<tr>
<td>2 labh-a-se</td>
<td>labh-ēthê</td>
<td>labh-a-dhvê</td>
<td>(primary ending)</td>
</tr>
<tr>
<td>3 labh-a-tê</td>
<td>labh-ētê</td>
<td>labh-a-n-tê</td>
<td></td>
</tr>
<tr>
<td>1 a-labh-ê</td>
<td>a-labh-ā-pahê</td>
<td>a-labh-ā-mahê</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 a-labh-a-thas</td>
<td>a-labh-ēthám</td>
<td>a-labh-a-dhvam</td>
<td>(secondary ending)</td>
</tr>
<tr>
<td>3 a-labh-a-ta</td>
<td>a-labh-ētâm</td>
<td>a-labh-a-n-ta</td>
<td>with augment a</td>
</tr>
<tr>
<td>1 labh-âi</td>
<td>labh-ā-pahê (3)</td>
<td>labh-ā-mahê (1, 3)</td>
<td>imperative</td>
</tr>
<tr>
<td>2 labh-a-sva</td>
<td>labh-ēthám</td>
<td>labh-a-dhvam</td>
<td>active</td>
</tr>
<tr>
<td>3 labh-a-tâm (1)</td>
<td>labh-ētâm</td>
<td>labh-a-n-tâm (1)</td>
<td>(secondary ending)</td>
</tr>
</tbody>
</table>

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 your 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 ātmanēpada
◊ in parasmâipada 3. pers. sg. imperative

Weak and strong forms are important because

◊ weak forms are defined by the zero grade
◊ strong form are defined by the normal grade
C.6. Thematic and athematic verbs

Figure C.2.: Strong forms in the athematic verbs
## Endings for athematic verbs, parasmāipada

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>
<tr>
<td>1</td>
<td>mi</td>
</tr>
<tr>
<td>2</td>
<td>si</td>
</tr>
<tr>
<td>3</td>
<td>ti</td>
</tr>
<tr>
<td>1</td>
<td>m</td>
</tr>
<tr>
<td>2</td>
<td>s</td>
</tr>
<tr>
<td>3</td>
<td>t</td>
</tr>
<tr>
<td>1</td>
<td>ni</td>
</tr>
<tr>
<td>2</td>
<td>∅</td>
</tr>
<tr>
<td>3</td>
<td>tu</td>
</tr>
</tbody>
</table>

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 irrecognizable forms due to *m*◦→*a*:

<table>
<thead>
<tr>
<th>1. pers. sg. imperfect ending</th>
<th>ending <em>m</em> → <em>a</em></th>
<th>ending <em>am</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>√yuj (7. class)</td>
<td>n.a. a-yu-na-j-a</td>
<td>a-yu-na-j-am</td>
</tr>
<tr>
<td>√vid (2. class)</td>
<td>n.a. a-vêd-a</td>
<td>a-vêd-am</td>
</tr>
</tbody>
</table>

2. Spreading of the thematic *a* often occurs in the parasmāipada 3. pers. pl. forms. In fact, this is true for all athematic classes but the third class and the 2. class verb ēsas (“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 parasmāipada (here) and ētmanēpada (below). Thus, the thematic vowel has also spread in these cases.

5. The ∅-ending is also seen in athematic verbs where you find kur-u (“make!”) or su-nu (“make!”). Otherwise, the parasmāipada impv. 2. pers. sg. for the athematic classes can be dhi or hi:
C.6. Thematic and athematic verbs

<table>
<thead>
<tr>
<th></th>
<th>√</th>
<th>class</th>
<th>translation</th>
<th>imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>dhi</td>
<td>7</td>
<td>to join</td>
<td>yu-n-g-dhi</td>
<td></td>
</tr>
<tr>
<td>vid</td>
<td>2</td>
<td>to know</td>
<td>vid-dhi</td>
<td></td>
</tr>
<tr>
<td>hu</td>
<td>3</td>
<td>to sacrifice</td>
<td>ju-hu-dhi</td>
<td></td>
</tr>
<tr>
<td>hi</td>
<td>5</td>
<td>to obtain</td>
<td>āp-nu-hi</td>
<td></td>
</tr>
<tr>
<td>pī</td>
<td>9</td>
<td>to purify</td>
<td>pū-nī-hi</td>
<td></td>
</tr>
<tr>
<td>bhī</td>
<td>3</td>
<td>to be afraid</td>
<td>bhī-hi</td>
<td></td>
</tr>
<tr>
<td>yā</td>
<td>2</td>
<td>to go</td>
<td>yā-hi</td>
<td></td>
</tr>
</tbody>
</table>

In Old Greek we find *thi* (in *i-thi*, “go!”). Thus, we know that *dhi* is the original one, not *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. 47). 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 ē</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-vahā</td>
</tr>
<tr>
<td>2 a-thās</td>
<td>ēthām</td>
</tr>
<tr>
<td>3 a-tā</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 ē and āi in both thematic and athematic 1. pers. sg., pres. tense and imperative, respectively.

3. The 2. and 3. pers. dual forms,

   a) begin with ē (including the thematic vowel) in thematic paradigms, but
C. Grammar: verbal system

b) begin with ā in athematic paradigms.

4. 1. pers. sg. imperfect i (athematic) clearly corresponds to the thematic ē ← 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 ātmanēpada (here) and 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></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pres. tense</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ātmanēp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>a-thas</td>
<td>ē-ṭhē</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ē-ṭē</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>a-tas</td>
<td>ē-ṭē</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ē-ṭē</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For example, we have

<table>
<thead>
<tr>
<th></th>
<th>pres. tense</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ātmanēp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>thas</td>
<td>ā-ṭhē</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ā-ṭē</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>tas</td>
<td>ā-ṭē</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ā-ṭē</td>
<td></td>
<td></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 ātmanēpada, the n in the pl. marker nt becomes syllabic so that the n seems
to have been dropped. Compare the thematic paradigm

<table>
<thead>
<tr>
<th><code>bhr</code>, 1. class, atm., 3. pers.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>pl.</td>
</tr>
<tr>
<td>bhar-a-tê</td>
<td>bhar-a-n-tê ← <code>bher-o-n-toi</code> present tense</td>
</tr>
<tr>
<td>a-bhar-a-ta</td>
<td>a-bhar-a-n-ta imperfect</td>
</tr>
<tr>
<td>bhar-a-tâm</td>
<td>bhar-a-n-tâm imperative</td>
</tr>
</tbody>
</table>

with the athematic one

<table>
<thead>
<tr>
<th><code>vas</code>, 2. class, atm., 3. pers.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>pl.</td>
</tr>
<tr>
<td>vas-tê</td>
<td>vas-a-tê ← <code>ves-ŋ-toi</code> present tense</td>
</tr>
<tr>
<td>a-vas-ta</td>
<td>a-vas-a-ta imperfect</td>
</tr>
<tr>
<td>vas-tâm</td>
<td>vas-a-tâm imperative</td>
</tr>
</tbody>
</table>

It is clearly seen how `n-tê` in the thematic verbs contrasts with `a-tê` in the athematic ones. However, this holds true only for āttamaṇāpada. In contrast, the parasmāṇāpada athematic 3. pers. pl. PRII forms borrow the thematic `a` from the thematic classes, in particular nearly always in the 2. class:

<table>
<thead>
<tr>
<th><code>vac</code>, 2. class, par., 3. pers.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>pl.</td>
</tr>
<tr>
<td>vak-ti</td>
<td>vac-a-n-ti ← <code>ves-ŋ-toi</code> 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 imperfect</td>
</tr>
<tr>
<td>vas-tu</td>
<td>vac-a-n-tu 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. 138
- `yā` (“to go”) on pp. 139
- `vid` (“to know”) on pp. 139
- `as` (“to be”) on pp. 140
- `i` (“to go”) on pp. 141
- `duh` (“to milk”) on pp. 141
- `lih` (“to lick”) on pp. 143
- `vaś` (“to wish”) on pp. 146
- `han` (“to hit, to kill”) on pp. 147
- `brũ` (“to speak”) on pp. 148
- `śās` (“to rule, to instruct”) on pp. 149
- `nu` (“to praise”) on pp. 150
C. Grammar: verbal system

vac ("to speak")

Our first verb, vac ("to speak"), is special in not distinguishing weak and strong forms. We have strong forms, only:

<table>
<thead>
<tr>
<th></th>
<th>vac-mi (4)</th>
<th>vac-vas (4)</th>
<th>vac-mas (4)</th>
<th>present tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td></td>
<td>vac-thas (1)</td>
<td>vac-tha (1)</td>
<td>(primary ending)</td>
</tr>
<tr>
<td>dual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pl.</td>
<td>vac-li (1)</td>
<td>vac-las (1)</td>
<td>vac-an-li (6)</td>
<td></td>
</tr>
</tbody>
</table>

1. Before endings beginning with voiceless t, we have expected non-application of secondary palatalization.

2. Similarly, we should expect to see non-palitized kʷ with regular loss of labial element and ruki before si.

3. In vag-dhi, we have expected backward assimilation before dhi, the regular ending.

4. It seems that forms like vac-āni show regular secondary palatalization kʷ → c before a light i.e. vowel (see fig. [3.2] p. 35). Forms like vac-mi are difficult. Before the consonants m and n, we should not see secondary palatalization, but, instead, n.at. vag-mi. However, c spread to many forms where a light i.e. vowel was not present as in vac-an-ti. In the above paradigm, we have c (as in the oi. root vac) in all forms where the endings start with a vowel, a nasal, or a liquid.

5. In the imperfect sg., we have
   - 3. pers. a-vak ← ie. *vekʷ-t and
   - 2. pers. a-vak ← ie. *vekʷ-s
   where the drop of t or s, respectively, is expected (p. 41).

6. In all verbs of the second class (except śās ("to rule, to instruct")), parasmāipada 3. pers. pl. forms borrow a from the thematic class, as we see here with vac-a-n-ti. vac-a-n-ti is difficult again because the ie. thematic vowel was o here. Perhaps, some leveling from nouns like vacanam (see subsection [C.3.5.1] p. 93) may be responsible?
C.6. Thematic and athematic verbs

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 mna or ghrā (see pp. 73). Perhaps, we have strong forms everywhere and long ā is to be understood as a + H. 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 parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yā-mi</td>
<td>yā-vas</td>
<td>yā-mas</td>
<td>present</td>
</tr>
<tr>
<td>2 yā-śi</td>
<td>yā-lhas</td>
<td>yā-lha</td>
<td>tense</td>
</tr>
<tr>
<td>3 yā-li</td>
<td>yā-las</td>
<td>yā-n-śi (1)</td>
<td>(prim. end.)</td>
</tr>
</tbody>
</table>

| 1 a-yā-m (1) | a-yā-va | a-yā-ma | imperfect |
| 2 a-yā-s | a-yā-lam | a-yā-la | (sec. end.) |
| 3 a-yā-l | a-yā-lam | a-yā-n (1)/a-y-śi (2) | with augm. |

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-śi sometimes uses the alternative ending us (instead of (a)n) is used. And, we just have a-y-śi, not a-y-śi (which would be difficult to understand).

3. Note the hi rather than the dhi imperative.

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 ← ic. *veid, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ē-mi</td>
<td>vid-vas</td>
<td>vid-mas</td>
<td>present</td>
</tr>
<tr>
<td>2 vēl-śi (1)</td>
<td>i-thas (1)</td>
<td>i-tha (1)</td>
<td>tense</td>
</tr>
<tr>
<td>3 vēl-li (1)</td>
<td>i-tas (1)</td>
<td>vid-an-ti</td>
<td>(prim. end.)</td>
</tr>
</tbody>
</table>

| 1 a-vēl-am | a-vid-va | a-vid-ma | imperfect |
| 2 a-vēl/a-veś (2) | a-i-tam (1) | a-i-ta (1) | (sec. end.) |
| 3 a-vēl (2) | a-i-tam (1) | a-vid-us (4) | with augm. |

| 1 ē-āni | ē-āva | ē-āma | imper- |
| 2 vid-dhi (3) | i-tam (1) | i-ta (1) | ative |
| 3 vēl-lu (1) | i-tam (1) | vid-an-tu | (sec. end.) |
C. Grammar: verbal system

1. The backward assimilation $d \rightarrow t$ is clearly seen before the many endings with $t$ or $th$ and before voiceless $s$ in $vēt-si$.

2. In the imperfect sg., we have
   - 3. pers. $a-vēt \leftarrow ie. *e-veid-t$ and
   - 2. pers. $a-vēt \leftarrow ie. *e-veid-s$
   where backward assimilation (making the dental voiceless) and then the drop of $t$ or $s$, respectively, are to be expected (p. 11). $a-vēs$ is an alternative 2. pers. sg. which is clearly due to analogy with forms like $a-yā-s$.

3. $vid-dhi$ 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”):

\[
\begin{array}{|c|c|c|}
\hline
\text{sg.} & \text{dual} & \text{pl.} \\
\hline
1 & aś-mi & s-vas & s-mas \\
2 & aśi \ (1) & s-thas & s-tha \ (1) \\
3 & aś-ti & s-tas & s-an-ti \\
\hline
1 & āś-am \ (2) & āś-va \ (3) & āś-ma \ (3) \\
2 & āś-i-s \ (4) & āś-lam \ (3) & āś-la \ (3) \\
3 & āś-i-t \ (4) & āś-lām \ (3) & āś-an \ (3) \\
\hline
1 & aś-āni & aś-āva & aś-āma \\
2 & ē-dhi \ (5) & s-lam & s-la \\
3 & aś-tu & s-lām & s-an-tu \\
\hline
\end{array}
\]

1. We have degemination $aśi \leftarrow aś-si$.

2. Long $ā$ in strong āś-am is to be understood as
   - $a$ as imperfect augment plus
   - $a$ from the root of as.
   Compare $a-vēd-am$ with $a-as-am \rightarrow āś-am$ (“I was”).

3. Imperfect dual and pl. forms are also strong, in contradiction to fig. C.2

4. Originally, āś-īs and āś-īt are aorist forms that migrated to the imperfect.

5. We have ē-dhi \leftarrow n. at. $as-dhi$ (see pp. 16) and again a strong form in contradiction to fig. C.2

\[\text{Vedic Sanskrit knows the variant āś-t \rightarrow āś.}\]
i (“to go”)

Another parasmäipada example from the second class is the Sanskrit word for “to go”:

<table>
<thead>
<tr>
<th>sg</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ē-mi (1)</td>
<td>i-vas (2)</td>
<td>i-mas (2)</td>
<td>present</td>
</tr>
<tr>
<td>2 ē-ṣi (1)</td>
<td>i-thas (2)</td>
<td>i-tha (2)</td>
<td>tense</td>
</tr>
<tr>
<td>3 ē-li (1)</td>
<td>i-tas (2)</td>
<td>y-an-ti (2)</td>
<td>(prim. end.)</td>
</tr>
<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-tam (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>
<tr>
<td>1 āy-āni (1)</td>
<td>āy-āva (1)</td>
<td>āy-āma (1)</td>
<td>imperative</td>
</tr>
<tr>
<td>2 āi-hi (2, 6)</td>
<td>āi-tam (2)</td>
<td>āi-ta (2)</td>
<td></td>
</tr>
<tr>
<td>3 āi-tu (1)</td>
<td>āi-lām (2)</td>
<td>y-an-ta (2)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. Strong forms (imperfect see below) regularly differ between vowel ending (āy-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. 29).

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. āi-hi may be regular from older *i-dhi (p. 47). From forms like āi-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 a and strong forms show the full grade ō (see pp. 25). Here is the parasmãipada paradigm:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√duh ← ie. *dheugh, parasmâipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 dôh-mî (3)</td>
<td>düh-vas (3)</td>
<td>düh-mas (3)</td>
<td>present</td>
</tr>
<tr>
<td>2 dhôk-ši (2a, 6)</td>
<td>duq-dhas (1b)</td>
<td>duq-dha (1a)</td>
<td>tense</td>
</tr>
<tr>
<td>3 dôg-dhi (1a)</td>
<td>duq-dhas (1a)</td>
<td>düh-an-ti (3, 4a)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1 a-dôh-am (3)</td>
<td>a-däh-va (3)</td>
<td>a-däh-ma (3)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 a-dhôk (5)</td>
<td>a-duq-dham (1a)</td>
<td>a-duq-dha (1a)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 a-dhôk (5)</td>
<td>a-duq-dhâm (1a)</td>
<td>a-düh-an (3, 4a)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 dôh-âni (3)</td>
<td>dôh-âva (3)</td>
<td>dôh-âma (3)</td>
<td>imperative</td>
</tr>
<tr>
<td>2 dug-dhi (1c)</td>
<td>dug-dham (1a)</td>
<td>dug-dha (1a)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 dôg-dhu (1a)</td>
<td>dug-dhâm (1a)</td>
<td>düh-an-ta (3, 4a)</td>
<td></td>
</tr>
</tbody>
</table>

1. Many forms show the application of both deaspiration of initial ie. *dh and of aspiration shift (Bartholomae’s law, pp. 35). In particular, we have three cases:

1a. gh-t → g-dh (aspiration shift and forward assimilation) is seen in ie. *dheugh-ti → dóg-dhi.

1b. gh-th → g-dh (no double aspiration and forward assimilation) is seen in ie. *dhugh-thi → dug-thi (for example 2. dual pres. tense dug-dhas).

1c. gh-dh → g-dh (no double aspiration and no forward assimilation) is seen in 2. sg. impv. ie. *duqgh-dhi → dug-dhi (and, in ātmanêpada below, dug-dhvê).

2. Grassmann’s deaspiration is seen in most forms. But it has been undone (or, rather, has not been carried out) in these cases:

2a. before s as in parasmâipada pres. tense 2. pers. sg. dhôk-ši 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.

2b. before dhv as in ātmanêpada pres. tense 2. pers. pl. dhug-dhvê 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 a light i.e. vowel, we have secondary palatalization gh → h as seen in fig. B.2 (p. 35). This is most clearly seen in a-duh-i. However, h spread to many forms where a light i.e. vowel was not present as in düh-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:

4a. In parasmâipada 3. pers. pl. forms like duh-an-ti, we have an due to borrowing of a from the thematic classes.

4b. In contrast, ãtmanêpada forms like duh-a-té do without this borrowing and a goes back to syllabic n: duh-a-té ← 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.3.3 p. 41): In the 2. pers., s has been dropped, and in the third, t.

6. In dhôk-si, after the newly formed k (very similar to 5.), ruki applies.

And here you see the ãtmanêpada paradigm where the numbers are explained above:

<table>
<thead>
<tr>
<th>sv/duh ← ie. *dheugh, ãtmanêpada</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
</tr>
<tr>
<td>1</td>
<td>duh-ê (3)</td>
<td>duh-vahê (3)</td>
</tr>
<tr>
<td>2</td>
<td>duh-sê (2a, 6)</td>
<td>duh-ôhê (1b)</td>
</tr>
<tr>
<td>3</td>
<td>duh-dê (1a)</td>
<td>duh-ôtê (3)</td>
</tr>
<tr>
<td>1</td>
<td>a-duh-i (3)</td>
<td>a-duh-vahî (3)</td>
</tr>
<tr>
<td>2</td>
<td>a-duh-dhâs (1b)</td>
<td>a-duh-ôhâm (3)</td>
</tr>
<tr>
<td>3</td>
<td>a-duh-dha (1a)</td>
<td>a-duh-ôlâm (3)</td>
</tr>
<tr>
<td>1</td>
<td>dôh-ôî (3)</td>
<td>dôh-ôvahî (3)</td>
</tr>
<tr>
<td>2</td>
<td>dôh-sêu (2a, 6)</td>
<td>dôh-ôhâm (3)</td>
</tr>
<tr>
<td>3</td>
<td>dôh-dhâm (1a)</td>
<td>dôh-ôlâm (3)</td>
</tr>
</tbody>
</table>

lih (“to lick”)

A somewhat more complicated (and hence even more interesting) example is lih (“to lick”):
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>√lih ← ie. *leĩgh, parasmāipada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 lēh-mi</td>
<td>lih-vas</td>
<td>lih-mas</td>
</tr>
<tr>
<td>2 lēk-și (2)</td>
<td>lih-dhas (5b)</td>
<td>lih-dha (5a)</td>
</tr>
<tr>
<td>3 lē-ğhi (1)</td>
<td>lih-dhas (5a)</td>
<td>lih-an-ti (6a)</td>
</tr>
<tr>
<td>1 a-lēh-am</td>
<td>a-lih-va</td>
<td>a-lih-ma</td>
</tr>
<tr>
<td>2 a-lēt (4)</td>
<td>a-lih-dham (5a)</td>
<td>a-lih-dha (5a)</td>
</tr>
<tr>
<td>3 a-lēt (3)</td>
<td>a-lih-dhm (5a)</td>
<td>a-lih-an (6a)</td>
</tr>
</tbody>
</table>

Notes are given below. The ātmanēpada paradigm reads:

<table>
<thead>
<tr>
<th>√lih ← ie. *leĩgh, ātmanēpada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 lih-ê</td>
<td>lih-vahê</td>
<td>lih-mahê</td>
</tr>
<tr>
<td>2 lih-sê (2)</td>
<td>lih-âthê</td>
<td>lih-dvê (5c)</td>
</tr>
<tr>
<td>3 lih-âth (5a)</td>
<td>lih-âtê</td>
<td>lih-a-tê (6b)</td>
</tr>
<tr>
<td>1 a-lêh-i</td>
<td>a-lih-vahî</td>
<td>a-lih-mahî</td>
</tr>
<tr>
<td>2 a-lih-dhâs (5b)</td>
<td>a-lih-âdhâm</td>
<td>a-lih-dhvam (5c)</td>
</tr>
<tr>
<td>3 a-lih-dha (5a)</td>
<td>a-lih-âtâm</td>
<td>a-lih-â-ta (6b)</td>
</tr>
</tbody>
</table>

1. The parasmāipada 3. pers. sg. present tense can be explained by

    ie. *leĩgh-ti (full grade)
    → lêg-dhi (ASH)
    → lêz-dhi (SZ before voiced cons.)
    → lêz-dhi (RUKI)
    → lêz-dhi (CERD)
    → lê-dhi (COMLz, but ê already long)

2. The parasmāipada 2. pers. sg. present tense is lêk-sî which has developed regularly:

    ie. *leĩgh-sî (full grade)
    → lêg-sî (ASH, but s cannot be aspirated)
    → lêk-sî (BA)
    → lêk-sî (RUKI)

3. Parasmāipada imperfect sg. has a-lêt in both the 2. and 3. pers. For the 3. pers., we have
C.6. Thematic and athematic verbs

ie. *e-\textit{lei}gh\texttt{-}t (full grade with ie. imperfect marker \texttt{e})
→ a-lē\texttt{y}-dh (\texttt{ASH})
→ a-lē\texttt{z}-dh (\texttt{SZ} before voiced cons.)
→ a-lē\texttt{z}-dh (\texttt{RUKI})
→ a-lē\texttt{z}-dh (\texttt{CERD})
→ a-lē\texttt{-}dh (\texttt{COMLz}, but \texttt{e} already long)
→ a-lē\texttt{-}t (\texttt{AFP}, p. 42)

4. Remember \textit{madhu\texttt{-}lit \leftarrow} ie. *\textit{medhu\texttt{-}li}gh\texttt{-}s on p. 42 The 2. pers. is also regular:

ie. *a-\textit{lei}gh\texttt{-}s
→ a-lē\texttt{y}-s (\texttt{ASH}, but \texttt{s} cannot be aspirated)
→ a-lē\texttt{k}-s (\texttt{BA})
→ a-lē\texttt{k}-s (\texttt{RUKI})
→ a-lē\texttt{t} (\texttt{AFP})

5. Quite a few regular (!) forms have long \texttt{i} plus cerebralization of a dental ending.
We have three cases:

\textbf{5a. \textit{igh\texttt{-}t} \rightarrow \textit{d}\texttt{-}h as, for example, the \textit{ātmanēpada} 3. pers. sg. present tense \textit{lī\texttt{-}dhē}:}

ie. *\textit{li}gh\texttt{-}toi (zero grade and toi-marker)
→ lī\texttt{-}gh-tē
→ lī\texttt{-}gh-dhē (\texttt{ASH})
→ lī\texttt{-}z-dhē (\texttt{SZ} before voiced cons.)
→ lī\texttt{-}z-dhē (\texttt{RUKI})
→ lī\texttt{-}z-dhē (\texttt{CERD})
→ lī\texttt{-}d\texttt{-}hē (\texttt{COMLz})

\textbf{5b. \textit{igh\texttt{-}th} \rightarrow \textit{d}\texttt{-}h as, for example parasmāipada 2. pers. dual \textit{lī\texttt{-}dhas}:}

*\textit{li}gh\texttt{-}thas (zero grade and oi. (!) \texttt{thas}-marker)
→ lī\texttt{-}gh\texttt{-}dhas (\texttt{ASH}, but no further aspiration)
→ lī\texttt{-}z\texttt{-dhas} (\texttt{SZ} before voiced cons.)
→ lī\texttt{-}z\texttt{-dhas} (\texttt{RUKI})
→ lī\texttt{-}z\texttt{-dhas} (\texttt{CERD})
→ lī\texttt{-}d\texttt{-hē} (\texttt{COMLz})

\textbf{5c. \textit{igh\texttt{-}dhv} \rightarrow \textit{d}\texttt{-}hv as, for example \textit{ātmanēpada} 2. pers. dual \textit{lī\texttt{-}dhvē}:}

*\textit{li}gh\texttt{-}dhvē (zero grade and oi. (!) \texttt{dhvē}-marker)
→ lī\texttt{-}gh\texttt{-dhvē} (\texttt{ASH}, but no further aspiration)
→ lī\texttt{-}z\texttt{-dhvē} (\texttt{SZ} before voiced cons.)
→ lī\texttt{-}z\texttt{-dhvē} (\texttt{RUKI})
→ lī\texttt{-}z\texttt{-dhvē} (\texttt{CERD})
→ lī\texttt{-}d\texttt{-dhvē} (\texttt{COMLz})

2. and 3. dual pres. tense are identical: \textit{lī\texttt{-}dhas} (5b) with oi. ending \texttt{thas} and \textit{lī\texttt{-}dhas} (5a) with oi. ending \texttt{tas}. 

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6. In both thematic and athematic 3. pers. pl. forms, we have a. Note, however:

6a. In parasmāipada 3. pers. pl. forms like lih-an-ти, we have an due to borrowing of a from the thematic classes.

6b. In contrast, ātmānēpada forms like lih-a-tē do without this borrowing and a goes back to syllabic n: lih-a-tē ← ie. *liṅg-ṇ-toi.

vaś (“to wish”)

Now, let us turn to vaś (“to wish”):

| vaś-ši | us-thas | us-tha | present tense 2. pers. dual |
| vaś-ši | us-thas | us-tha | present tense 2. pers. dual |
| vaś-ši | us-thas | us-tha | present tense 2. pers. dual |

1. vaś-ši and vaś-šu follow the sound law CERD on pp. B.3.4

2. Similarly, but in zero grade, we have forms like us-thas (present tense 2. pers. dual).

3. In vak-ši, we see a reflex of ie. k, together with ruki.

4. Parasmāipada imperfect sg. has a-vaṭ in both the 2. and 3. pers. For the 3. pers., we have

   ie. *e-vek-t (full grade with ie. imperfect marker e)
   → a-vaś-t
   → a-vaś-t (as in vaś-ši)
   → a-vaṭ (AFP)

5. The 2. pers. is also regular:

   ie. *e-vek-s (full grade with ie. imperfect marker e)
   → a-vaś-s
   → a-vaś
   → a-vaṭ (AFP)

6. Luckily, the other imperfect forms present no great mystery. They are weak (zero grade) and then, in line with the sound law
C.6. Thematic and athematic verbs

The imperfect marker \(a\) + \(u/\ddot{u}\) → \(\ddot{u}\)

we obtain

a) forms like \(\ddot{u}n\ddot{a}-va\) with \(\ddot{s}\) from ie. \(k\) and

b) forms like \(\ddot{u}g\ddot{s}-ta\)m where the cerebralization rule \textit{CERD} has been applied again.

7. 3. pers. pl. forms show \(an-\), the thematic \(a\) is borrowed from thematic classes.

8. \textit{ud-g\ddot{h}i}, the imperative 2. pers. sg. is difficult to explain. It does not seem to follow from our sound laws nor does it lend itself to a nice leveling or analogy argument.

\textit{han (“to hit, to kill”)}

As another example, we present \textit{han (“to hit, to kill”)}:

<table>
<thead>
<tr>
<th>han ← ie. *\textit{gw}hen, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 han-mi (1)</td>
<td>han-vas (2)</td>
<td>han-mas (2)</td>
<td>present</td>
</tr>
<tr>
<td>2 han-\ddot{q} (1)</td>
<td>ha-thas (4)</td>
<td>ha-tha (4)</td>
<td>tense</td>
</tr>
<tr>
<td>3 han-ti (1)</td>
<td>ha-tas (4)</td>
<td>ghn-an-ti (3)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1 a-han-am (1)</td>
<td>a-han-va (2)</td>
<td>a-han-ma (2)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 a-han (5)</td>
<td>a-ha-tam (4)</td>
<td>a-ha-ta (4)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 a-han (5)</td>
<td>a-ha-tām (4)</td>
<td>a-ghan (3)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 han-\ddot{a}ni (1)</td>
<td>han-\ddot{a}va</td>
<td>han-\ddot{a}ma</td>
<td>imper-</td>
</tr>
<tr>
<td>2 ja-\ddot{h} (6)</td>
<td>ha-tam (1)</td>
<td>ha-ta (4)</td>
<td>active</td>
</tr>
<tr>
<td>3 han-tu (1)</td>
<td>ha-tām (1)</td>
<td>ghn-an-tu (3)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. Secondary palatalization (section \textit{B.3.2} pp. \textit{34}) produces \textit{han-ti} from \(\textit{gw}hen-ti\).

2. However, the strong forms also migrated to present tense and imperfect both dual and pl. where they should not be seen according to p. \textit{132}. See, for example, \textit{han-mas}. However, these irregular forms (by leveling) are quite unavoidable. The ie. zero grade should be something like *\textit{gw}m-hn-mes, with too consonants. (We may speculate on whether \(n\) or \(m\) would become syllabic, but the result would be incomprehensible in either case.)

3. In contrast, the correct zero grade is seen in the 3. pers. pl. forms like \textit{ghn-an-ti}, after borrowing of thematic \(a\). Here, secondary palatalization does not work (\(\textit{gw}h\) does not stand before a light vowel) and the labial element of labiovelars is (nearly always) lost in Old Indian.

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. \textit{gha-tas} (present tense, 3. pers. dual) and the like. However, we see \textit{ha-tas}, undoubtedly due to leveling. This is similar to the (zero grade!) PPP \textit{ha-ta} in subsection \textit{C.4.3} (p. \textit{101}).
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5. Identical parasmāipada imperfect 2. and 3. pers. sg. are common in athematic verbs. Due to inadmissable word-final consonant clusters, the endings s (2. pers.) and t (3. pers.) are lost:
   ◇ a-han ← a-han-s
   ◇ a-han ← a-han-t

6. ja-hi (with ending hi rather than dhi) is difficult to explain. Indeed, we should have gotten n.at. *ga-hi from

   *gʷhni-hi (zero grade with oi. impv. marker hi)
   \[ \rightarrow \] gha-hi
   \[ \rightarrow \] ga-hi (DA)

Note that secondary palatalization should not have occurred here. Analogy also does not seem a helpful explanation.

brū (“to speak”)

For brū (“to speak”), the ie. root is breuH whence obtain

◇ the strong forms with brav
◇ the weak forms
   • before vowel endings brav according to the rules on pp. 22
   • before consonant endings brū-

With this comments in mind, the declension pattern is not too surprising:

<table>
<thead>
<tr>
<th>[brū] ← ie. *breuH</th>
<th>parasmāipada</th>
<th>ātmanēpada</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sg.</td>
<td>dual</td>
</tr>
<tr>
<td>1 brav-ī-mi (1)</td>
<td>brū-vas</td>
<td>brū-mas</td>
</tr>
<tr>
<td>2 brav-ī-si (1)</td>
<td>brū-thas</td>
<td>brū-tha</td>
</tr>
<tr>
<td>3 brav-ī-ti (1)</td>
<td>brū-tas</td>
<td>brav-an-ti (3)</td>
</tr>
<tr>
<td>1 a-brav-am</td>
<td>a-brū-va</td>
<td>a-brū-ma</td>
</tr>
<tr>
<td>2 a-brav-īs (2)</td>
<td>a-brū-tam</td>
<td>a-brū-ta</td>
</tr>
<tr>
<td>3 a-brav-īt (2)</td>
<td>a-brū-tām</td>
<td>a-brav-an (3)</td>
</tr>
<tr>
<td>1 brav-āni</td>
<td>brav-āva</td>
<td>brav-āma</td>
</tr>
<tr>
<td>2 brū-hi</td>
<td>brū-tam</td>
<td>brav-an-ta</td>
</tr>
<tr>
<td>3 brav-ī-tu (1)</td>
<td>brū-tām</td>
<td>brav-an-tu (3)</td>
</tr>
</tbody>
</table>

1. The long ī in present sg. like brav-ī-ti is surely connected to the laryngeal. However, we should have expected short ī instead.
2. Imperfect sg. *a-brav-īs* and *a-brav-īt* are somewhat mysterious. We should expect n.at. *a-brä-s* and n.at. *a-brä-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 ḍs-īt from *as* (“to be”, see pp. [140]).

3. Par. *bruv-an-ti* versus ṣtm. *bruv-a-tē* is well-known by now.

śās (“to rule, to instruct”)

śās is the oi. root in full grade. Indeed, ie. *kṛHs* leads to

◊ the strong forms with śās

◊ the weak forms śis and, after applying ruki, finally śīś.

We find

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>śās-mās</td>
<td>śīś-mas (1)</td>
</tr>
<tr>
<td>2</td>
<td>śās-sīs</td>
<td>śīś-hās (2)</td>
</tr>
<tr>
<td>3</td>
<td>śās-tīs</td>
<td>śīś-tās (2)</td>
</tr>
</tbody>
</table>

1. Ruki produces śīś-mas and other regular weak forms.

2. By forward assimilation, one obtains śīś-tās and the like.

3. In the imperfect, we should expect

◊ 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-vēt* 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. *śādhī* is strong:
C. Grammar: verbal system

ie. *kkeHs-dhi (full grade with ie. impv. marker dhi)
→ śās-dhi
→ śāz-dhi (SZ before voiced cons.)
→ śā-dhi (COMLz, but ā long already)

6. Quite unusual for the 2. class, we do not have the thematic a in parasmāipada 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:

<table>
<thead>
<tr>
<th>verb/nu ← ie. *vek&quot;w, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 nāu-mā (1)</td>
<td>nu-vās (3)</td>
<td>nu-mās (3)</td>
<td>present</td>
</tr>
<tr>
<td>2 nāu-ṣi (1)</td>
<td>nu-thās</td>
<td>nu-tha</td>
<td></td>
</tr>
<tr>
<td>3 nāu-lī (1)</td>
<td>nu-lās</td>
<td>nuv-an-ā (4) (prim. end.)</td>
<td></td>
</tr>
<tr>
<td>1 a-nāu-ṃ (2)</td>
<td>a-nu-va (3)</td>
<td>a-nu-ma (3)</td>
<td>imperfect (sec. end.)</td>
</tr>
<tr>
<td>2 a-nāu-s (1)</td>
<td>a-nu-tām</td>
<td>a-nu-ta</td>
<td></td>
</tr>
<tr>
<td>3 a-nāu-l (1)</td>
<td>a-nu-lām</td>
<td>a-nuv-an (4) with augm.</td>
<td></td>
</tr>
<tr>
<td>1 nav-āni (2)</td>
<td>nav-āva (2)</td>
<td>nav-āma (2)</td>
<td>imperative (sec. end.)</td>
</tr>
<tr>
<td>2 nu-hi</td>
<td>nu-tām</td>
<td>nu-ta</td>
<td></td>
</tr>
<tr>
<td>3 nāu-lu (1)</td>
<td>nu-lām</td>
<td>nuv-an-ā (4)</td>
<td></td>
</tr>
</tbody>
</table>

1. The very strong forms āa (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-mās are perfectly regular.

4. Forms like nuv-a-n-ā exhibit the intervening v according to the rule

   

   \( CuV \rightarrow CuwV \)

Additional comments on a few other verbs

We now comment on a few other verbs without presenting the paradigms in full.

◊ Some verbs have a sêt-root. The i acts as a sort of thematic vowel in case of consonant endings. Compare

- svap-i-ti ("he sleeps") with svap-a-n-ā-ti ("they sleep") with strong forms throughout the paradigm
- rōdi-ti ("he weeps"), rud-a-n-ā-ti ("they weep") with regular distribution of strong and weak forms
C.6. Thematic and athematic verbs

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:

- u-roots (such as hu (“to sacrifice”)) always reduplicate with u.
- Roots ending in ā use ie. e (oi. 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. 151
- bhṛ (“to be afraid”) on pp. 153
- hu (“to sacrifice”) on pp. 154
- hā (“to abandon”) on pp. 155
- dā (“to give”) on pp. 155
- dhā (“to set”) on pp. 157

bhr (“to support, to hold”)

We begin with bhr (“to support”). The strong forms are bi-bhar and the weak ones bi-bhṛ.

We obtain the quite regular pattern:

<table>
<thead>
<tr>
<th>√bhr ← ie. *bher, parasmāipada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>1 bi-bhar-mi</td>
</tr>
<tr>
<td>2 bi-bhar-ṛ</td>
</tr>
<tr>
<td>3 bi-bhṛ-ṛ</td>
</tr>
<tr>
<td>1 a-bi-bhar-am</td>
</tr>
<tr>
<td>2 a-bi-bhar (3)</td>
</tr>
<tr>
<td>3 a-bi-bhṛ (3)</td>
</tr>
<tr>
<td>1 bi-bhṛ-ṛ</td>
</tr>
<tr>
<td>2 bi-bhṛ-ṛ</td>
</tr>
<tr>
<td>3 bi-bhṛ-ṛ</td>
</tr>
</tbody>
</table>

1. As is usual in the third class, the parasmāipada 3. pers. pl. imperfect a-bi-bhṛ-us is characterized by two features:

a) Its form is strong.
C. Grammar: verbal system

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

Make the last of these syllabifiable sounds syllabic!

we obtain

\[ bi-bhr\_n\_ti \rightarrow bi\_bhr\_a\_ti \]

3. By simplification of consonant clusters, 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:

<table>
<thead>
<tr>
<th>( \sqrt{bhr} ) ← ie. <em>bher</em>, ātmanēpada</th>
<th>sg</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  ( bi_bhr__t) (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2  ( bi_bhr_s) (1, 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3  ( bi_bhr_t) (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1  ( a-bi_bhr_i) (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2  ( a-bi_bhr_th) (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3  ( a-bi_bhr_t) (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1  ( bi_bhar__t)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2  ( bi_bhar_s\va) (1, 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3  ( bi_bhar__t) (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. We have syllabic *r* in the weak forms before consonant endings, for example *bi-bhr-tē*.

2. We have just *r* in the weak forms before vowel endings, for example *bi-bhr-ē*.

3. Compare 3. pers. pl. forms of ātmanēpada (here) with parasmāipada (above).

4. Expected ruki.
C.6. Thematic and athematic verbs

bhī ("to be afraid")

If one knows how to deal with bhṛ, bi-bhar-ti ("to support"), it is not difficult to learn the forms for bhī, bi-bhē-ti ("to be afraid"). Taking laryngeal theory into account, the ie. root is bheiH. Do you see that the full grade and the zero grade of both roots are formed regularly:

\[
\begin{array}{ccc}
\sqrt{\text{bhṛ}} & \leftarrow & \text{ie. } *\text{bher} \\
\sqrt{\text{bhī}} & \leftarrow & \text{ie. } *\text{bheiH}
\end{array}
\]

<table>
<thead>
<tr>
<th>full grade</th>
<th>zero grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhār</td>
<td>bhē/bhay</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>bhē/bhay before C/V</th>
</tr>
</thead>
<tbody>
<tr>
<td>bhē/bhay before C/V</td>
</tr>
</tbody>
</table>

This, then, is the parasmāipada paradigm:

<table>
<thead>
<tr>
<th>(\sqrt{\text{bhī}} \leftarrow \text{ie. } *\text{bheiH}, \text{ parasmāipada} )</th>
<th>sgn.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bi-bhē-mi</td>
<td>bi-bhē-ma (4)</td>
<td>bi-bhē-va (4)</td>
<td>pres. tense</td>
</tr>
<tr>
<td>2 bi-bhē-sī</td>
<td>bi-bhē-thas (4)</td>
<td>bi-bhē-tha (4)</td>
<td></td>
</tr>
<tr>
<td>3 bi-bhē-ti</td>
<td>bi-bhē-tas (4)</td>
<td>bi-bhē-ta (4)</td>
<td></td>
</tr>
<tr>
<td>1 a-bi-bhay-a-m (3) a-bi-bhay-a (4) a-bi-bhay-a (4)</td>
<td>impf. (sec.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 a-bi-bhē-s (2, 7) a-bi-bhē-tam (4) a-bi-bhē-ta (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 a-bi-bhē-t (7) a-bi-bhē-tam (4) a-bi-bhay-us (6)</td>
<td>end.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 bi-bhē-ātu (3) bi-bhē-āva (3) bi-bhē-āna (3)</td>
<td>impv. (sec.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 bi-bhē-ā (4) bi-bhē-tam (4) bi-bhē-ta (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 bi-bhē-tu (1) bi-bhē-ām (4) bi-bhy-a-tu (5)</td>
<td>end.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. bi-bhē-ti is the expected full-grade form before a consonant.

2. bi-bhē-sī shows the regular application of ruki, while a-bi-bhē-s does not admit ruki because the s is word-final.

3. Before a vowel, forms like a-bi-bhay-a-m with ay rather than ê are regular.

4. All weak forms exhibit the sound law ī \(\leftarrow\) iH. However, all these forms admit an irregular alternative with a short i, for example bi-bhī-vas .

5. bi-bhy-a-ti is 3. pers. pl. (!). Indeed, we have (the order is unclear)

\[\text{ie. } *\text{bhi-bhiH-}n\text{-ti} \quad \text{(reduplication, zero grade)}\]
\[\rightarrow \text{bhi-bhiH-}a\text{-ti} \quad (\text{reduplication, zero grade})\]
\[\rightarrow \text{bhi-bhē-a-ti} \quad (\text{DA})\]
\[\rightarrow \text{bhi-bhy-a-ti} \quad (\text{last syllabifiable sound syllabic})\]

6. Again, parasmāipada 3. pers. pl. imperfect

a) uses the strong form in violation of fig. C:2 and

b) exhibits the ending us.
C. Grammar: verbal system

7. In spite of all the similarities between bhä 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>√bhā ← ie. *bher</td>
</tr>
<tr>
<td>√bhā ← ie. *bheiH</td>
</tr>
</tbody>
</table>

All four forms are regular!

hu ("to sacrifice")

The paradigm for the oi. root hu ("to sacrifice") looks bewildering. The ie. root is *gheu and we obtain the 3. pers. sg. pres. tense

ie. *ghu-gheu-ti (reduplication, full grade)

→ ġu-ğhō-ti (DA)
→ ju-hō-ti (PPAL, pp. 34)

We now present the paradigm:

<table>
<thead>
<tr>
<th>√hu ← ie. *gheu, parasmâipada</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

Contrasting bhä ("to be afraid") and hu ("sacrifice"), we find:

1. The present tense 3. pers. sg. bi-bhē-ti and ju-hō-ti are both full-grade forms.

2. The present tense 2. pers. sg. bi-bhē-ṣi and ju-hō-ṣi show ruki, while their imperfect counterparts a-bi-bhē-s and a-ju-hō-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-bhē-vas and ju-hu-vas use the zero grade (with laryngeal explanation of long i).

5. The present tense 3. pers. pl. bi-bhy-a-ti corresponds very nicely to ju-hv-a-ti, both showing the sound law ฏ → a and the sandhi rule hV given on p. 22.
C.6. Thematic and athematic verbs

6. The imperfect 3. pers. pl. a-bi-bhay-us is full grade as is a-ju-hau-as (peculiarity of the 3. class).

7. The only real difference is imperative 2. pers. sg. ju-hu-dhi in contrast to bi-hā-hi.

hā (“to abandon”)

The paradigm for the oi. root hā (“to abandon”) from ie. root *ghēH works similar to the one for hu (“to sacrifice”). This is how to derive the 3. pers. sg. pres. tense of hā:

\[
\text{ie. } *ghē-ghēH-ti \text{ (reduplication with ie. } e, \text{ zero grade)} \\
\rightarrow \text{je-}ghāH-ti \text{ (DA)} \\
\rightarrow ja-hā-ti \text{ (PPAL)}
\]

We now present the paradigm:

<table>
<thead>
<tr>
<th></th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ja-hā-mi</td>
<td>ja-hi-va (2)</td>
<td>ja-ha-ma (2)</td>
</tr>
<tr>
<td>2</td>
<td>ja-hā-si</td>
<td>ja-hi-thas (2)</td>
<td>ja-hi-tha (2)</td>
</tr>
<tr>
<td>3</td>
<td>ja-hā-ti  (1)</td>
<td>ja-hi-tas (2)</td>
<td>ja-ha-ti (4) (prim. end.)</td>
</tr>
<tr>
<td>1</td>
<td>a-ja-hā-m</td>
<td>a-ja-hi-va (2)</td>
<td>a-ja-hi-ma (2)</td>
</tr>
<tr>
<td>2</td>
<td>a-ja-hā-s</td>
<td>a-ja-hi-tam (2)</td>
<td>a-ja-hi-ta (2) (sec. end.)</td>
</tr>
<tr>
<td>3</td>
<td>a-ja-hā-t</td>
<td>a-ja-hi-tām (2)</td>
<td>a-ja-ha-tas (2) (with augm.)</td>
</tr>
<tr>
<td>1</td>
<td>ja-hā-ni</td>
<td>ja-hā-va</td>
<td>ja-hā-ma</td>
</tr>
<tr>
<td>2</td>
<td>ja-hi-hi  (3)</td>
<td>ja-hi-tam (2)</td>
<td>ja-hi-ta (2) (sec. end.)</td>
</tr>
<tr>
<td>3</td>
<td>ja-hā-tu  (1)</td>
<td>ja-hi-tām (2)</td>
<td>ja-ha-tu (4)</td>
</tr>
</tbody>
</table>

1. The present tense 3. pers. sg. ja-hā-ti is explained above the table.

2. ja-ha-mas is regular where the laryngeal is represented by i. More difficult are alternative forms with long i like ja-hī-mas.

3. The 2. pers. sg. imperative uses the hi-marker.

4. The present tense 3. pers. pl. ja-ha-ti is yet another example of the sound law \( \hat{n} \rightarrow a \). 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-ha-us. Note the zero grade in contrast to the full grade a-ju-hau-us in the hu paradigm.

dā (“to give”)

Let us now turn to dā (“to give”):
C. Grammar: verbal system

<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</td>
</tr>
<tr>
<td>2</td>
<td>da-dā-si</td>
<td>da-t-thas</td>
<td>da-t-tha</td>
</tr>
<tr>
<td>3</td>
<td>da-dā-ti</td>
<td>da-t-thas</td>
<td>da-d-a-ti</td>
</tr>
</tbody>
</table>

1. The long ā go back to a laryngeal. The ie. full-grade root is deH₃ → dā. The reduplication vowel is oi. so that we find da-dā-ti etc.

2. Between consonants, laryngeals mostly turn into i, but are lost without trace occasionally. 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. 107 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: loss of laryngeal between consonants)
   → da-dzdhi (DzD)
   → da-zdhi (CCL)
   → daz-dhi
   → dē-dhi (COMLz before consonant + i)
   → dē-hi (analogy)

4. da-d-a-ti reflects the sound law n → 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. 150).

5. The imperfect 3. pers. pl. often uses the full grade with ending us in the 3. class (see a-bi-bhay-us from bhī or a-bi-bhar-us from bhr). However, a-da-d-us is clearly zero grade.

6. In the weak forms, one sees the expected backward assimilation.
C.6. Thematic and athenmatic verbs

\textit{dhā} ("to set")

And, now, the similar root \textit{dhā}:

\begin{table}[h]
\centering
\begin{tabular}{llll}
\hline
 & sg. & dual & pl. \\
\hline
1 & \textit{da-dhā-mi} & \textit{da-dh-vas} (2) & \textit{da-dh-mas} (2) & present \\
2 & \textit{da-dhā-si} & \textit{dha-t-thas} (2, 6) & \textit{dha-t-tha} (2, 6) & tense \\
3 & \textit{da-dhā-ti} & \textit{dha-t-tha} (2, 6) & \textit{da-dh-a-ti} (4) & (prim. end.) \\
\hline
1 & \textit{a-da-dhā-m} & \textit{a-da-dh-va} (2) & \textit{a-da-dh-ma} (2) & imperfect \\
2 & \textit{a-da-dhā-s} & \textit{a-dha-t-tam} (2, 6) & \textit{a-dha-t-ta} (2, 6) & (sec. end.) \\
3 & \textit{a-da-dhā-t} (1) & \textit{a-dha-t-tam} (2, 6) & \textit{a-da-dh-us} (5) & with augm. \\
\hline
1 & \textit{da-dhā-ni} & \textit{da-dhā-wa} & \textit{da-dhā-ma} & imperative \\
2 & \textit{dhe-hi} (3) & \textit{dha-t-tam} (2, 6) & \textit{dha-t-ta} (2, 6) & (sec. end.) \\
3 & \textit{da-dhā-tu} (1) & \textit{dha-t-tam} (2, 6) & \textit{da-dh-a-tu} (4) & (sec. end.) \\
\end{tabular}
\end{table}

1. \textit{dhā} is full grade from ie. \textit{*deh₁}. The reduplication vowel is \textit{oi}. \textit{a}. By deaspiration, we obtain \textit{da-dhā-ti} etc.

2. It seems that the laryngeal is lost without trace in \textit{da-dh-mas} ("we set") here as in \textit{da-d-mas} ("we give") above.

3. Parasmāipada imperative 2. pers. sg. \textit{dhe-hi} may also be regular:

\begin{itemize}
\item \textit{ie. \textit{*deh₃-dhi}}
\item \textit{dha-dh-dhi} (\textsc{lar}: loss of laryngeal, no \textsc{da} in the closed syllable \textit{dha-dh})
\item \textit{dha-a-dhi} (\textsc{ash}, but \textit{dh} cannot be aspirated any further)
\item \textit{dha-dzdi} (\textsc{dzd})
\item \textit{dha-zdi} (\textsc{ccl})
\item \textit{dha-zdi} (\textsc{comlz} before consonant + \textit{i})
\item \textit{dhe-hi} (analogy)
\end{itemize}

Alternatively, analogy with \textit{dē-hi} may be relevant:

\begin{itemize}
\item \textit{dā} with imperative: \textit{dē-hi} just as
\item \textit{dhā} with imperative: \textit{dhe-hi}
\end{itemize}

4. \textit{da-dh-a-ti} is due to the sound law \textit{ŋ} \rightarrow \textit{a}, just as \textit{da-d-a-ti}.

5. \textit{a-da-dh-us} is parallel to \textit{a-da-d-us}.

6. Compare \textit{da-t-tas} ("the two give") with \textit{dha-t-tas} ("the two set"). The reduplicated syllable is not aspirated. After the laryngeal dropped, deaspiration could not work in the closed syllable \textit{dha-d}. Grassmann’s law states: If aspirated consonants occur in the beginning of two subsequent syllables, the first aspirated consonant loses its aspiration.
C. Grammar: verbal system

C.6.5. The fifth class

Introductory remark and overview

In subsection C.2.5 (pp. 82), 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 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>ŋō</td>
<td>ŋō-ti</td>
<td>ŋū</td>
<td>ŋū-mas</td>
</tr>
<tr>
<td>7</td>
<td>nā</td>
<td>yū-nā-k-ti</td>
<td>ŋū</td>
<td>yū-nū-j-mas</td>
</tr>
<tr>
<td>8</td>
<td>ō</td>
<td>tan-ō-ti</td>
<td>ŋū</td>
<td>tan-š-mas</td>
</tr>
<tr>
<td>9</td>
<td>nā</td>
<td>pu-nā-ti</td>
<td>ŋū</td>
<td>pu-nū-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. 24), the strong class sign ŋō 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>ōp</td>
<td>ōp-ŋō-mi</td>
<td>ōp-ŋav-am</td>
<td>to obtain</td>
</tr>
<tr>
<td>šak</td>
<td>šak-ŋō-mi</td>
<td>a-šak-ŋav-am</td>
<td>to be able</td>
</tr>
<tr>
<td>su</td>
<td>su-ŋō-mi</td>
<td>su-ŋav-am</td>
<td>to press</td>
</tr>
</tbody>
</table>

2. The weak class sign ŋū 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>ōp</td>
<td>ōp-nu-tas</td>
<td>ōp-nu-an-ti</td>
<td>to obtain</td>
</tr>
<tr>
<td>šak</td>
<td>šak-nu-tas</td>
<td>šak-nu-an-ti</td>
<td>to be able</td>
</tr>
<tr>
<td>su</td>
<td>su-nu-tas</td>
<td>su-nu-an-ti</td>
<td>to press</td>
</tr>
</tbody>
</table>

While su-nu-an-ti is very clear, the other two examples are more difficult. Note that n. at. šak-nu-an-ti would be quite impossible. n or v could be syllabified. In these syllabifiability conflicts, the latter of these sounds wins, but then ŋ would stand immediately before a. Hence, the rule

\[ CuV \rightarrow CuvV \]

is applied and šak-nu-an-ti results.

3. The weak class sign ŋū is often to ŋ 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>ōp</td>
<td>ōp-nu-mas</td>
<td>to obtain</td>
</tr>
<tr>
<td>šak</td>
<td>šak-nu-mas</td>
<td>to be able</td>
</tr>
<tr>
<td>su</td>
<td>su-nu-mas</td>
<td>to press</td>
</tr>
</tbody>
</table>
It is clear that forms like šak-n-mas do not work.

We now turn to some verbs of the 5. class, in particular to

- **su** ("to press") on pp. 159
- **śru** ("to hear") on pp. 160
- **āp** ("to get") on pp. 160
- **aś** ("to get, to enjoy") on pp. 161

**su** ("to press")

We now turn to su ("to press").

<table>
<thead>
<tr>
<th>√su ← ic. *seu, parasmāipada</th>
<th>sg.</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>
<td>present</td>
</tr>
<tr>
<td>2 su-nô-si (1, 6)</td>
<td>su-nu-thas</td>
<td>su-nu-tha</td>
<td>tense</td>
</tr>
<tr>
<td>3 su-nô-lī (1)</td>
<td>su-nu-tas</td>
<td>su-nu-an-li (3)</td>
<td>(prim. end.)</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>
<td>imperfect</td>
</tr>
<tr>
<td>2 a-su-nô-s (1)</td>
<td>a-su-nu-lam</td>
<td>a-su-nu-la</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 a-su-nô-t (1)</td>
<td>a-su-nu-lâm</td>
<td>a-su-nu-an (3)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 su-nav-âni (2)</td>
<td>su-nav-âva (2)</td>
<td>su-nav-âma (2)</td>
<td>imperative</td>
</tr>
<tr>
<td>2 su-nu (5)</td>
<td>su-nu-lam</td>
<td>su-nu-la</td>
<td></td>
</tr>
<tr>
<td>3 su-nô-lu (1)</td>
<td>su-nu-lâm</td>
<td>su-nu-an-lu (3)</td>
<td>(sec. end.)</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).
3. The weak forms before vowel endings are nv (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 parasmāipada 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-nu** ("hear!") versus
   - **āp-nu-hi** ("get!") and **šak-nu-hi** ("be able!")
6. Expected RUKI.
C. Grammar: verbal system

śṛ ("to hear")

Maybe, you like to consult section C.2.5 (p. 83) once again. For the purpose of the following paradigm, we work with śṛ ("to hear") rather than śra. The paradigm for śṛ closely follows the su paradigm above. For the numbers, see under the su table above. Observe, however, cerebralization of the class signs after r.

<table>
<thead>
<tr>
<th></th>
<th>śṛ-ṛ-ṭō-mi (1)</th>
<th>śṛ-r(ā)vas (4)</th>
<th>śṛ-r(ā)-mas (4)</th>
<th>present</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>śṛ-ṛ-ṭō-śi (1, 6)</td>
<td>śṛ-ṛ-ṭu-thas</td>
<td>śṛ-ṛ-ṭu-tha</td>
<td>tense</td>
</tr>
<tr>
<td>3</td>
<td>śṛ-ṛ-ṭō-ti (1)</td>
<td>śṛ-ṛ-ṭu-tas</td>
<td>śṛ-ṛ-ṭu-an-ti (3)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1</td>
<td>a-śṛ-ṛ-ṇav-am (2)</td>
<td>a-śṛ-ṛ-ṇ(ā)-va (4)</td>
<td>a-śṛ-ṛ-ṇ(ā)-ma (4)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2</td>
<td>a-śṛ-ṛ-ṭō-s (1)</td>
<td>a-śṛ-ṛ-ṇu-tam</td>
<td>a-śṛ-ṛ-ṇu-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3</td>
<td>a-śṛ-ṛ-ṭō-t (1)</td>
<td>a-śṛ-ṛ-ṇu-tam</td>
<td>a-śṛ-ṛ-ṇu-an-ti (3)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1</td>
<td>śṛ-ṛ-ṇav-āni (2)</td>
<td>śṛ-ṛ-ṇav-āva (2)</td>
<td>śṛ-ṛ-ṇav-āma (2)</td>
<td>imperative</td>
</tr>
<tr>
<td>2</td>
<td>śṛ-ṛ-ṇu (5)</td>
<td>śṛ-ṛ-ṇu-tam</td>
<td>śṛ-ṛ-ṇu-ta</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>śṛ-ṛ-ṭō-tu (1)</td>
<td>śṛ-ṛ-ṇu-tam</td>
<td>śṛ-ṛ-ṇu-an-tu (3)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

āp ("to get")

And here the somewhat similar paradigm for āp:

<table>
<thead>
<tr>
<th></th>
<th>āp-ṛ-ṭō-mi (1)</th>
<th>āp-r(ā)vas (4)</th>
<th>āp-r(ā)-mas (4)</th>
<th>present</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>āp-ṛ-ṭō-śi (1, 6)</td>
<td>āp-ṛ-ṭu-thas</td>
<td>āp-ṛ-ṭu-tha</td>
<td>tense</td>
</tr>
<tr>
<td>3</td>
<td>āp-ṛ-ṭō-ti (1)</td>
<td>āp-ṛ-ṭu-tas</td>
<td>āp-ṛ-ṭu-an-ti (3)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1</td>
<td>āp-ṛ-ṇav-am (2)</td>
<td>āp-ṛ-ṇ(ā)va (4)</td>
<td>āp-ṛ-ṇ(ā)-ma (4)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2</td>
<td>āp-ṛ-ṭō-s (1)</td>
<td>āp-ṛ-ṇu-tam</td>
<td>āp-ṛ-ṇu-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3</td>
<td>āp-ṛ-ṭō-t (1)</td>
<td>āp-ṛ-ṇu-tam</td>
<td>āp-ṛ-ṇu-an-ti (3)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1</td>
<td>āp-ṛ-ṇav-āni (2)</td>
<td>āp-ṛ-ṇav-āva (2)</td>
<td>āp-ṛ-ṇav-āma (2)</td>
<td>imperative</td>
</tr>
<tr>
<td>2</td>
<td>āp-ṛ-ṇu (5)</td>
<td>āp-ṛ-ṇu-tam</td>
<td>āp-ṛ-ṇu-ta</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>āp-ṛ-ṭō-tu (1)</td>
<td>āp-ṛ-ṇu-tam</td>
<td>āp-ṛ-ṇu-an-tu (3)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. The strong forms have the strong class sign nō 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. B.2.2 for a discussion of the difference between āp-ṛ-ṇu-an-ti here and su-ṛ-ṇu-an-ti above.
4. In contrast to su, there are not alternative forms. Indeed, while āp-ṛ-ṇu-ma is quite transparent, āp-ṛ-ṇ-ma is not (see p. 158).
5. In contrast to su, we witness the (nearly) regular sec. pers. sg. imp. of parasmāī-pada verbs hi.

6. Expected RUKI.

*aš (“to get, to enjoy”)*

We now turn to an ātmanēpada verb:

<table>
<thead>
<tr>
<th>√aš ← ie. *??? ātmanēpada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 aš-nuv-ē (2)</td>
<td>aš-nuv-vahē (1)</td>
<td>aš-nu-mahē (1)</td>
</tr>
<tr>
<td>2 aš-nu-gē (1, 5)</td>
<td>aš-nuv-āthē (2)</td>
<td>aš-nu-dhvē (1)</td>
</tr>
<tr>
<td>3 aš-nu-tē (1)</td>
<td>aš-nuv-ātē (2)</td>
<td>aš-nuv-a-tē (2, 3)</td>
</tr>
<tr>
<td>1 aš-nuv-i (2)</td>
<td>aš-nuv-vahī (1)</td>
<td>aš-nu-mahi (1)</td>
</tr>
<tr>
<td>2 aš-nu-thās (1)</td>
<td>aš-nuv-āthām (2)</td>
<td>aš-nu-dhvām (1)</td>
</tr>
<tr>
<td>3 aš-nu-ta (1)</td>
<td>aš-nuv-ātām (2)</td>
<td>aš-nuv-a-tām (2, 3)</td>
</tr>
<tr>
<td>1 aš-nuv-āi (4)</td>
<td>aš-nuv-ā-vahāi (4)</td>
<td>aš-nuv-ā-mahāi (4)</td>
</tr>
<tr>
<td>2 aš-nuv-va (1, 5)</td>
<td>aš-nuv-āthām (2)</td>
<td>aš-nu-dhvām (1)</td>
</tr>
<tr>
<td>3 aš-nu-tām (1)</td>
<td>aš-nuv-ātām (2)</td>
<td>aš-nuv-a-tām (2, 3)</td>
</tr>
</tbody>
</table>

1. Expectedly, the weak forms before consonantal endings are nu, for example aš-nu-te.

2. The weak forms before vowel endings are nuv, for example aš-nuv-ē. See V+hV (pp. B.2.2).

3. A specific example of nuv before vowel endings is provided by 3. pers. pl. aš-nuv-atē where a goes back to η.  

4. The strong forms like aš-nuv-āi 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. 82). 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>yuñ</td>
<td>yu-na-k-ti</td>
<td>yu-n-ja-mas</td>
<td>162</td>
</tr>
<tr>
<td>rudh</td>
<td>ru-na-d-dhi</td>
<td>ru-n-dh-mas</td>
<td>163</td>
</tr>
<tr>
<td>bhid</td>
<td>bhī-na-t-ti</td>
<td>bhī-n-d-mas</td>
<td>165</td>
</tr>
<tr>
<td>hi-m-s</td>
<td>hi-na-s-ti</td>
<td>hi-m-s-mas</td>
<td>166</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

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* is an exception.

**yuj ("to join")**

O. *yuj* ("to join") and O. *bhuj* ("to protect") follow the same pattern. Here is the parasmāipada paradigm of *yuj* (just replace *y* by *bh* for *bhuj*):

<table>
<thead>
<tr>
<th>√yuj ← ie. ∗yuj, parasmāipada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>yu-na-j-mi (1)</td>
<td>yu-n-j-vas (1)</td>
</tr>
<tr>
<td>2</td>
<td>yu-na-k-ṣi (3)</td>
<td>yu-n-k-thas (3)</td>
</tr>
<tr>
<td>3</td>
<td>yu-na-k-ṭi (3)</td>
<td>yu-n-k-tas (3)</td>
</tr>
</tbody>
</table>

| 1 | a-yu-na-j-am (1) | a-yu-n-j-ra (1) | a-yu-n-j-ma (1) | imperfect |
| 2 | a-yu-na-k (3, 4) | a-yu-n-k-tam (3) | a-yu-n-k-ta (3) |
| 3 | a-yu-na-k (3, 4) | a-yu-n-k-tam (3) | a-yu-n-j-an (3, 5a) | with augm. |

| 1 | yu-na-j-āni (1) | yu-na-j-āva (1) | yu-na-j-āma (1) | imperative |
| 2 | yu-n-g-dhi (2) | yu-n-k-tam (3) | yu-n-k-la (3) |
| 3 | yu-na-k-ṭu (3) | yu-n-k-tam (3) | yu-n-j-an-tu (3, 5a) (sec. end.) |

1. The final *oi* root 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 parasmāipada and ātmanēpada forms. Note, however:

5a. In parasmāipada 3. pers. pl. forms like *yu-n-j-a-n-ti* (paradigm above), we have *an* due to borrowing of *a* from the thematic classes.

5b. In contrast, ātmanēpada forms like *yu-n-j-a-tē* (see below) do without this borrowing and *a* goes back to syllabic *n*: *yu-n-j-a-tē ← ie. ∗yu-n-ĝ-n-toi*.

And here you see the ātmanēpada paradigm where the numbers are explained above:
C.6. Thematic and athematic verbs

<table>
<thead>
<tr>
<th>√yuñ ← ie. *yuŋ, ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  yu-n-j-ē (1)</td>
<td></td>
<td>yu-n-j-vahē (1)</td>
<td>yu-n-j-mahē (1)</td>
</tr>
<tr>
<td>2  yu-n-k-se (3)</td>
<td></td>
<td>yu-n-j-āthē (1)</td>
<td>yu-n-g-dhvē (2)</td>
</tr>
<tr>
<td>3  yu-n-k-tē (3)</td>
<td></td>
<td>yu-n-j-ātē (1)</td>
<td>yu-n-j-a-tē (1, 5b)</td>
</tr>
<tr>
<td>1  a-yu-n-j-i (1)</td>
<td></td>
<td>a-yu-n-j-vahi (1)</td>
<td>a-yu-n-j-mahē (1)</td>
</tr>
<tr>
<td>2  a-yu-n-k-thās (3)</td>
<td></td>
<td>a-yu-n-j-āthām (1)</td>
<td>a-yu-n-g-dhvam (2)</td>
</tr>
<tr>
<td>3  a-yu-n-k-ta (3)</td>
<td></td>
<td>a-yu-n-j-ātām (1)</td>
<td>a-yu-n-j-a-ta (1, 5b)</td>
</tr>
<tr>
<td>1  yu-na-j-āi (1)</td>
<td></td>
<td>yu-na-j-ā-vahāi (1)</td>
<td>yu-na-j-ā-mahāi (1)</td>
</tr>
<tr>
<td>2  yu-n-k-sva (3)</td>
<td></td>
<td>yu-n-j-ā-ḥām (1)</td>
<td>yu-n-g-dhvam (2)</td>
</tr>
<tr>
<td>3  yu-n-k-ṭām (3)</td>
<td></td>
<td>yu-n-j-ā-ṭām (1)</td>
<td>yu-n-j-a-ṭām (1, 5b)</td>
</tr>
</tbody>
</table>

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 parasmāipada paradigm:

<table>
<thead>
<tr>
<th>√rudh ← ie. *??, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  ru-na-dh-mi (3)</td>
<td></td>
<td>ru-n-dh-vas (3)</td>
<td>ru-n-dh-mas (3)</td>
</tr>
<tr>
<td>2  ru-ṇa-t-si (2a)</td>
<td></td>
<td>ru-n-dh-dhas (1b)</td>
<td>ru-n-dh-dha (1b)</td>
</tr>
<tr>
<td>3  ru-na-d-dhi (1a)</td>
<td></td>
<td>ru-n-d-dhas (1a)</td>
<td>ru-n-d-dha (1a)</td>
</tr>
<tr>
<td>1  a-ru-na-dh-am (3)</td>
<td></td>
<td>a-ru-n-dh-va (3)</td>
<td>a-ru-n-dh-ma (3)</td>
</tr>
<tr>
<td>2  a-ru-na-s/ a-ru-ṇa-t (5)</td>
<td></td>
<td>a-ru-n-d-dham (1a)</td>
<td>a-ru-n-d-dha (1a)</td>
</tr>
<tr>
<td>3  a-ru-ṇa-t (5)</td>
<td></td>
<td>a-ru-n-d-dham (1a)</td>
<td>a-ru-n-d-dha (1a)</td>
</tr>
<tr>
<td>1  ru-ṇa-dh-āni (3)</td>
<td></td>
<td>ru-ṇa-dh-āva (3)</td>
<td>ru-ṇa-dh-āma (3)</td>
</tr>
<tr>
<td>2  ru-n-d-dhi (1c)</td>
<td></td>
<td>ru-n-d-dham (1a)</td>
<td>ru-n-d-dha (1a)</td>
</tr>
<tr>
<td>3  ru-ṇa-d-dhu (1a)</td>
<td></td>
<td>ru-n-d-dham (1a)</td>
<td>ru-n-d-dha (1a)</td>
</tr>
</tbody>
</table>

1. Many forms show aspiration shift ASH (pp. 35). In particular, we have three cases:

   1a. dh-t → d-dh (aspiration shift and forward assimilation) is seen in ru-na-d-dhi.

   1b. dh-th → d-dh (forward assimilation, but no double aspiration) is seen in ru-n-d-dhas.

   1c. 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 1b) and tas (case 1a).

2. dh loses its aspiration in these cases:

   2a. before s as in parasmāipada pres. tense 2. pers. sg. ru-ṇa-t-si where
C. Grammar: verbal system

- 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)

2b. before dhv as in ātmanēpada pres. tense 2. pers. pl. ru-n-d-dhvē 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:

- 4a. In parasmāipada 3. pers. pl. forms like ru-n-dh-a-n-ti (paradigm above), we have an due to borrowing of a from the thematic classes.

- 4b. In contrast, ātmanēpada forms like ru-n-dh-a-tē (see below) do without this borrowing and a goes back to syllabic n.

5. We explain the imperfect 3. pers. sg. by

\[ *a-ru-ṇa-dh-t \]
\[ \rightarrow a-ru-na-dh \text{ (CCL)} \]
\[ \rightarrow a-ru-ṇa-t \text{ (AFP)} \]

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:

<table>
<thead>
<tr>
<th>√rudh ← ie. *ṛṛ, ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ru-n-dh-ē (3)</td>
<td>ru-n-dh-vahē (3)</td>
<td>ru-n-dh-mahē (3)</td>
<td>present tense (prim. end.)</td>
</tr>
<tr>
<td>2 ru-n-t-sē (2a)</td>
<td>ru-n-dh-āthē (3)</td>
<td>ru-n-d-dhvē (1c, 2b)</td>
<td></td>
</tr>
<tr>
<td>3 ru-n-d-dhē (1a)</td>
<td>ru-n-dh-ātē (3)</td>
<td>ru-n-dh-a-tē (3, 4b)</td>
<td></td>
</tr>
<tr>
<td>1 a-ru-n-dh-i (3)</td>
<td>a-ru-n-dh-vahi (3)</td>
<td>a-ru-n-dh-mahi (3)</td>
<td>imperfect tense (sec. end.) with augm.</td>
</tr>
<tr>
<td>2 a-ru-n-dhās (1b)</td>
<td>a-ru-n-dh-āthām (3)</td>
<td>a-ru-n-d-dhvam (1c, 2b)</td>
<td></td>
</tr>
<tr>
<td>3 a-ru-n-d-dha (1a)</td>
<td>a-ru-n-dh-ātām (3)</td>
<td>a-ru-n-dh-a-ta (3, 4b)</td>
<td></td>
</tr>
<tr>
<td>1 ru-ṇa-dh-āi (3)</td>
<td>ru-ṇa-dh-āvahi (3)</td>
<td>ru-ṇa-dh-āmahāi (3)</td>
<td>imperfect active (sec. end.)</td>
</tr>
<tr>
<td>2 ru-n-t-svā (2a)</td>
<td>ru-n-dh-āthām (3)</td>
<td>ru-n-d-dhvam (1c, 2b)</td>
<td></td>
</tr>
<tr>
<td>3 ru-n-d-dhām (1a)</td>
<td>ru-n-dh-ātām (3)</td>
<td>ru-n-dh-a-tām (3, 4b)</td>
<td></td>
</tr>
</tbody>
</table>
**bhid** ("to break")

We now turn to **bhid** ("to break"):

<table>
<thead>
<tr>
<th>√bhid ← ie. *bheid, parasmāipada</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sg.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 bhi-na-d-mi (1)</td>
<td>bhi-n-d-vas (1)</td>
<td>bhi-n-d-mas (1)</td>
</tr>
<tr>
<td>2 bhi-na-t-si (3)</td>
<td>bhi-n-d-thas (3)</td>
<td>bhi-n-t-tha (3)</td>
</tr>
<tr>
<td>3 bhi-na-t-ti (3)</td>
<td>bhi-n-t-tas (3)</td>
<td>bhi-n-d-an-ti (1, 5a)</td>
</tr>
<tr>
<td><strong>tense</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 a-bhi-na-d-am (1)</td>
<td>a-bhi-n-d-va (1)</td>
<td>a-bhi-n-d-ma (1)</td>
</tr>
<tr>
<td>2 a-bhi-na-s/a-bhi-na-t (3, 4)</td>
<td>a-bhi-n-t-tam (3)</td>
<td>a-bhi-n-t-ta (3)</td>
</tr>
<tr>
<td>3 a-bhi-na-t (3, 4)</td>
<td>a-bhi-n-t-tam (3)</td>
<td>a-bhi-n-d-an (3, 5a)</td>
</tr>
<tr>
<td><strong>imperfect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 bhi-na-d-ani (1)</td>
<td>bhi-na-d-ava (1)</td>
<td>bhi-na-d-ama (1)</td>
</tr>
<tr>
<td>2 bhi-n-d-dhi (2)</td>
<td>bhi-n-t-tam (3)</td>
<td>bhi-n-t-ta (3)</td>
</tr>
<tr>
<td>3 bhi-na-t-tu (3)</td>
<td>bhi-n-t-tam (3)</td>
<td>bhi-n-d-an-tu (3, 5a)</td>
</tr>
<tr>
<td><strong>imperative</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. The final or. 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 impv. 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**.

5. In 3. pers. pl. forms, we have *a* in both parasmāipada and ātmanēpada forms. Note, however:

5a. In parasmāipada 3. pers. pl. forms like *bhi-n-d-an-ti* (paradigm above), we have *an* due to borrowing of *a* from the thematic classes.

5b. In contrast, ātmanēpada forms like *bhi-n-d-a-tê* (see below) do without this borrowing and *a* goes back to syllabic *η*.

And here you see the ātmanēpada paradigm where the numbers are explained above:
C. Grammar: verbal system

\[ \sqrt{bhid} \leftarrow \text{ie.} \ast \text{bheid, \breve{a}tmanepada} \]

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bhi-n-d-ê (1)</td>
<td>bhi-n-d-vahê (1)</td>
<td>bhi-n-d-mahê (1)</td>
</tr>
<tr>
<td>2</td>
<td>bhi-n-t-sê (3)</td>
<td>bhi-n-d-âthê (1)</td>
<td>bhi-n-d-dhvê (2)</td>
</tr>
<tr>
<td>3</td>
<td>bhi-n-t-tê (3)</td>
<td>bhi-n-d-âtê (1)</td>
<td>bhi-n-d-a-tê (1, 5b)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-bhi-n-d-ê (1)</td>
<td>a-bhi-n-d-vahê (1)</td>
<td>a-bhi-n-d-mahê (1)</td>
</tr>
<tr>
<td>2</td>
<td>a-bhi-n-t-sê (3)</td>
<td>a-bhi-n-d-âthêm (1)</td>
<td>a-bhi-n-d-dhvâm (2)</td>
</tr>
<tr>
<td>3</td>
<td>a-bhi-n-t-tê (3)</td>
<td>a-bhi-n-d-âtêm (1)</td>
<td>a-bhi-n-d-a-tê (1, 5b)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bhi-na-d-âi (1)</td>
<td>bhi-na-d-â-va-hâi (1)</td>
<td>bhi-na-d-â-mahâi (1)</td>
</tr>
<tr>
<td>2</td>
<td>bhi-n-t-sê (3)</td>
<td>bhi-n-d-âthêm (1)</td>
<td>bhi-n-d-dhvâm (2)</td>
</tr>
<tr>
<td>3</td>
<td>bhi-n-t-tê (3)</td>
<td>bhi-n-d-âtêm (1)</td>
<td>bhi-n-d-a-tê (1, 5b)</td>
</tr>
</tbody>
</table>

\( \sqrt{\text{him.s}} \) (“to injure”)

In contrast to the usual convention, \( \sqrt{\text{him.s}} \) (“to injure”) shows the weak nasal sign in the oi. root. We have the strong sign \( \text{n}a \) versus the weak sign \( \text{m} \) (expected sandhi before consonants):

\[ \sqrt{\text{him.s}} \text{ parasmâipada} \]

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>hi-na-s-mi</td>
<td>hims-vas</td>
<td>hims-mas</td>
</tr>
<tr>
<td>2</td>
<td>hi-na-s-si</td>
<td>hims-thas</td>
<td>hims-tha</td>
</tr>
<tr>
<td>3</td>
<td>hi-na-s-ti</td>
<td>hims-tas</td>
<td>hims-an-ti</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-hi-na-s-am</td>
<td>a-hims-vâ</td>
<td>a-hims-mâ</td>
</tr>
<tr>
<td>2</td>
<td>a-hi-na-s/hi-na-t (1)</td>
<td>a-hims-tam</td>
<td>a-hims-ta</td>
</tr>
<tr>
<td>3</td>
<td>a-hi-na-t (1)</td>
<td>a-hims-tâm</td>
<td>a-hims-an</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>hi-na-s-âni</td>
<td>hi-na-s-âva</td>
<td>hi-na-s-âma</td>
</tr>
<tr>
<td>2</td>
<td>hi-n-dhi (2)</td>
<td>hims-tam</td>
<td>hims-ta</td>
</tr>
<tr>
<td>3</td>
<td>hi-n-s-tu</td>
<td>hims-tâm</td>
<td>hims-an-tu</td>
</tr>
</tbody>
</table>

1. We explain the imperfect 2. pers. sg. by

\[ *a-hi-na-s-s \rightarrow a-hi-na-s \text{ (CCL)} \]

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 \( bhid \).

2. The form hi-n-dhi for expected \( *himi-m-s-dhi \) 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. 83. We focus on \( \text{tan} \) (“to stretch, to extend”) on pp. 167. The
C.6. Thematic and athematic verbs

ātmanēpada paradigm of man (“to think, to consider”) is (apart from the first letter) the very same as the ātmanēpada paradigm of tan. In presenting the tan paradigms, we assume the gaṇa signs ō 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. 168.

### tan (“to stretch, to extend”)

We begin with the parasmāipada paradigm of tan (“to stretch, to extend”):

<table>
<thead>
<tr>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 tan-ō-mi</td>
<td>tan-(u)-vas</td>
<td>tan-(u)-mas</td>
<td>present</td>
</tr>
<tr>
<td>2 tan-ō-śi</td>
<td>tan-u-thas</td>
<td>tan-u-tha</td>
<td>tense</td>
</tr>
<tr>
<td>3 tan-ō-li</td>
<td>tan-u-tas</td>
<td>tan-v-an-ti</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1 a-tan-ō-am</td>
<td>a-tan-(u)-va</td>
<td>a-tan-(u)-ma</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 a-tan-ō-s</td>
<td>a-tan-u-tam</td>
<td>a-tan-u-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 a-tan-ō-l</td>
<td>a-tan-u-tām</td>
<td>a-tan-v-an</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 tan-av-āni</td>
<td>tan-av-āva</td>
<td>tan-av-āma</td>
<td>imperative</td>
</tr>
<tr>
<td>2 tan-u</td>
<td>tan-u-tam</td>
<td>tan-u-ta</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 tan-ō-tu</td>
<td>tan-u-tām</td>
<td>tan-v-an-tu</td>
<td></td>
</tr>
</tbody>
</table>

1. The strong forms have the strong class sign ō 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 hV).

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 parasmāipada 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-ṇu.

6. RUKI.

We now turn to the ātmanēpada paradigm:
C. Grammar: verbal system

\[
\begin{array}{|c|c|c|c|}
\hline
 & \text{sg.} & \text{dual} & \text{pl.} \\
\hline
1 & \text{tan-v-ê} (2) & \text{tan-}-(u-)vahê (1, 5) & \text{tan-}-(u-)mahê (1, 5) \\
2 & \text{tan-u-šê} (1, 6) & \text{tan-}v-áthê (2) & \text{tan-}u-dhvê (1) \\
3 & \text{tan-u-šê} (1) & \text{tan-}v-áthê (2) & \text{tan-}v-a-šê (2, 3) \\
1 & \text{a-tan-u-i} (2) & \text{a-tan-}-(u-)vahi (1, 5) & \text{a-tan-}-(u-)mahî (1, 5) \\
2 & \text{a-tan-u-thâs} (1) & \text{a-tan-}v-áthâm (2) & \text{a-tan-}u-dhvâm (1) \\
3 & \text{a-tan-u-la} (1) & \text{a-tan-}v-áthâm (2) & \text{a-tan-}v-a-la (2, 3) \\
\hline
\end{array}
\]

1. Expectedly, the weak forms before consonants are \( u \), for example \( \text{tan-u-šê} \).
2. The weak forms before vowels are \( \text{tan-v-ê} \) and \( \text{a-tan-u-i} \).
3. Other examples of \( v \) before vowel endings are provided by 3. pers. pl. \( \text{tan-v-atê} \) etc. where \( a \) goes back to \( n \).
4. The strong forms have the class sign \( \text{av} \) before vowel endings (see \text{DIPH} ), for example \( \text{tan-av-âi} \).
5. In the four weak forms with \( m \) and \( v \) endings, we alternatively have no class sign instead of class sign \( a \), similar to some verbs from the 5. class (\( s\text{-n(u)-mas} \)).
6. RUKI

\textit{kr} (“to do, to make”)

The paradigms for \textit{kr} (“to do, to make”) differ somewhat from the nasal verbs like \textit{tan} (or \textit{man}):

\[
\begin{array}{|c|c|c|c|}
\hline
 & \text{sg.} & \text{dual} & \text{pl.} \\
\hline
1 & \text{kar-ô-mi} (1a) & \text{kur-vas} (3) & \text{kur-mas} (3) \\
2 & \text{kar-ô-gi} (1a, 5) & \text{kur-u-thas} & \text{kur-u-tha} \\
3 & \text{kar-ô-li} (1a) & \text{kur-u-tas} & \text{kur-}v-an-ti (2) \\
1 & \text{a-tan-av-âm} (1b) & \text{a-kur-va} (3) & \text{a-kur-ma} (3) \\
2 & \text{a-kar-ô-s} (1a) & \text{a-kur-}u-tam & \text{a-kur-}u-ta \\
3 & \text{a-kar-ô-t} (1a) & \text{a-kur-}u-tam & \text{a-kur-}v-an (2) \\
1 & \text{kar-av-âni} (1b) & \text{kar-av-âva} (1b) & \text{kar-av-âma} (1b) \\
2 & \text{kar-ô} (4) & \text{kur-}u-tam & \text{kur-}u-ta \\
3 & \text{kar-ô-}tu (1a) & \text{kur-}u-tam & \text{kur-}v-an-tu (2) \\
\hline
\end{array}
\]

1. The strong forms use the full-grade \textit{kar}. That is different from the other verbs like \textit{tan} that, originally, is build on the zero grade (see, again, pp. 83). The class sign
C.6. Thematic and athematic verbs

1a. \( \delta \) before consonant endings.

1b. \( av \) 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,
   - \( \diamond \) for \( tan \), we have \( tan-vas \) besides \( tan-u-vas \)
   - \( \diamond \) 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 \( \hat{a} \)tnanêpada paradigm:

<table>
<thead>
<tr>
<th></th>
<th>dual</th>
<th>pl.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>( \sqrt{kr} ) ← ie. *ker??, ( \hat{a} )tnanêpada</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sg.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>( kur-v-ê ) (2)</td>
<td>( kur-vahê ) (1, 5)</td>
<td>present</td>
</tr>
<tr>
<td>2</td>
<td>( kur-u-se ) (1, 6)</td>
<td>( kur-v-âthê ) (2)</td>
<td>tense</td>
</tr>
<tr>
<td>3</td>
<td>( kur-u-tê ) (1)</td>
<td>( kur-v-âtê ) (2)</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>( a-kur-v-i ) (2)</td>
<td>( a-kur-vahî ) (1, 5)</td>
<td>imperfect</td>
</tr>
<tr>
<td>2</td>
<td>( a-kur-a-thas ) (1)</td>
<td>( a-kur-v-âthâm ) (2)</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3</td>
<td>( a-kur-u-ta ) (1)</td>
<td>( a-kur-v-âtâm ) (2)</td>
<td>with augm.</td>
</tr>
<tr>
<td>1</td>
<td>( kur-av-âi ) (4)</td>
<td>( kur-av-â-vahâi ) (4)</td>
<td>imper.</td>
</tr>
<tr>
<td>2</td>
<td>( kur-u-sea ) (1, 6)</td>
<td>( a-kur-v-âthâm ) (2)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>( kur-u-tam ) (1)</td>
<td>( a-kur-v-âtâm ) (2)</td>
<td>(sec. end.)</td>
</tr>
</tbody>
</table>

1. Expectedly, the weak forms before consonants are \( u \), for example \( kur-u-tê \).

2. The weak forms before vowels are \( kur-v-ê \), as expected.

3. Forms like 3. pers. pl. \( kur-v-atê \) exhibit \( a \) ← \( \delta \).

4. The strong forms have the class sign \( av \) before vowel endings (see DIPH), for example \( kar-av-âi \).

5. In the four weak forms with \( m \) and \( v \) endings, we see the zero class sign, exclusively.

6. RUKI
## C. Grammar: verbal system

### C.6.8. The ninth class

#### Introductory remark and overview

The class signs for the 9. class are \( nā \) (strong forms) and \( ni \) (weak forms). Revisit pp. 82. Since both class signs end in a vowel, the forms do not present any particular difficulties. Consider the parasmāipada paradigm of \( pū \) ("to purify"):

<table>
<thead>
<tr>
<th>( \sqrt{pū} ) ← ie. *( puH ), parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ( pu-nā-mi )</td>
<td>( pu-nī-vas )</td>
<td>( pu-nī-mas )</td>
<td>present</td>
</tr>
<tr>
<td>2 ( pu-nā-si )</td>
<td>( pu-nī-thas )</td>
<td>( pu-nī-tha )</td>
<td>tense</td>
</tr>
<tr>
<td>3 ( pu-nā-li )</td>
<td>( pu-nī-tas )</td>
<td>( pu-n-an-ti (3) )</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1 ( a-pu-nā-m ) (1)</td>
<td>( a-pu-nī-va )</td>
<td>( a-pu-nī-ma )</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 ( a-pu-nā-s )</td>
<td>( a-pu-nī-tam )</td>
<td>( a-pu-nī-la )</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 ( a-pu-nā-l )</td>
<td>( a-pu-nī-lām )</td>
<td>( a-pu-n-an (3) )</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 ( pu-nā-i (2) )</td>
<td>( pu-nā-vā (2) )</td>
<td>( pu-nā-mā (2) )</td>
<td>imperative</td>
</tr>
<tr>
<td>2 ( pu-nī-hi (4) )</td>
<td>( pu-nī-tam )</td>
<td>( pu-nī-la )</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 ( pu-nā-tu )</td>
<td>( pu-nī-tām )</td>
<td>( pu-n-an-tu (3) )</td>
<td></td>
</tr>
</tbody>
</table>

1. We have \( a-pu-nā-m \): no borrowing of \( a \) from the thematic verbs necessary.
2. Also not difficult are forms like \( pu-nā-i \).
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.
4. Observe imperative \( pu-nī-hi \) instead of *\( pu-nī-dhi \).

The ātmanēpada paradigm is not spectacular, either:

<table>
<thead>
<tr>
<th>( \sqrt{pū} ) ← ie. *( puH ), ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ( pu-n-ē (1) )</td>
<td>( pu-nī-vahē )</td>
<td>( pu-nī-mahē )</td>
<td>present</td>
</tr>
<tr>
<td>2 ( pu-nī-sē (6) )</td>
<td>( pu-nī-āthē (2) )</td>
<td>( pu-nī-dhvē )</td>
<td>tense</td>
</tr>
<tr>
<td>3 ( pu-nī-tē )</td>
<td>( pu-n-ātē (2) )</td>
<td>( pu-n-a-tē (3) )</td>
<td>(prim. end.)</td>
</tr>
<tr>
<td>1 ( a-pu-n-ī (4) )</td>
<td>( a-pu-nī-vahi )</td>
<td>( a-pu-nī-mahi )</td>
<td>imperfect</td>
</tr>
<tr>
<td>2 ( a-pu-nī-thas )</td>
<td>( a-pu-n-āthagam )</td>
<td>( a-pu-n-ī-dhwam )</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 ( a-pu-nī-ta )</td>
<td>( a-pu-n-ātam )</td>
<td>( a-pu-n-a-ta (3) )</td>
<td>with augm.</td>
</tr>
<tr>
<td>1 ( pu-nā-dī (2) )</td>
<td>( pu-nā-vahā (2) )</td>
<td>( pu-nā-mahā (2) )</td>
<td>imperative</td>
</tr>
<tr>
<td>2 ( pu-nī-sa (5) )</td>
<td>( a-pu-n-āthagam (2) )</td>
<td>( pu-nī-dhwam )</td>
<td>(sec. end.)</td>
</tr>
<tr>
<td>3 ( pu-nī-tām )</td>
<td>( a-pu-n-ātam (2) )</td>
<td>( pu-n-a-tām (3) )</td>
<td></td>
</tr>
</tbody>
</table>

1. The weak class sign \( nī \) is not present in \( pu-n-ē \).
2. In contrast, forms like \( pu-n-āthē \) are easy to understand.
3. The 3. pers. pl. forms (example: *pu-n-an-ti) have been modelled on the many other athematic forms like *duh-a-tê (2. class) or *kur-v-atê (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**

Verbs like krī (“to buy”) or prī are formed similar to pū, with two exceptions:

- cerebral ń (due to CERN, pp. 10) in all class signs: krī-ṇā-ti and krī-ṇī-mas
- irregular ī in forms with weak or strong class sign:

<table>
<thead>
<tr>
<th>√/krī ← ie. *kreih₂, parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 krī-ṇā-mi</td>
<td>krī-ṇī-vas</td>
<td>krī-ṇī-mas</td>
<td>present tense (prim. end.)</td>
</tr>
<tr>
<td>2 krī-ṇā-si</td>
<td>krī-ṇī-thas</td>
<td>krī-ṇī-tha</td>
<td></td>
</tr>
<tr>
<td>3 krī-ṇā-ti</td>
<td>krī-ṇī-tas</td>
<td>krī-ṇī-ṇi-ti</td>
<td></td>
</tr>
<tr>
<td>1 a-krī-ṇā-m</td>
<td>a-krī-ṇi-va</td>
<td>a-krī-ṇi-ma</td>
<td>imperfect (sec. end.)</td>
</tr>
<tr>
<td>2 krī-ṇā-s</td>
<td>a-krī-ṇi-tam</td>
<td>a-krī-ṇi-ta</td>
<td></td>
</tr>
<tr>
<td>3 krī-ṇā-t</td>
<td>a-krī-ṇi-tām</td>
<td>a-krī-ṇī-an</td>
<td></td>
</tr>
<tr>
<td>1 krī-ṇā-āni</td>
<td>krī-ṇā-āva</td>
<td>krī-ṇā-āma</td>
<td>imperative (sec. end.)</td>
</tr>
<tr>
<td>2 krī-ṇā-ti</td>
<td>krī-ṇī-tam</td>
<td>krī-ṇī-ta</td>
<td></td>
</tr>
<tr>
<td>3 krī-ṇā-tu</td>
<td>krī-ṇī-tām</td>
<td>krī-ṇa-tu</td>
<td></td>
</tr>
</tbody>
</table>

Many other verbs differ only with respect to parasmāipada 2. pers. impv.:

<table>
<thead>
<tr>
<th>√</th>
<th>pres. tense 3. pers. sg.</th>
<th>impv., 2. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>aś (f.g.)</td>
<td>aś-nā-ti</td>
<td>aś-āna</td>
<td>eat!</td>
</tr>
<tr>
<td>kliś</td>
<td>kliś-nā-ti</td>
<td>kliś-āna</td>
<td>torment!</td>
</tr>
<tr>
<td>gr ah (f.g.)</td>
<td>grh-nā-ti</td>
<td>grh-āna</td>
<td>grab!</td>
</tr>
<tr>
<td>puṣ</td>
<td>puṣ-ṇā-ti</td>
<td>puṣ-āna</td>
<td>strengthen!</td>
</tr>
<tr>
<td>bandh (f.g.)</td>
<td>badh-nā-ti</td>
<td>badh-āna</td>
<td>bind!</td>
</tr>
<tr>
<td>muṣ</td>
<td>muṣ-ṇā-ti</td>
<td>muṣ-āna</td>
<td>rob!</td>
</tr>
<tr>
<td>stambh (f.g.)</td>
<td>stabh-nā-ti</td>
<td>stabh-āna</td>
<td>support!</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.
C. Grammar: verbal system

Reduplication for the perfect works similar to that of 3. class verbs (p. 151). Interestingly, the parasmâipada 3. pers. pl. is us

◊ for reduplicative perfect such as da-d-us as also
◊ for imperfect of 3. class verbs, for example a-da-d-us (see p. 151)

Typically, the initial consonant plus $a \leftarrow$ 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.

C.7.2. Strong forms

Qualitative ablaut

We begin with the strong forms. They are build with the qualitative ablaut, the o-grade, i.e., we have

◊ ie. o $\rightarrow$ oi. a
◊ ie. oi $\rightarrow$ oi. ê
◊ ie. ou $\rightarrow$ oi. ô

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>dviś</td>
<td>di-dvês-a (2)</td>
</tr>
<tr>
<td></td>
<td>lih</td>
<td>li-lêh-a</td>
</tr>
<tr>
<td></td>
<td>viś</td>
<td>vi-vêś-a</td>
</tr>
<tr>
<td>ie. ou</td>
<td>tud</td>
<td>tu-tô d-a</td>
</tr>
<tr>
<td></td>
<td>yuj</td>
<td>yu-yôj-a</td>
</tr>
<tr>
<td></td>
<td>rud</td>
<td>ru-rôd-a</td>
</tr>
</tbody>
</table>

1. *ba-bandh-a* is regular reduplicated perfect with reduplication vowel $a$.

2. In *di-dvês-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-cchêd-a (sandhi)</td>
<td>to cut</td>
</tr>
<tr>
<td>bhid</td>
<td>bi-bhêd-a</td>
<td>to split</td>
</tr>
</tbody>
</table>
C.7. Reduplicative perfect

Brugmann’s law

Remember Brugmann’s law Lo:

\[ \text{Lo } \quad \text{oi. } oRV \rightarrow \text{oi. } âRV \]

In the above examples, this law was not applied. For example, o in \(^*bhi-bhoid-a\) 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>√</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>tan (f.g.)</td>
<td>ta-län-a</td>
<td>to stretch</td>
</tr>
<tr>
<td>dah (f.g.)</td>
<td>da-dâh-a</td>
<td>to burn</td>
</tr>
<tr>
<td>nas (f.g.)</td>
<td>na-nâs-a</td>
<td>to perish</td>
</tr>
<tr>
<td>pat (f.g.)</td>
<td>pa-pât-a</td>
<td>to fall</td>
</tr>
<tr>
<td>bhaj (f.g.)</td>
<td>ba-bhâj-a (DA)</td>
<td>to worship</td>
</tr>
<tr>
<td>bhr</td>
<td>ba-bhâr-a (DA)</td>
<td>to bear</td>
</tr>
<tr>
<td>vyadh (f.g.)</td>
<td>vi-vyâdh-a</td>
<td>to pierce</td>
</tr>
<tr>
<td>sap (f.g.)</td>
<td>ša-šâp-a</td>
<td>to curse</td>
</tr>
<tr>
<td>sru</td>
<td>su-šrâv-a</td>
<td>to hear</td>
</tr>
<tr>
<td>su</td>
<td>su-šâv-a (RUKI)</td>
<td>to press</td>
</tr>
<tr>
<td>svap (f.g.)</td>
<td>su-švâp-a (RUKI)</td>
<td>to sleep</td>
</tr>
</tbody>
</table>

In the 1. pers. sg., the syllable is not open so that Lo does not apply (pp. 32).

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>√</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>iy-āj-a (V+hV, Lo)</td>
<td>to go</td>
</tr>
<tr>
<td>is</td>
<td>iy-és-a (V+hV)</td>
<td>to wish</td>
</tr>
<tr>
<td>yaj (f.g.)</td>
<td>i-yâj-a (Lo)</td>
<td>to sacrifice</td>
</tr>
<tr>
<td>vac (f.g.)</td>
<td>u-vâc-a (Lo)</td>
<td>to say</td>
</tr>
<tr>
<td>vad (f.g.)</td>
<td>u-vâd-a (Lo)</td>
<td>to say</td>
</tr>
<tr>
<td>vap (f.g.)</td>
<td>u-vâp-a (Lo)</td>
<td>to sow</td>
</tr>
<tr>
<td>vas (f.g.)</td>
<td>u-vâs-a (Lo)</td>
<td>to dwell</td>
</tr>
<tr>
<td>vah (f.g.)</td>
<td>u-vâh-a (Lo)</td>
<td>to carry</td>
</tr>
</tbody>
</table>

Root with initial vowels a or ā (there may have been a laryngeal before the vowel) reduplicate with a so that ā is the expected sandhi result:
C. Grammar: verbal system

<table>
<thead>
<tr>
<th>full grade</th>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>aš</td>
<td>āš-a</td>
<td>to eat</td>
</tr>
<tr>
<td>as</td>
<td>āš-a</td>
<td>to be</td>
</tr>
<tr>
<td>ah</td>
<td>āh-a</td>
<td>to say</td>
</tr>
<tr>
<td>āp</td>
<td>āp-a</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.

In some forms, we observe primary palatalization. For hu (“to sacrifice”), we have

\[
\text{ie. } *\bar{\text{ghu}}-\text{ghou-e} \quad \text{(reduplication, O-grade)} \\
\rightarrow \quad \bar{\text{ju}}-\text{ghou-e} \quad \text{(DA)} \\
\rightarrow \quad \text{ju-}h\text{ou-e} \quad \text{(PPAL, hV)} \\
\rightarrow \quad \text{ju-}h\text{av-a} \quad \text{(Lo, A \AA )}
\]

Similarly,

<table>
<thead>
<tr>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{has}</td>
<td>\text{ja-h\text{`a}s-a}</td>
</tr>
<tr>
<td>\text{hr} (f.g.)</td>
<td>\text{ja-h\text{`a}r-a}</td>
</tr>
</tbody>
</table>

You may have noticed that secondary palatalization of the root-final is intact in the perfect forms, for example yu-yôj-a or u-vāc-a. The perfect ending ā goes back to a light vowel ie. e (see fig. 3.2, p. 35). For the root-initial consonant, secondary palatalization happens for the reduplication consonants i and a ← ie. e (!). For han (“to hit”), we find

\[
\text{ie. } *\text{g}^w\text{he-}g^w\text{hon-e} \quad \text{(reduplication, O-grade)} \\
\rightarrow \quad g^w\text{e-}g^w\text{hon-e} \quad \text{(DA)} \\
\rightarrow \quad \text{je-}gh\text{on-e} \quad \text{(SPAL)} \\
\rightarrow \quad \text{ja-}gh\text{\`a}n-a \quad \text{(Lo, A \AA )}
\]

Similarly, consider

<table>
<thead>
<tr>
<th>perfect, 3. pers. sg.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{kr}</td>
<td>\text{ca-k\text{`a}r-a} ← ie. } \text{*k}^w\text{e-k}^w\text{or-e}</td>
</tr>
<tr>
<td>\text{kr}</td>
<td>\text{ca-k\text{`a}r-t-a}</td>
</tr>
<tr>
<td>\text{kśip}</td>
<td>\text{ci-k\text{`e}p-a}</td>
</tr>
<tr>
<td>\text{khan} (f.g.)</td>
<td>\text{ca-kh\text{`a}n-a} for correct ca-kh\text{`a}n-a (1)</td>
</tr>
<tr>
<td>\text{qam} (f.g.)</td>
<td>\text{ja-g\text{`a}m-a} ← ie. } \text{*q}^w\text{e-q}^w\text{om-e}</td>
</tr>
<tr>
<td>\text{ji}</td>
<td>\text{ji-g\text{`a}y-a} ← ie. } \text{*ghi-gh\text{`o}y-e}</td>
</tr>
</tbody>
</table>

1. Alas, khan is a laryngeal root, i.e., ie. *khe-nH (see PPP k\text{\`a}nta, p. 107). Hence, ca-kh\text{\`a}n-a ← ie. *khe-kh\text{\`a}nH-e does not work because syllable kh\text{\`a}nH ends in two consonants and is not open so that Lo does not apply.
C.7. Reduplicative perfect

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>krudḥ</td>
<td>cu-krôdh-a</td>
<td>to be angry</td>
</tr>
<tr>
<td>ksāubh</td>
<td>cu-ksôbh-a</td>
<td>to be agitated</td>
</tr>
</tbody>
</table>

Here, we have proportional analogy, for example

<table>
<thead>
<tr>
<th>ksīp</th>
<th>with palatal reduplication:</th>
<th>ci-kśēp-a</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ksāubh</td>
<td>with palatal reduplication:</td>
<td>cu-ksôbh-a</td>
</tr>
</tbody>
</table>

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-pa-a ← ie. *pu-pouH-e</td>
<td>to clean</td>
</tr>
<tr>
<td>bhā</td>
<td>bi-bhāy-a</td>
<td>bi-bhay-a ← ie. *bhā-bhoiH-e</td>
<td>to fear</td>
</tr>
<tr>
<td>bhū</td>
<td>ba-bhūv-a</td>
<td>bu-bhav-a ← ie. *bhū-bhouH-e</td>
<td>to be</td>
</tr>
</tbody>
</table>

where neither the i.e. o-grade roots pouH nor bhoiH is open. On top, ba-bhūv-a exhibits irregular reduplication vowel.

Note also a few (laryngeal!) verbs with 3. pers. sg. ending āu and irregular weak forms:

<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>jñā</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>

Irregularly, 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:
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>ksip</td>
<td>ci-ksēp-a</td>
<td>ci-ksip-us</td>
<td>to throw</td>
</tr>
<tr>
<td>chid</td>
<td>ci-oczēd-a (sandhi)</td>
<td>ci-oczid-us (sandhi)</td>
<td>to cut</td>
</tr>
<tr>
<td>jī</td>
<td>jī-ghāy-a</td>
<td>jī-ghy-us (hV)</td>
<td>to conquer</td>
</tr>
<tr>
<td>dvīs</td>
<td>di-dvēs-a</td>
<td>di-dvēs-us</td>
<td>to hate</td>
</tr>
<tr>
<td>bhid</td>
<td>bi-bhēd-a</td>
<td>bi-bhid-us</td>
<td>to split</td>
</tr>
<tr>
<td>līh</td>
<td>li-lēh-a</td>
<td>li-līh-us</td>
<td>to lick</td>
</tr>
<tr>
<td>viś</td>
<td>vi-vēś-a</td>
<td>vi-viś-us</td>
<td>to cut</td>
</tr>
<tr>
<td>vyadh (f.g.)</td>
<td>vi-vyādha</td>
<td>vi-vyādha-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-krōdh-a</td>
<td>cu-krudh-us</td>
<td>to be angry</td>
</tr>
<tr>
<td>kṣubh</td>
<td>cu-kṣōbh-a</td>
<td>cu-kṣubh-us</td>
<td>to be agitated</td>
</tr>
<tr>
<td>tud</td>
<td>tu-tōd-a</td>
<td>tu-tud-us</td>
<td>to hit</td>
</tr>
<tr>
<td>yuj</td>
<td>yu-yōj-a</td>
<td>yu-yuj-us</td>
<td>to join</td>
</tr>
<tr>
<td>rud</td>
<td>ru-rōd-a</td>
<td>ru-rud-us</td>
<td>to weep</td>
</tr>
<tr>
<td>śru</td>
<td>śu-śrav-a</td>
<td>śu-śrav-us (V+hV)</td>
<td>to hear</td>
</tr>
<tr>
<td>su</td>
<td>su-sāv-a (RUKI)</td>
<td>su-suv-us (RUKI, V+hV)</td>
<td>to press</td>
</tr>
<tr>
<td>svap (f.g.)</td>
<td>su-svāp-a (RUKI)</td>
<td>su-svāp-us (RUKI)</td>
<td>to sleep</td>
</tr>
</tbody>
</table>

Finally, here are some examples for roots without halfvowels:

<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>kṛ</td>
<td>ca-kār-a</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</td>
<td>ja-gam-us</td>
<td>to go</td>
</tr>
<tr>
<td>bhr</td>
<td>ba-bhār-a</td>
<td>ba-bhr-us</td>
<td>to bear</td>
</tr>
<tr>
<td>hr (f.g.)</td>
<td>ja-hār-a</td>
<td>ja-hr-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>kṛt</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</td>
<td>ja-hās-a</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 ṭ or ū, respectively (MVS).
C.7. Reduplicative perfect

<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>i</td>
<td>iy-āy-a</td>
<td>iy-us</td>
<td>to go</td>
</tr>
<tr>
<td>is</td>
<td>iy-ēs-a</td>
<td>īs-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>ūc-us</td>
<td>to say</td>
</tr>
<tr>
<td>vad (f.g.)</td>
<td>u-vād-a</td>
<td>ūd-us</td>
<td>to say</td>
</tr>
<tr>
<td>vap (f.g.)</td>
<td>u-vāp-a</td>
<td>ūp-us</td>
<td>to sow</td>
</tr>
<tr>
<td>vas (f.g.)</td>
<td>u-vās-a</td>
<td>ūs-us</td>
<td>to dwell</td>
</tr>
<tr>
<td>vah (f.g.)</td>
<td>u-vāh-a</td>
<td>ūh-us</td>
<td>to carry</td>
</tr>
</tbody>
</table>

Similarly, one obtains ā in āp-us from ūr. root āp (“to obtain”) ← ie. *h₁ep by

\[
\text{ie. } *h₁e-h₁p- \text{ (reduplication, zero grade)} \rightarrow \text{āp- (LAR)}
\]

In contrast, there are no good excuses for ā in these other examples:

<table>
<thead>
<tr>
<th>√ full grade</th>
<th>perfect, 3. pers. sg.</th>
<th>perfect, 3. pers. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>aś</td>
<td>āś-a</td>
<td>āś-us (“wrong”)</td>
<td>to eat</td>
</tr>
<tr>
<td>as</td>
<td>āś-a</td>
<td>āś-us (“wrong”)</td>
<td>to be</td>
</tr>
<tr>
<td>ah</td>
<td>āh-a</td>
<td>āh-us (“wrong”)</td>
<td>to say</td>
</tr>
<tr>
<td>āp</td>
<td>āp-a</td>
<td>āp-us</td>
<td>to obtain</td>
</tr>
</tbody>
</table>

**Perfect with ē**

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-naś-a</td>
<td>nēś-us</td>
<td></td>
<td>to perish</td>
</tr>
<tr>
<td>pat</td>
<td>pa-pat-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-ē</td>
<td></td>
<td>to think</td>
</tr>
<tr>
<td>yat</td>
<td></td>
<td>yēt-ē</td>
<td></td>
<td>to exert</td>
</tr>
<tr>
<td>ram</td>
<td></td>
<td>rēm-ē</td>
<td></td>
<td>to enjoy</td>
</tr>
<tr>
<td>labh</td>
<td></td>
<td>lēbh-ē</td>
<td></td>
<td>to obtain</td>
</tr>
<tr>
<td>sap</td>
<td>sa-sap-a</td>
<td>sēp-us</td>
<td></td>
<td>to curse</td>
</tr>
<tr>
<td>sād</td>
<td>sa-sād-a</td>
<td>sēd-us</td>
<td></td>
<td>to sit</td>
</tr>
</tbody>
</table>

However, reduplication is indeed present in sad and yat:

\[
\text{ie. } *se-sd- \text{ (reduplication, zero grade)} \rightarrow \text{sa-zd- (AĀ, SZ before voiced consonant)} \rightarrow \text{sēd- (COMLz perhaps before consonant + i)}
\]
C. Grammar: verbal system

and

\[ \text{ie. } \ast \text{ye-}it- \text{ (reduplication, zero grade)} \]
\[ \rightarrow \text{yet- (DIPH)} \]

The other examples cannot be derived in this manner. Here, proportional analogy does the trick. For example,

| \text{sad} | \text{with } \hat{e} \text{ instead of reduplication: } s\hat{e}d-\text{us} |
| \text{just as} |
| \text{pat} | \text{with } \hat{e} \text{ instead of reduplication: } \hat{p}et-\text{us} |

C.7.4. Conjugation

Some parasmâipada forms use secondary endings, some ātmanēpada forms primary ones. For \textit{tud} ("to hit"), we have

\[ \sqrt{tud} \leftarrow \text{ie. } \ast \text{??} \]

<table>
<thead>
<tr>
<th>\text{perfect parasmâipada}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{sg.}</td>
</tr>
<tr>
<td>\text{tu-tōd-} (1)</td>
</tr>
<tr>
<td>\text{tu-tōd-i-tha} (1)</td>
</tr>
<tr>
<td>\text{tu-tōd-} (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>\text{perfect ātmanēpada}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{sg.}</td>
</tr>
<tr>
<td>\text{tu-tud-} (3)</td>
</tr>
<tr>
<td>\text{tu-tud-i-tha} (3)</td>
</tr>
<tr>
<td>\text{tu-tud-} (3)</td>
</tr>
</tbody>
</table>

1. Strong forms in parasmâipada sg., as expected.

2. Compare the perfect forms with the imperfect ones: \textit{a-bhar-ā-ma} and \textit{a-bhar-ā-va}.

3. Compare present tense \textit{bhar-ē} and \textit{bhar-ā-sê}.

4. Compare present tense \textit{bhar-ā-mahê} and \textit{bhar-ā-vahê}.

5. Compare present tense \textit{bhar-ā-dhvê}.

6. Compare present tense \textit{bhar-ē-thê} and \textit{bhar-ē-tê}.

The conjugation for \textit{tud} is similar to the one for \textit{dā} ("to give") with the notable exception of 1. and 3. pers. sg.:

\[ \sqrt{dā} \leftarrow \text{ie. } \ast \text{??} \]

<table>
<thead>
<tr>
<th>\text{perfect parasmâipada}</th>
<th>\text{perfect ātmanēpada}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{sg.}</td>
<td>\text{dual}</td>
</tr>
<tr>
<td>\text{da-d-ā} (!)</td>
<td>da-d-i-va</td>
</tr>
<tr>
<td>\text{da-d-i-tha}</td>
<td>da-d-a-thus</td>
</tr>
<tr>
<td>\text{da-d-ā} (!)</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:

<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>diš</td>
<td>a</td>
<td>dik</td>
<td>s</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>sigmatic s</td>
<td>yuj</td>
<td>a</td>
<td>yāuk</td>
<td>s</td>
<td>i-t</td>
<td></td>
<td></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>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>thematic</td>
<td>yuj</td>
<td>a-yuj-a-t</td>
<td>a-yuj-a-n</td>
<td>179</td>
</tr>
<tr>
<td>reduplicated</td>
<td>pat</td>
<td>a-pa-pt-a-t</td>
<td>a-pa-pt-a-n</td>
<td>180</td>
</tr>
<tr>
<td>root</td>
<td>bhū</td>
<td>a-bhū-t</td>
<td>a-bhū-an</td>
<td>180</td>
</tr>
<tr>
<td>sigmatic s</td>
<td>yuj</td>
<td>a-yāuk-s-ī-t</td>
<td>a-yāuk-s-us</td>
<td>183</td>
</tr>
<tr>
<td>sigmatic sa</td>
<td>diš</td>
<td>a-dik-š-a-t</td>
<td>a-dik-š-a-n</td>
<td>181</td>
</tr>
<tr>
<td>is</td>
<td>vad</td>
<td>a-vad-ī-t</td>
<td>a-vad-īs-us</td>
<td>181</td>
</tr>
<tr>
<td>sis</td>
<td>snā</td>
<td>a-snā-ī-t</td>
<td>a-snā-sis-us</td>
<td>182</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:

<table>
<thead>
<tr>
<th>√/lubh ← ie. *leubh, aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 a-lubh-a-m</td>
<td>a-lubh-ā-va</td>
<td>a-lubh-ā-ma</td>
<td></td>
</tr>
<tr>
<td>2 a-lubh-a-s</td>
<td>a-lubh-ā-tam</td>
<td>a-lubh-ā-ta</td>
<td></td>
</tr>
<tr>
<td>3 a-lubh-a-t</td>
<td>a-lubh-ā-tām</td>
<td>a-lubh-ā-n</td>
<td></td>
</tr>
</tbody>
</table>

The endings are exactly the thematic secondary parasmāipada ones (p. 129).
C. Grammar: verbal system

C.8.3. Reduplicated aorist

The reduplicated aorist is formed by this formula:

\[
\text{augment} + \text{reduplicated zero-grade root} + \text{a} + \text{ending}
\]

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>a</td>
<td>ca</td>
<td>kath</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>pat</td>
<td>a</td>
<td>pa</td>
<td>pt</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>vac</td>
<td>a</td>
<td>va</td>
<td>uc</td>
<td>a</td>
<td>t</td>
<td></td>
</tr>
</tbody>
</table>

where the last aorist is \(a-vôc-a-t\) (MVS).

Here the parasmāipada paradigm for \(muc\) that shows difficult lengthening of the reduplication syllable:

<table>
<thead>
<tr>
<th>(\sqrt{\text{muc}}), aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (a-\text{mū}-\text{muc-a-m})</td>
<td>(a-\text{mū}-\text{muc-ā-va})</td>
<td>(a-\text{mū}-\text{muc-ā-ma})</td>
<td></td>
</tr>
<tr>
<td>2 (a-\text{mū}-\text{muc-a-s})</td>
<td>(a-\text{mū}-\text{muc-a-tam})</td>
<td>(a-\text{mū}-\text{muc-a-ta})</td>
<td></td>
</tr>
<tr>
<td>3 (a-\text{mū}-\text{muc-a-t})</td>
<td>(a-\text{mū}-\text{muc-a-tām})</td>
<td>(a-\text{mū}-\text{muc-a-n})</td>
<td></td>
</tr>
</tbody>
</table>

In the following ātmanēpada paradigm for \(vac\), we have the thematic secondary ātmanēpada endings (p. 131):

<table>
<thead>
<tr>
<th>(\sqrt{\text{vac}}), aorist ātmanēpada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (a-vôc-ē)</td>
<td>(a-vôc-ā-vahi)</td>
<td>(a-vôc-ā-mahi)</td>
<td></td>
</tr>
<tr>
<td>2 (a-vôc-a-thās)</td>
<td>(a-vôc-ēthām)</td>
<td>(a-vôc-a-dhvaṃ)</td>
<td></td>
</tr>
<tr>
<td>3 (a-vôc-a-t)</td>
<td>(a-vôc-ētām)</td>
<td>(a-vôc-a-n-ta)</td>
<td></td>
</tr>
</tbody>
</table>

You need to replace \(vôc\) by \(mū-\text{muc}\) if you want to know the ātmanēpada for \(muc\).

C.8.4. Root aorist

The root aorist obeys the simple formula of

\[
\text{augment} + \text{zero-grade root} + \text{ending}
\]

Again three examples for the 3. sg.:

<table>
<thead>
<tr>
<th>root aorist</th>
<th>√</th>
<th>augm.</th>
<th>root</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>dā</td>
<td>a</td>
<td>dā</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>bhū</td>
<td>a</td>
<td>bhū</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>sthā</td>
<td>a</td>
<td>sthā</td>
<td>t</td>
<td></td>
</tr>
</tbody>
</table>

We begin with the parasmāipada for \(dā\):
C.8. Aorist

<table>
<thead>
<tr>
<th>√dā, aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-dā-m</td>
<td>a-dā-va</td>
<td>a-dā-ma</td>
</tr>
<tr>
<td>2</td>
<td>a-dā-s</td>
<td>a-dā-tam</td>
<td>a-dā-ta</td>
</tr>
<tr>
<td>3</td>
<td>a-dā-t</td>
<td>a-dā-tām</td>
<td>a-dā-au</td>
</tr>
</tbody>
</table>

As observed, on p. 134 secondary athematic endings often have the variant us in 3. pers. pl.. This is the case here, also. After dā, "dā-us" and hence "dūs" 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 134), we obtain (more or less, but not totally in line with V+hV) expected bhūv:

<table>
<thead>
<tr>
<th>√bhū, aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-bhū-am</td>
<td>a-bhū-va</td>
<td>a-bhū-ma</td>
</tr>
<tr>
<td>2</td>
<td>a-bhū-s</td>
<td>a-bhū-tam</td>
<td>a-bhū-ta</td>
</tr>
<tr>
<td>3</td>
<td>a-bhū-t</td>
<td>a-bhū-tām</td>
<td>a-bhū-an</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,

\[
\begin{array}{cccc}
\text{sa-aorist} & \sqrt{} & \text{augm.} & \text{root} & \text{infix} & \text{them. vow.} & \text{end.} \\
\text{diā} & a & dik & ş & a & t \\
\text{dviā} & a & dvik (SIBs) & ş & a & t \\
\text{viā} & a & vik & ş & a & t \\
\end{array}
\]

The endings are again the expected ones. The parasmāipada paradigm for diā is given by

<table>
<thead>
<tr>
<th>√diā, aorist parasmāipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a-dik-ş-a-m</td>
<td>a-dik-ş-ā-va</td>
<td>a-dik-ş-ā-ma</td>
</tr>
<tr>
<td>2</td>
<td>a-dik-ş-a-s</td>
<td>a-dik-ş-a-tam</td>
<td>a-dik-ş-a-ta</td>
</tr>
<tr>
<td>3</td>
<td>a-dik-ş-a-t</td>
<td>a-dik-ş-a-tām</td>
<td>a-dik-ş-a-n</td>
</tr>
</tbody>
</table>

C.8.6. Sigmatic aorist with is

We now turn to the is-aorist which is not thematic:

\[ \text{augment} + \text{full-grade root} + \text{is} + \text{ending} \]

Originally, is has been used in set verbs, but this formation spread to other verbs, similar to the future tense. For example,
C. Grammar: verbal system

where the first entry is āśiṣṭa.

The īṣ-aorist has a peculiar 2. sg.. Consider, for example,

<table>
<thead>
<tr>
<th>īṣ-aorist</th>
<th>augm.</th>
<th>root</th>
<th>infix</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>āṣ (ātm.)</td>
<td>a</td>
<td>āṣ</td>
<td>īṣ</td>
<td>ta</td>
</tr>
<tr>
<td>kamp (ātm.)</td>
<td>a</td>
<td>kamp</td>
<td>īṣ</td>
<td>ta</td>
</tr>
<tr>
<td>krt (par.)</td>
<td>a</td>
<td>kart</td>
<td>ī</td>
<td>t</td>
</tr>
<tr>
<td>granth (par.)</td>
<td>a</td>
<td>granth</td>
<td>ī</td>
<td>t</td>
</tr>
<tr>
<td>tan (par.)</td>
<td>a</td>
<td>tan</td>
<td>ī</td>
<td>t</td>
</tr>
<tr>
<td>mud (ātm.)</td>
<td>a</td>
<td>mōd</td>
<td>īṣ</td>
<td>ta</td>
</tr>
<tr>
<td>rud (par.)</td>
<td>a</td>
<td>rōd</td>
<td>ī</td>
<td>t</td>
</tr>
</tbody>
</table>


In general, the endings are the athematic secondary ones. Note, however:

1. a-bōdh-īs is best explained by a-bōdh-is-s plus compensatory lengthening of i for simplified ss → s.

2. Building on the 2. sg., the 3. sg. a-bōdh-īt results from leveling:

<table>
<thead>
<tr>
<th>a-bōdh-īs-t</th>
<th>influenced by a-bōdh-īs-</th>
<th>with ī plus secondary ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>turns into</td>
<td>a-bōdh-īt</td>
<td>with ī plus secondary ending</td>
</tr>
</tbody>
</table>

These two singular forms with “ī plus secondary ending” are also used in the two remaining aorists (see the two following subsections).

3. CERD

4. The alternative ending us (instead of (a)n) is used in the 3. pl.

C.8.7. Sigmatic aorist with siṣ

A few 2. class roots ending in ā use the siṣ-aorist and obey this formula:

augment + root + siṣ + ending

We have these examples:

<table>
<thead>
<tr>
<th>siṣ-aorist</th>
<th>augm.</th>
<th>root</th>
<th>infix</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>pā</td>
<td>a</td>
<td>pā</td>
<td>ī</td>
<td>t</td>
</tr>
<tr>
<td>yā</td>
<td>a</td>
<td>yā</td>
<td>ī</td>
<td>t</td>
</tr>
<tr>
<td>snā</td>
<td>a</td>
<td>snā</td>
<td>ī</td>
<td>t</td>
</tr>
</tbody>
</table>
The infix siṣ is not clearly visible in these sg. forms. Compare, however, the budh paradigm above. Here, then, siṣ (rather than ī) plus par. secondary ending lead to forms like a-yā-sī-t where we might expect *a-yā-siṣ-t. Perhaps, we have compensatory lengthening in a-yā-sī-t? With these remarks, the paradigm for yā is transparent:

<table>
<thead>
<tr>
<th>yā, aorist parasmāipada</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg.</td>
<td>dual</td>
<td>pl.</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>a-yā-siṣ-am</td>
<td>a-yā-siṣ-va</td>
<td>a-yā-siṣ-ma</td>
</tr>
<tr>
<td>2</td>
<td>a-yā-sī-s</td>
<td>a-yā-siṣ-tam</td>
<td>a-yā-siṣ-ta</td>
</tr>
<tr>
<td>3</td>
<td>a-yā-sī-t</td>
<td>a-yā-siṣ-tām</td>
<td>a-yā-siṣ-us</td>
</tr>
</tbody>
</table>

C.8.8. Sigmatic aorist with s

Finally, we turn to the s-aorist which is not thematic:

augment + lengthened root + s + ending

We have these examples:

<table>
<thead>
<tr>
<th>s-aorist</th>
<th>augm.</th>
<th>root</th>
<th>infix</th>
<th>end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>a</td>
<td>kār</td>
<td>s (2)</td>
<td>us</td>
</tr>
<tr>
<td>banḍh</td>
<td>a</td>
<td>bhaṅt (4)</td>
<td>s</td>
<td>us</td>
</tr>
<tr>
<td>bhaj</td>
<td>a</td>
<td>bhaṅk (1)</td>
<td>s (2)</td>
<td>us</td>
</tr>
<tr>
<td>tap</td>
<td>a</td>
<td>tāp</td>
<td>s</td>
<td>us</td>
</tr>
<tr>
<td>yuj</td>
<td>a</td>
<td>yāuk (1)</td>
<td>s (2)</td>
<td>us</td>
</tr>
<tr>
<td>vas</td>
<td>a</td>
<td>vāṭ (3)</td>
<td>s</td>
<td>us</td>
</tr>
<tr>
<td>vah</td>
<td>a</td>
<td>vāk (1)</td>
<td>s (2)</td>
<td>us</td>
</tr>
<tr>
<td>šap</td>
<td>a</td>
<td>šāp</td>
<td>s</td>
<td>us</td>
</tr>
</tbody>
</table>

1. s is voiceless so that we have expected backward assimilation. k in a-vāk-ṣ-us is due to ie. *vegh.

2. **RUKI** after r or k

3. **SIBs**, similar to future tense vat-sy-a-ti.

4. a-bhaṅt-s-us is explained along the same lines as bhōṭ-sy-ati (see p. 36).

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-ṣī-t</td>
<td>a-kār-ṣ-us</td>
</tr>
<tr>
<td>banḍh</td>
<td>a-bhaṅt-ṣī-t</td>
<td>a-bhaṅt-ṣ-us</td>
</tr>
<tr>
<td>bhaj</td>
<td>a-bhaṅk-ṣī-t</td>
<td>a-bhaṅk-ṣ-us</td>
</tr>
<tr>
<td>tap</td>
<td>a-tāp-ṣī-t</td>
<td>a-tāp-ṣ-us</td>
</tr>
<tr>
<td>yuj</td>
<td>a-yāuk-ṣī-t</td>
<td>a-yāuk-ṣ-us</td>
</tr>
<tr>
<td>vas</td>
<td>a-vāṭ-ṣī-t</td>
<td>a-vāṭ-ṣ-us</td>
</tr>
<tr>
<td>vah</td>
<td>a-vāk-ṣī-t</td>
<td>a-vāk-ṣ-us</td>
</tr>
<tr>
<td>šap</td>
<td>a-šāp-ṣī-t</td>
<td>a-šāp-ṣ-us</td>
</tr>
</tbody>
</table>
C. Grammar: verbal system

The difference between sg. and pl. is explained by the *i*- and *si*-aorists presented above. The speakers came to consider ʔ as a possible “thematic vowel” for the two sg. forms and applied them here, were a-yâuk-s-t would have produced *a-yâuk by CCL.

The parasmaiipada paradigm for kr is now easy:

<table>
<thead>
<tr>
<th>√kr, aorist parasmaiipada</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 a-kâr-ṣ-am</td>
<td>a-kâr-ṣ-va</td>
<td>a-kâr-ṣ-ma</td>
<td></td>
</tr>
<tr>
<td>2 a-kâr-ṣī-s</td>
<td>a-kâr-ṣ-tam</td>
<td>a-kâr-ṣ-ta</td>
<td></td>
</tr>
<tr>
<td>3 a-kâr-ṣī-t</td>
<td>a-kâr-ṣ-tâm</td>
<td>a-kâr-ṣ-us</td>
<td></td>
</tr>
</tbody>
</table>

The ātmanēpada forms for šap are

<table>
<thead>
<tr>
<th>√šap, 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-āsthām</td>
<td>a-śap-dhvam (1)</td>
<td></td>
</tr>
<tr>
<td>3 a-śap-ta (1)</td>
<td>a-śap-s-āṭām</td>
<td>a-śap-s-a-ta (2)</td>
<td></td>
</tr>
</tbody>
</table>

1. Between consonants, the aorist marker s is lost. This is similar to the sound law DzD where s is regularly lost between voiceless dentals. The concrete sound law is unclear.

2. The athematic ending 3. pl. is regularly a-ta from ie. m-to (or later analogy from similar cases).
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>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>them. nouns</td>
<td>a consonant</td>
<td>yes</td>
<td>as</td>
<td>as</td>
<td>ām</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a vowel V</td>
<td>no</td>
<td>Vn (1)</td>
<td>Vs</td>
<td>Vnām (2)</td>
<td></td>
</tr>
</tbody>
</table>

1.  \( Vn \leftarrow Vns \) (COMLs)

2.  \( Vnām \leftarrow VHnōm \) (LAR)

It also seems that the feminine singular endings are characterized by

<table>
<thead>
<tr>
<th></th>
<th>athem. nouns</th>
<th>dative</th>
<th>abl./gen.</th>
<th>locative</th>
</tr>
</thead>
<tbody>
<tr>
<td>them. nouns</td>
<td>ē</td>
<td>as</td>
<td>āi</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”)
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#### masculine / feminine

<table>
<thead>
<tr>
<th>Case</th>
<th>sing.</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>nominative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vocative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accusative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### neuter

<table>
<thead>
<tr>
<th>Case</th>
<th>sing.</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>nominative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vocative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accusative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure D.1.: Strong forms in consonant-final nouns
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

◇ a-stems
  • dēva which is m. by the convention for citing nouns given in subsection A.6, p. 7
  • 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 dhēnu

◇ ī-stems such as nadī

◇ āu-stems such as camā

D.1.5. In-between nouns

r-stems, such as

◇ m. agent nouns, such as nē-tar (“leader”)

◇ kinship nouns, such as pitar (“father”) or mātar (“mother”)

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>them. nouns</td>
<td>pitar</td>
<td>yes</td>
<td>pitṝṇ</td>
<td>māṝṇ</td>
<td>pitṝṇām</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>nom.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>-bhyām</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>-bhyām</td>
<td>-bhyās</td>
<td></td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>-bhyām</td>
<td>-bhyās</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>-ōs</td>
<td>-ām</td>
<td></td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>-ōs</td>
<td>-su</td>
<td></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 NVA**

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

### jagat n. (“world”) case | sg. | dual | pl. |
--- | --- | --- | --- |
nom. | jagat | jagat-i (1) | jagati-i |
voc. | jagat | jagat-i | jagati-i |
acc. | jagat | jagat-i | jagati-i |
instr. | jagat-a | jagad-bhyām | jagad-bhis |

or

### vana n. (“forest”) case | sg. | dual | pl. |
--- | --- | --- | --- |
nom. | van-a-m | van-ē (1) | van-āni |
voc. | van-a-m | van-ē | van-āni |
acc. | van-a-m | van-ē | van-āni |
instr. | van-a-ya | van-ā-bhyām | vanāis |

1. ṭ is typical for dual NVA. Compare *jagati* with *vanē ← vana-ī* (MVS).

**s in masculine and feminine nominative singular**

Originally, s was the old ie. marker for m. and f. nom. sg. When this s was joined to a final consonant, we often observe compensatory lengthening (sound law COMLs). 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. *gīr*

Unfortunately, this model does not always work:

- *gach-ant-s* → oi. *gach-an* (CCL)
- *rāj-an-s* → oi. *rājā*
- *yōg-in-s* → oi. *yōgī*
**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. *tvaji*
- **stem mad, pers. pronoun ("I")** with loc. sg. *mayi*
- **(stem) manas, n. ("mind")** with loc. sg. *manas-i* where
  - "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. *marut-i*
- **stem rāj-an, m. ("king")** with loc. sg. *rāj-ī* or *rāj-an-i*
- **stem hast-in, m. ("elephant")** with loc. sg. *hast-in-i*

In the a-declension m. or n., we apply **MVS** and find

- **dēv-a ("god")** with loc. sg. *dēv-ē ← *dēv-a-i*
- **van-a-m ("forest")** with loc. sg. *van-ē ← *van-a-i*

**Locative singular with āu**

āu occurs less often. Consider the m. nouns

- **stem gur-ā, m. ("teacher")** with loc. sg. *gur-āu*
- **stem mat-ī, f. ("mind")** with loc. sg. *mat-āu* (and also with *-y-ām*)
- **stem mun-ī, m. ("wise man")** with loc. sg. *mun-āu*
- **stem pat-ī, m. ("husband")** with loc. sg. *pat-y-āu*
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Locative singular with ām

Feminine nouns tend to exhibit loc. ending ām:

- (stem) *nad-*ī, f. (“river”) with loc. sg. *nad-y-ām*
- (stem) *lat-ā*, f. (“vine”) with loc. sg. *lat-ā-y-ām*
- stem *vadh-ū*, f. (“bride”) with loc. sg. *vadh-v-ām*

Some f. nouns on *i* and *ū* take the ending from the feminine in long vowels, i.e., from *vadh-ū/nad-ī*:

- (stem) *dhên-u*, f. (“cow”) with loc. sg. *dhên-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) *dhên-u*, f. (“cow”) with loc. sg. *dhên-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. *yuśmā-su*
- (stem) *nad-ī*, f. (“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-su*
- (stem) *manas*, n. (“mind”) with loc. pl. *manas-su/manah-śu*
- (stem) *marut*, m. (“wind”) with loc. pl. *marat-su*
- 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*, f. (“vine”) with loc. pl. *lat-ā-śu*
- stem *vadh-ū*, f. (“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.2.4. Genitive plural

There are two different gen. forms:

\[ \text{ām} \] for athematic nouns

\[ \text{nām} \] for thematic nouns including those on r. Since nām lengthens the thematic vowels, nām may go back to ie. Hnām (LAR).

Thus, we have the athematic gen. plurals:

- (stem) manas, n. (“mind”) with gen. pl. manas-ām
- (stem) marut, m. (“wind”) with gen. pl. marut-ām
- stem rāj-an, m. (“king”) with gen. pl. rāj-ūnām with forward assimilation
- stem hast-in, m. (“elephant”) with gen. pl. hast-in-ām

and the thematic gen. plurals

- (stem) guru, m. (“teacher”) with gen. pl. guru-ūnām
- stem deva (“god”) with gen. pl. dev-ūnām
- (stem) nad-ī, f. (“river”) with gen. pl. nad-īnām (where ī is long anyway)
- stem pat-ī, m. (“husband”) with gen. pl. pat-īnām
- stem mat-ī f. (“mind”) with gen. pl. mat-ūnām
- stem mun-ī, m. (“wise man”) with gen. pl. mun-ūnām
- (stem) lat-ā, f. (“vine”) with gen. pl. lat-ānām (where ā is long anyway)
- stem vadh-ū, f. (“bride”) with gen. pl. vadh-ūnām (where ū is long anyway)
- van-a-m (“forest”) with gen. pl. van-ānām

Pronouns are often different:

- stem tad, 3. pers. pronoun (“he, she, that”) with gen. pl.
  - tēsām, n.
  - tēsām m. und n.

- stem tvad, pers. pronoun (“you”) with gen. pl. yuśmā-kam

- stem mad, pers. pronoun (“I”) with gen. pl. asmā-kam
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D.2.5. Accusatives with *m*

For the m. nouns, observe

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>thematic</td>
<td>athematic</td>
</tr>
<tr>
<td>nom.</td>
<td>*-o-s → -a-s</td>
<td>*-s → ∅</td>
</tr>
<tr>
<td>example</td>
<td>dêv-a-s (1)</td>
<td>marut (1)</td>
</tr>
<tr>
<td>acc.</td>
<td>*-o-m → -a-m</td>
<td>analogy</td>
</tr>
<tr>
<td>example</td>
<td>dêv-a-m (2)</td>
<td>marut-am (2)</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 dêv-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

<table>
<thead>
<tr>
<th>vâl-a-s (“wind”)</th>
<th>with acc. sg.:</th>
<th>vâl-am</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
<td></td>
</tr>
<tr>
<td>marut (“wind”)</td>
<td>with acc. sg.:</td>
<td>marut-am</td>
</tr>
</tbody>
</table>

3. The nom. pl. forms can be explained by

\[
\text{marut-as} \leftarrow \text{stem} + \text{ie. pl. marker e} + \text{ie. nom. marker s}
\]

\[
\text{dêv-âs} \leftarrow \text{stem} + \text{ie. them. o} + \text{ie. pl. marker e} + \text{ie. nom. marker s}
\]

4. The acc. pl. forms are derived by

\[
\text{marut-as} \leftarrow \text{stem} + \text{ie. acc. marker n} + \text{ie. pl. marker s}
\]

\[
\text{dêv-ân} \leftarrow \text{stem} + \text{ie. them. o} + \text{ie. acc. marker n} + \text{ie. pl. marker s}
\]

where *-ons → -ân follows from COMLs. Note that the *s is still present in the sandhi rule described on p. 38.

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 a-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. 199
- an-stems like m. rāj-an ("name"), n. nām-an ("name"), and n. karm-an ("deed") on pp. 206
- in-stems like yōg-in ("yogi") and tapas-vin ("ascetic") on pp. 209
- m. nouns like nē-tar ("leader") on pp. 210
- kinship nouns like pitar ("father") and mātar ("mother") on pp. 212
- stems in long diphthongs like rāy ("wealth") and gūv ("moon") on pp. 213
- f. ī- and ē- stems like nādī ("river"), vadhū ("bride"), bhū ("earth"), dhī ("intellect"), and strī ("woman") together with the two m. (!) compounds su-dhī ("intelligent") and prati-bhū ("guarantor") on pp. 214
- i- and u- stems like m. muni ("wise man"), f. mati ("mind"), m. guru ("teacher"), f. dhēnu ("cow"), n. madh-u ("honey") and pati ("husband") on pp. 218
- n. r.- stems like gant-r on pp. 223

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>marut</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>marut (1)</td>
<td>marut-āu (9)</td>
<td>marut-as (6, 7)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>marut (2)</td>
<td>marut-āu (9)</td>
<td>marut-as (6, 7)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>marut-am (3)</td>
<td>marut-āu (9)</td>
<td>marut-as (6, 7)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>marut-ā (4)</td>
<td>marut-bhīm (10, 11)</td>
<td>marud-bhīs (10, 12)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>marut-ē (5)</td>
<td>marut-bhīm (10, 11)</td>
<td>marud-bhīs (10, 11)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>marut-as (6)</td>
<td>marut-bhīm (10, 11)</td>
<td>marud-bhīs (10, 11)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>marut-as (6)</td>
<td>marut-ōs (11)</td>
<td>marut-ām (11)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>marut-i (8)</td>
<td>marut-ōs (11)</td>
<td>marut-su (11)</td>
<td></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 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 \( a\) 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. marut-as forms, see pp. \( 192 \).

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 (\( dēv-āu \)) and most personal pronouns like \( t-āu \), sarv-\( āu \).

10. \( t \) is made voiced before voiced \( b \) in some dual and pl. cases.

11. Some forms shown in marut are seen in every declension whatsoever (p. \( 187 \)):
   - dual instr. through abl. \( bhāyām \)
   - dual gen. and loc. \( ās \)
   - pl. dat. and abl. \( bhāyas \)
   - pl. loc. \( sū \)
   - gen. \( ām \) (for athematic nouns, while \( nām \) is seen in thematic ones as in \( dēvānām \))

12. \( bhīs \) is very typical for instr. pl. for any kind of declensions. (However, m. and n. \( a \)-declension use \( ās \) instead, see \( dēv-ās \), van-\( ās \). The same holds for most personal pronouns where \( t-ās \), sarv-\( ās \) are both m. and n.)

The 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>marut</td>
<td>paśu-gup</td>
<td>paśu-gup</td>
<td>paśu-gub-bhīs</td>
<td>protector of animals</td>
</tr>
<tr>
<td>sarit</td>
<td>sarit</td>
<td>sarid-bhīs</td>
<td></td>
<td>river</td>
</tr>
<tr>
<td>sarva-śak</td>
<td>sarva-śak</td>
<td>sarva-śag-bhīs</td>
<td></td>
<td>all-rounder</td>
</tr>
</tbody>
</table>
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>nom.</td>
<td>manas (1)</td>
<td>manas-ि (2)</td>
<td>manāṁs-ि (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>manas (1)</td>
<td>manas-ि (2)</td>
<td>manāṁs-ि (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>manas (1)</td>
<td>manas-ि (2)</td>
<td>manāṁs-ि (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>manas-ा (2)</td>
<td>mano-bhyāṁ (4)</td>
<td>mano-bhīs (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>manas-े (2)</td>
<td>mano-bhyāṁ (4)</td>
<td>mano-bhīyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>manas-स (2)</td>
<td>mano-bhyāṁ (4)</td>
<td>mano-bhīyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>manas-स (2)</td>
<td>manas-ोs (2)</td>
<td>manas-ām (2)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>manas-ि (2)</td>
<td>manas-ोs (2)</td>
<td>manas-su/manah-su (5)</td>
<td></td>
</tr>
</tbody>
</table>

1. The stem *manas* serves as NVA singular.
2. Building on the stem, many forms follow the *marut* pattern (p. 193).
3. NVA pl. is special.
4. The sandhi rule applied is similar to **COMLz**, but note that the change is not a word-final one.
5. Two sandhi variants.

<table>
<thead>
<tr>
<th>havis n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>havis (1)</td>
<td>haviś-ि (2)</td>
<td>havīṅs-ि (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>havis (1)</td>
<td>haviś-ि (2)</td>
<td>havīṅs-ि (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>havis (1)</td>
<td>haviś-ि (2)</td>
<td>havīṅs-ि (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>haviś-ा (2)</td>
<td>havir-bhyāṁ (4)</td>
<td>havir-bhīs (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>haviś-े (2)</td>
<td>havir-bhyāṁ (4)</td>
<td>havir-bhīyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>haviś-स (2)</td>
<td>havir-bhyāṁ (4)</td>
<td>havir-bhīyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>haviś-स (2)</td>
<td>haviś-ोs (2)</td>
<td>haviś-ām (2)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>haviś-ि (2)</td>
<td>haviś-ोs (2)</td>
<td>haviś-su/havih-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. 193). **RUKI**.
3. NVA pl. is special, compare *manāṁs-ि*. **RUKI**
4. Sound law sz.
5. Two sandhi variants.
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>āgus</td>
<td>nom.</td>
<td>āgus (1)</td>
<td>āgus-ī (2)</td>
<td>āgūṁs-ī (3)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>āgus (1)</td>
<td>āgus-ī (2)</td>
<td>āgūṁs-ī (3)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>āgus (1)</td>
<td>āgus-ī (2)</td>
<td>āgūṁs-ī (3)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>āgūṁ-ā (2)</td>
<td>āgūṁ-bhyām (4)</td>
<td>āgūṁ-bhis (4)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>āgūṁ-ē (2)</td>
<td>āgūṁ-bhyām (4)</td>
<td>āgūṁ-bhya (4)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>āgūṁ-as (2)</td>
<td>āgūṁ-bhyām (4)</td>
<td>āgūṁ-bhya (4)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>āgūṁ-as (2)</td>
<td>āgūṁ-ōs (2)</td>
<td>āgūṁ-ām (2)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>haviṁs-i (2)</td>
<td>āgūṁ-ōs (2)</td>
<td>āgūṁ-su (3)</td>
</tr>
</tbody>
</table>

1. The stem āgus serves as NVA singular.

2. Most forms follow the haviṁs pattern above.

3. NVA pl. is special, compare haviṁs-i.

4. Sound law sz.

Restrictions on word-final consonants (AFP)

According to AFP (pp. 42), the following word-final consonants are disallowed:

- ◇ voiced stops
- ◇ aspirated stops
- ◇ palatals c (a stop) and ś
- ◇ aspirate h

Mostly, the “closest” unvoiced and unaspirated stop is taken instead. Since c is disallowed, it is changed into k or ā instead, and so are j, ś, 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></td>
<td>nom.</td>
<td>samrāṭ (2)</td>
<td>samrāṭ-ā (1)</td>
<td>samrāṭ-as (1)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>samrāṭ (2)</td>
<td>samrāṭ-ā (1)</td>
<td>samrāṭ-as (1)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>samrāj-am (1)</td>
<td>samrāj-ā (1)</td>
<td>samrāj-as (1)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>samrāj-ā (1)</td>
<td>samrād-bhyām (3)</td>
<td>samrād-bhis (3)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>samrāj-ē (1)</td>
<td>samrād-bhya (3)</td>
<td>samrād-bhya (3)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>samrāj-as (1)</td>
<td>samrād-bhyām (3)</td>
<td>samrād-bhya (3)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>samrāj-as (1)</td>
<td>samrāj-ōs (1)</td>
<td>samrāj-ām (1)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>samrāj-ī (1)</td>
<td>samrāj-ōs (1)</td>
<td>samrāl-su (3)</td>
</tr>
</tbody>
</table>

1. The stem samrāj occurs before the vowel endings.
D.3. Nouns: weak and strong forms

2. Unvoiced samrāt is seen in word-final position (nom. and voc. sg.).

3. Samrāṣ-bhyām and samrāṣ-su seem instances of backward assimilation, but not from the stem samrāj, but rather from nom. samrāt. In particular, we should not expect samrūṣ-su from samrāṣ-su which would turn into n.at. samrāk-su by SIBs.

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-āu (1)</td>
<td>vāc-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>vāk  (2)</td>
<td>vāc-āu (1)</td>
<td>vāc-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>vāc-am (1)</td>
<td>vāc-āu (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-bhīṣ (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>vāc-ē (1)</td>
<td>vāg-bhyām (3)</td>
<td>vāg-bhīṣas (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>vāc-as (1)</td>
<td>vāg-bhyām (3)</td>
<td>vāg-bhīṣas (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>vāc-ōs (1)</td>
<td>vāc-ōs (1)</td>
<td>vāc-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>vāc-i (1)</td>
<td>vāc-ōs (1)</td>
<td>vāc-ōs (1)</td>
<td>vāc-ṣu (4)</td>
</tr>
</tbody>
</table>

1. The stem vāc is l.gr. from vac ← ie. vek°°. By SPAL or levelling, one finds vāc before vowel endings (some of which have to be light vowel endings).

2. Regularly, AFP leads to vāk in absolute final position.

3. Backwardly assimilated ṣ before voiced endings.

4. BA and RIKI

Along similar lines, AFP implies

<table>
<thead>
<tr>
<th>with c → k</th>
<th>stem</th>
<th>nom. sg.</th>
<th>instr. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>rc</td>
<td>vrc</td>
<td>vrc-bhīṣ</td>
<td>hymn, verse</td>
<td></td>
</tr>
<tr>
<td>tvac</td>
<td>tvak</td>
<td>tvak-bhīṣ</td>
<td>skin</td>
<td></td>
</tr>
<tr>
<td>Śuc</td>
<td>Śuk</td>
<td>Śuk-bhīṣ</td>
<td>grief</td>
<td></td>
</tr>
<tr>
<td>with j → k</td>
<td>vanij</td>
<td>vanij-bhīṣ</td>
<td>merchant</td>
<td></td>
</tr>
<tr>
<td>bhiṣaj</td>
<td>bhiṣak</td>
<td>bhiṣag-bhīṣ</td>
<td>doctor</td>
<td></td>
</tr>
<tr>
<td>with ś → k</td>
<td>dīś</td>
<td>dīk-bhīṣ</td>
<td>direction</td>
<td></td>
</tr>
</tbody>
</table>

and

<table>
<thead>
<tr>
<th>with d → t</th>
<th>stem</th>
<th>nom. sg.</th>
<th>instr. pl.</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dṛṣad</td>
<td>dṛṣat</td>
<td>dṛṣad-bhīṣ</td>
<td>stone</td>
<td></td>
</tr>
<tr>
<td>vēda-vid</td>
<td>vēda-vit</td>
<td>vēda-vid-bhīṣ</td>
<td>Veda knower</td>
<td></td>
</tr>
<tr>
<td>with ś/s/h → t</td>
<td>dvīṣ</td>
<td>dvīt</td>
<td>dvīt-bhīṣ</td>
<td>enemy</td>
</tr>
<tr>
<td>pari-vṛāj</td>
<td>pari-vṛāt</td>
<td>pari-vṛāg-bhīṣ</td>
<td>mendicant</td>
<td></td>
</tr>
<tr>
<td>prā-ṛṣ</td>
<td>prā-ṛṭ</td>
<td>prā-ṛṇg-bhīṣ</td>
<td>rain period</td>
<td></td>
</tr>
<tr>
<td>madhu-lih</td>
<td>madhu-liṭ</td>
<td>madhu-liṅ-bhīṣ</td>
<td>honey sucker</td>
<td></td>
</tr>
<tr>
<td>viś</td>
<td>viṭ</td>
<td>viṭ-bhīṣ</td>
<td>merchant-caste person</td>
<td></td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

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. 98. Examples are provided by kāma-duh f. (“wish-granting cow”) or a-budh m. (“fool”). The first one yields

<table>
<thead>
<tr>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>kāma-duh-ā (2, 3)</td>
<td>kāma-duh-āu (1)</td>
<td>kāma-duh-as (1)</td>
</tr>
<tr>
<td>voc.</td>
<td>kāma-duh (2, 3)</td>
<td>kāma-duh-ā (1)</td>
<td>kāma-duh-as (1)</td>
</tr>
<tr>
<td>acc.</td>
<td>kāma-duh-am (1)</td>
<td>kāma-duh-ā (1)</td>
<td>kāma-duh-as (1)</td>
</tr>
<tr>
<td>instr.</td>
<td>kāma-duh-ā (1)</td>
<td>k.-dhuhip-yām (2, 4)</td>
<td>k.-dhuhip-bhis (2, 4)</td>
</tr>
<tr>
<td>dat.</td>
<td>kāma-duh-ē (1)</td>
<td>k.-dhuhip-yām (2, 4)</td>
<td>k.-dhuhip-bhyas (2, 4)</td>
</tr>
<tr>
<td>abl.</td>
<td>kāma-duh-as (1)</td>
<td>k.-dhuhip-yām (2, 4)</td>
<td>k.-dhuhip-bhyas (2, 4)</td>
</tr>
<tr>
<td>gen.</td>
<td>kāma-duh-ās (1)</td>
<td>kāma-duh-ās (1)</td>
<td>kāma-duh-ām (1)</td>
</tr>
<tr>
<td>loc.</td>
<td>kāma-duh-i (1)</td>
<td>kāma-duh-ās (1)</td>
<td>kāma-duh-ṣu (2, 5)</td>
</tr>
</tbody>
</table>

1. By DA, we obtain the stem kāma-duh where the second part originates from ie. *dheugh (h due to SPAL before light 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 plays a role, we obtain

<table>
<thead>
<tr>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>a-bhut (2, 3)</td>
<td>a-bhud-ā (1)</td>
<td>a-bhud-as (1)</td>
</tr>
<tr>
<td>voc.</td>
<td>a-bhut (2, 3)</td>
<td>a-bhud-ā (1)</td>
<td>a-bhud-as (1)</td>
</tr>
<tr>
<td>acc.</td>
<td>a-bhud-am (1)</td>
<td>a-bhud-ā (1)</td>
<td>a-bhud-as (1)</td>
</tr>
<tr>
<td>instr.</td>
<td>a-bhud-ā (1)</td>
<td>a-bhud-bhyām (2, 4)</td>
<td>a-bhud-bhis (2, 4)</td>
</tr>
<tr>
<td>dat.</td>
<td>a-bhud-ē (1)</td>
<td>a-bhud-bhyām (2, 4)</td>
<td>a-bhud-bhyas (2, 4)</td>
</tr>
<tr>
<td>abl.</td>
<td>a-bhud-as (1)</td>
<td>a-bhud-bhyām (2, 4)</td>
<td>a-bhud-bhyas (2, 4)</td>
</tr>
<tr>
<td>gen.</td>
<td>a-bhud-ās (1)</td>
<td>a-bhud-ās (1)</td>
<td>a-bhud-ām (1)</td>
</tr>
<tr>
<td>loc.</td>
<td>a-bhud-i (1)</td>
<td>a-bhud-ās (1)</td>
<td>a-bhud-su (2, 5)</td>
</tr>
</tbody>
</table>

1. By DA, we obtain the stem a-budh where the second part originates from ie. *bhewdh.

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)
D.3. Nouns: weak and strong forms

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 \( bala-vant \) ("he who has strength") below. The strong-weak alternation concerns the suffix. Compare

\[ \diamond \] the strong suffix \( vant \) with

\[ \diamond \] the weak suffix \( vant-o \rightarrow vat. \]

\begin{center}
\begin{tabular}{|c|c|c|c|}
\hline
\textit{bala-vantm.} & case & sg. & dual & pl. \\
\hline
nom. & \textit{bala-ván} (1) & \textit{bala-vant-áu} & \textit{bala-vant-as} (2) \\
\hline
voc. & \textit{bala-van} (3) & \textit{bala-vant-áu} & \textit{bala-vant-as} \\
\hline
acc. & \textit{bala-vant-am} & \textit{bala-vant-áu} & \textit{bala-vat-ás} \\
\hline
instr. & \textit{bala-vat-i} & \textit{bala-vad-bhyám} (4) & \textit{bala-vad-bhis} (4) \\
\hline
dat. & \textit{bala-vat-é} & \textit{bala-vad-bhyám} (4) & \textit{bala-vad-bhyas} (4) \\
\hline
abl. & \textit{bala-vat-as} & \textit{bala-vad-bhyám} (4) & \textit{bala-vad-bhyas} (4) \\
\hline
gen. & \textit{bala-vat-ás} & \textit{bala-vat-ós} & \textit{bala-vat-ám} \\
\hline
loc. & \textit{bala-vat-i} & \textit{bala-vat-ós} & \textit{bala-vat-su} \\
\hline
\end{tabular}
\end{center}

1. \( bala-ván \) is an instance of compensatory lengthening:

\[ \text{COMLs} \quad \text{oi. VC}s \quad \rightarrow \text{oi. } \tilde{V} + C \]

i.e., we have

\[ \ast \textit{bala-vant-s} \rightarrow \text{oi. } \ast \textit{bala-väft} \text{ (COMLs)} \rightarrow \text{oi. } \textit{bala-ván} \text{ (AFP)} \]

2. Forms like \( bala-vant-as \) are regular strong forms.

3. The sg. voc. \( bala-van \) is the stem, simplified by CCL.

4. \( bala-vad-bhis \) exhibits backward assimilation.

The n. forms typically show strong forms in pl. NVA:

\begin{center}
\begin{tabular}{|c|c|c|c|}
\hline
\textit{bala-vant n.} & case & sg. & dual & pl. \\
\hline
nom. & \textit{bala-vat} & \textit{bala-vat-í} & \textit{bala-vant-í} \\
\hline
voc. & \textit{bala-vat} & \textit{bala-vat-í} & \textit{bala-vant-í} \\
\hline
acc. & \textit{bala-vat} & \textit{bala-vat-í} & \textit{bala-vant-í} \\
\hline
instr. & \textit{bala-vat-á} & \textit{bala-vad-bhyám} & \textit{bala-vad-bhis} \\
\hline
dat. & \textit{bala-vat-é} & \textit{bala-vad-bhyám} & \textit{bala-vad-bhyas} \\
\hline
abl. & \textit{bala-vat-as} & \textit{bala-vad-bhyám} & \textit{bala-vad-bhyas} \\
\hline
gen. & \textit{bala-vat-as} & \textit{bala-vat-ós} & \textit{bala-vat-ám} \\
\hline
loc. & \textit{bala-vat-i} & \textit{bala-vat-ós} & \textit{bala-vat-su} \\
\hline
\end{tabular}
\end{center}
D. Grammar: nouns and adverbs

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) bala-vat-ī.

Past active participles (PAP) like ga-ta-vant and pronomial adjectives like tā-vant (“so much”) are formed like bala-vant.

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>nom.</td>
<td>mah-ān (1)</td>
<td>mah-ānt-ā (3)</td>
<td>mah-ānt-as (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>mah-an (2)</td>
<td>mah-ānt-ā (3)</td>
<td>mah-ānt-as (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>mah-ānt-am (3)</td>
<td>mah-ānt-ā (3)</td>
<td>mah-at-as</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>mah-at-ā</td>
<td>mah-ad-bhyām</td>
<td>mah-ad-bhis</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>mah-at-ē</td>
<td>mah-ad-bhyām</td>
<td>mah-ad-bhyas</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>mah-at-as</td>
<td>mah-ad-bhyām</td>
<td>mah-ad-bhyas</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>mah-at-as</td>
<td>mah-at-ōs</td>
<td>mah-at-ām</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>mah-at-i</td>
<td>mah-at-ōs</td>
<td>mah-at-su</td>
<td></td>
</tr>
</tbody>
</table>

1. The nom. sg. m. mah-ān ← mah-ant-s shows compensatory lengthening (regular as in bala-vān by pp. 46).

2. Voc. sg. m. mah-an is regular: stem plus CCL.

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>nom.</td>
<td>mah-at</td>
<td>mah-at-ī</td>
<td>mah-ānt-ī</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>mah-at</td>
<td>mah-at-ī</td>
<td>mah-ānt-ī</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>mah-at</td>
<td>mah-at-ī</td>
<td>mah-ānt-ī</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>from here</td>
<td>like masculine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally, I like to mention f. sg. nom. mahat-ī (like n. dual NVA).

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:
D.3. Nouns: weak and strong forms

<table>
<thead>
<tr>
<th>class</th>
<th>3. pers. pl. pres. tense</th>
<th>pres. part., m. nom.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bhr.</td>
<td>bhar-ant-i</td>
</tr>
<tr>
<td>6</td>
<td>tud</td>
<td>tud-ant-i</td>
</tr>
<tr>
<td>3</td>
<td>dā</td>
<td>dad-at-i</td>
</tr>
<tr>
<td>5</td>
<td>sṛu</td>
<td>sṛṛv-ant-i</td>
</tr>
</tbody>
</table>

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., ŋt → at.

<table>
<thead>
<tr>
<th>bhar-ant.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>bhar-an (1)</td>
<td>bhar-ant-āu</td>
<td>bhar-ant-as (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>bhar-an (3)</td>
<td>bhar-ant-āu</td>
<td>bhar-ant-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>bhar-ant-am</td>
<td>bhar-ant-āu</td>
<td>bhar-at-as</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>bhar-at-ā</td>
<td>bhar-ad-bhyām (4)</td>
<td>bhar-ad-bhis (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>bhar-at-ē</td>
<td>bhar-ad-bhyām (4)</td>
<td>bhar-ad-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>bhar-at-as</td>
<td>bhar-ad-bhyām (4)</td>
<td>bhar-ad-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>bhar-at-as</td>
<td>bhar-at-ōs</td>
<td>bhar-at-ām</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>bhar-at-ī</td>
<td>bhar-at-ōs</td>
<td>bhar-at-su</td>
<td></td>
</tr>
</tbody>
</table>

1. bhar-an goes back to bhar-ant-s in line with CCL. However, one might have expected compensatory lengthening due to COMLs (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. 186. 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>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>bhar-at</td>
<td>bhar-ant-ī (!)</td>
<td>bhar-ant-ī</td>
</tr>
<tr>
<td>voc.</td>
<td>bhar-at</td>
<td>bhar-ant-ī (!)</td>
<td>bhar-ant-ī</td>
</tr>
<tr>
<td>acc.</td>
<td>bhar-at</td>
<td>bhar-ant-ī (!)</td>
<td>bhar-at-as</td>
</tr>
<tr>
<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. Grammar: nouns and adverbs

Present participles with bala-vant formation

Two interesting present participles show the pattern of bala-vant rather than that of bhar-ant. Firstly, the regular distribution (weak dual n.) is shown by jagat n. (“world”) which is the present participle of the 3. class verb gā, ji-gā-tī (“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-ī</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>ja-g-at</td>
<td>ja-g-at-ī</td>
<td>ja-g-ant-ī</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>ja-g-at</td>
<td>ja-g-at-ī</td>
<td>ja-g-ant-ī</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 bhav-ant (“your honor”) which, originally, is the present participle of bhu (“to be”) follows 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 bhav-ant was misread as bha-vant so that the analogy with forms like bala-vant was tempting.

Remember:

1. The nom. sg. m. (like gacch-an ← gacch-ants) is without compensatory lengthening (in line with CCL but contradicting COMLs). An exception is the honorific pronoun bhav-ān which follows 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. 186. However, the regular weak dual NVA
   ♦ is always seen in ja-g-at-ī from jagat n. (“world”) and
   ♦ typically seen in the athematic classes 2, 3, 5, 7, 8, and 9
   ♦ sometimes in pres. part. of the 6. class where we have
     • weak tudātī bālāu (“the two hitting boys”) beside
     • strong tudanṭī bālāu.

3. The fem. sg. can be seen from the nom. dual n.:

   f. sg. nom. = n. dual NVA

as in

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### D.3. Nouns: weak and strong forms

<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. 214).

**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-i</td>
</tr>
<tr>
<td>mati-mant</td>
<td>mant-adjective</td>
<td>mati-mān</td>
<td>mati-mant-i</td>
</tr>
<tr>
<td>bhar-ant</td>
<td>pres. part.</td>
<td>bhar-an</td>
<td>bhar-ant-as</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

- *bala-vat* = nom sg. with nom. pl. n. NVA: *bala-vant-i*
  - just as
- *manas* = nom sg. with nom. pl. n. NVA: *manāṇas-i*

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>asṛj</td>
<td>asṛk (AFP)</td>
<td>asṛj-i</td>
</tr>
<tr>
<td>āyuś</td>
<td>āyuś</td>
<td>āyuṣ-ī (RUKI)</td>
</tr>
<tr>
<td>havis</td>
<td>havis</td>
<td>havis-ī (RUKI)</td>
</tr>
</tbody>
</table>

However, why most of these vowels (not in *asṛj-i*) are long, remains unclear.

**ksōd-īyans etc.**

It may be best to cover comparative adjectives here. Consider the paradigm for *ksōd-īyansm.* ("smaller"):

<table>
<thead>
<tr>
<th>ksōd-īyans m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>ksōd-īyān (1)</td>
<td>ksōd-īyāms-āu (2)</td>
<td>ksōd-īyāms-as (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>ksōd-īyān (2)</td>
<td>ksōd-īyāms-āu (2)</td>
<td>ksōd-īyāms-as (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>ksōd-īyāms-am (2)</td>
<td>ksōd-īyāms-āu (2)</td>
<td>ksōd-īyas-as (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>ksōd-īyas-ā (3)</td>
<td>ksōd-īyō-bhāyām (4)</td>
<td>ksōd-īyō-bhis (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>ksōd-īyas-ē (3)</td>
<td>ksōd-īyō-bhāyām (4)</td>
<td>ksōd-īyō-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>ksōd-īyas-as (3)</td>
<td>ksōd-īyō-bhīyām (4)</td>
<td>ksōd-īyō-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>ksōd-īyas-as (3)</td>
<td>ksōd-īyas-ōs (3)</td>
<td>ksōd-īyas-ām (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>ksōd-īyas-ī (3)</td>
<td>ksōd-īyas-ōs (3)</td>
<td>ksōd-īyas-su (3)</td>
<td></td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

1. ksöd-iyān is another example of COMLs, here from "ksöd-iyans-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 plus CCL".

3. Weak forms like ksöd-īyās-ā exhibit loss of vowel and expected SY_ N.

4. In weak forms like ksöd-īyā-bhis, we see expected COMLz from īyas before voiced consonant bh.

The n. forms regularly show strong forms in pl. NVA:

<table>
<thead>
<tr>
<th>ksöd-īyāns n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom</td>
<td>ksöd-īyas</td>
<td>ksöd-īyās-i</td>
<td>ksöd-īyāms-i</td>
<td></td>
</tr>
<tr>
<td>voc</td>
<td>ksöd-īyas</td>
<td>ksöd-īyās-i</td>
<td>ksöd-īyāms-i</td>
<td></td>
</tr>
<tr>
<td>acc</td>
<td>ksöd-īyas</td>
<td>ksöd-īyās-i</td>
<td>ksöd-īyāms-i</td>
<td></td>
</tr>
<tr>
<td>instr</td>
<td>from here like masculine</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

caṅra(n)s etc.

We now turn to the reduplicated perfect active, for example caṅra(n)s ("one who did"). It is best to assume two stems, one with n, the other without:

<table>
<thead>
<tr>
<th>ca-kr-va(n)s 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 (1)</td>
<td>ca-kr-vāms-āu (2)</td>
<td>ca-kr-vāms-as (2)</td>
<td></td>
</tr>
<tr>
<td>voc</td>
<td>ca-kr-van (2)</td>
<td>ca-kr-vāms-āu (2)</td>
<td>ca-kr-vāms-as (2)</td>
<td></td>
</tr>
<tr>
<td>acc</td>
<td>ca-kr-vāms-am (2)</td>
<td>ca-kr-vāms-āu (2)</td>
<td>ca-kr-ūs-as (3)</td>
<td></td>
</tr>
<tr>
<td>instr</td>
<td>ca-kr-ūs-ā (3)</td>
<td>ca-kr-vad-bhyyām (4)</td>
<td>ca-kr-vad-bhiss (4)</td>
<td></td>
</tr>
<tr>
<td>dat</td>
<td>ca-kr-ūs-ē (3)</td>
<td>ca-kr-vad-bhyyām (4)</td>
<td>ca-kr-vad-bhias (4)</td>
<td></td>
</tr>
<tr>
<td>abl</td>
<td>ca-kr-ūs-as (3)</td>
<td>ca-kr-vad-bhyyām (4)</td>
<td>ca-kr-vad-bhias (4)</td>
<td></td>
</tr>
<tr>
<td>gen</td>
<td>ca-kr-ūs-as (3)</td>
<td>ca-kr-ūs-ōs (3)</td>
<td>ca-kr-ūs-ām (3)</td>
<td></td>
</tr>
<tr>
<td>loc</td>
<td>ca-kr-ūs-ī (3)</td>
<td>ca-kr-ūs-ōs (3)</td>
<td>ca-kr-vat-su (4)</td>
<td></td>
</tr>
</tbody>
</table>

1. ca-kr-vān builds on ca-kr-vans-s (with n) and COMLs.

2. As in mah-ant and ksöd-īyans, 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-vams plus CCL".

3. Weak forms like ca-kr-ūs-ā build on caṅras (without n) where the loss of vowel a forces v to become vocalic (hV).

4. Perhaps, forms like ca-kr-vad-bhiss are best explained by analogy with forms like bhar-ad-bhis or mah-ad-bhis. And similarly ca-kr-vat-su.
D.3. Nouns: weak and strong forms

The n. forms regularly show strong forms in pl. NVA:

<table>
<thead>
<tr>
<th>ca-kr-va(n)s 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 (4)</td>
<td>ca-kr-uș-î (3)</td>
<td>ca-kr-văms-î (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>ca-kr-vat (4)</td>
<td>ca-kr-uș-î (3)</td>
<td>ca-kr-văms-î (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>ca-kr-vat (4)</td>
<td>ca-kr-uș-î (3)</td>
<td>ca-kr-văms-î (2)</td>
<td></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.

Often, vidva(n)s (“learned person”) is considered reduplicated perfect active, too, although there is no reduplication:

<table>
<thead>
<tr>
<th>vid-va(n)s m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>vid-vân (1)</td>
<td>vid-văms-ău (2)</td>
<td>vid-văms-as (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>vid-vân (2)</td>
<td>vid-văms-ău (2)</td>
<td>vid-văms-as (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>vid-uș-ăm (2)</td>
<td>vid-văms-ău (2)</td>
<td>vid-uș-as (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>vid-uș-ă (3)</td>
<td>vid-vad-bhyăm (4)</td>
<td>vid-vad-bhis (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>vid-uș-ê (3)</td>
<td>vid-vad-bhyăm (4)</td>
<td>vid-vad-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>vid-uș-as (3)</td>
<td>vid-vad-bhyăm (4)</td>
<td>vid-vad-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>vid-uș-as (3)</td>
<td>vid-uș-ăs (3)</td>
<td>vid-uș-ăm (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>vid-uș-î (3)</td>
<td>vid-uș-ăs (3)</td>
<td>vid-vat-su (4)</td>
<td></td>
</tr>
</tbody>
</table>

1. *vid-vân* builds on *vid-vans-s* (with *n*) and COMLs.

2. As in *mah-ant*, *kșod-ňans*, and *ca-kr-va(n)s*, we observe migration of long *ă* from nom. sg. to all the other strong forms except for voc. sg. which is explained by the formula “stem *vid-vans* plus CCL”.

3. Weak forms like *vid-uș-ă* 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-vad-bhis*, let us explain forms like *vid-vad-bhis* and *vid-vat-su* by analogy (see *bhar-ad-bhis* or *mah-at-su*).

The n. forms regularly show strong forms in pl. NVA:

<table>
<thead>
<tr>
<th>vid-va(n)s n.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>vid-vat (4)</td>
<td>vid-uș-î (3)</td>
<td>vid-văms-î (2)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>vid-vat (4)</td>
<td>vid-uș-î (3)</td>
<td>vid-văms-î (2)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>vid-vat (4)</td>
<td>vid-uș-î (3)</td>
<td>vid-văms-î (2)</td>
<td></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.
D. Grammar: nouns and adverbs

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:

<table>
<thead>
<tr>
<th>rāj-an m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>rāj-a</td>
<td>rāj-añ-āu</td>
<td>rāj-añ-as</td>
<td>(1)</td>
</tr>
<tr>
<td>voc.</td>
<td>rāj-an</td>
<td>rāj-añ-āu</td>
<td>rāj-añ-as</td>
<td>(1)</td>
</tr>
<tr>
<td>acc.</td>
<td>rāj-āñ-am</td>
<td>rāj-āñ-āu</td>
<td>rāj-āñ-as</td>
<td>(4)</td>
</tr>
<tr>
<td>instr.</td>
<td>rāj-āñ-ā</td>
<td>rāj-a-bhyām</td>
<td>rāj-a-bhyas</td>
<td>(5)</td>
</tr>
<tr>
<td>dat.</td>
<td>rāj-āñ-ā</td>
<td>rāj-a-bhyām</td>
<td>rāj-a-bhyas</td>
<td>(5)</td>
</tr>
<tr>
<td>abl.</td>
<td>rāj-āñ-ā</td>
<td>rāj-a-bhyām</td>
<td>rāj-a-bhyas</td>
<td>(5)</td>
</tr>
<tr>
<td>gen.</td>
<td>rāj-āñ-ā</td>
<td>rāj-āñ-ōs</td>
<td>rāj-āñ-ām</td>
<td>(4)</td>
</tr>
<tr>
<td>loc.</td>
<td>rāj-āñ-i/ rāj-an-i</td>
<td>rāj-āñ-ōs</td>
<td>rāj-āñ-ōs</td>
<td>(4)</td>
</tr>
</tbody>
</table>

1. The strong forms with oi.

\[ā + n + \text{vowel ending}\]

go back to ie.

\[o + n + \text{vowel ending}\]

according to Brugmann’s law Lo.

2. Nom. sg. rāj-ā is difficult because ie. *rēj-on-s should result in rāj-ān by COMLs.

3. The strong form voc. sg. rāj-an regularly equals the stem.

4. The weak forms before vowel-initial ending like instr. sg. rāj-āñ-ē are zero-grade forms (just nasal without vowel) and with obvious forward (!) assimilation n → ŋ after palatal j.

5. By SY_N one obtains the weak forms like rāj-a-bhis.

6. Loc. sg. has the alternative reading rāj-an-i. It is not a strong form because strong forms exhibit Brugmann’s law (see 1). It is taken from forms like ātm-an-i (see below).

The paradigm of śv-an (“dog”) follows the one of rāj-an closely:

<table>
<thead>
<tr>
<th>śv-an m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>śv-a</td>
<td>śv-ān-āu</td>
<td>śv-ān-as</td>
<td>(1)</td>
</tr>
<tr>
<td>voc.</td>
<td>śv-an</td>
<td>śv-ān-āu</td>
<td>śv-ān-as</td>
<td>(1)</td>
</tr>
<tr>
<td>acc.</td>
<td>śv-ān-am</td>
<td>śv-ān-āu</td>
<td>śv-ān-as</td>
<td>(4)</td>
</tr>
<tr>
<td>instr.</td>
<td>śu-ān-ā</td>
<td>śu-a-bhyām</td>
<td>śu-a-bhis</td>
<td>(5)</td>
</tr>
<tr>
<td>dat.</td>
<td>śu-ān-ē</td>
<td>śu-a-bhyām</td>
<td>śu-a-bhyas</td>
<td>(5)</td>
</tr>
<tr>
<td>abl.</td>
<td>śu-ān-as</td>
<td>śu-a-bhyām</td>
<td>śu-a-bhyas</td>
<td>(5)</td>
</tr>
<tr>
<td>gen.</td>
<td>śu-ān-as</td>
<td>śu-ān-ōs</td>
<td>śu-ān-ām</td>
<td>(4)</td>
</tr>
<tr>
<td>loc.</td>
<td>śu-ān-i</td>
<td>śu-ān-ōs</td>
<td>śu-ān-ōs</td>
<td>(4)</td>
</tr>
</tbody>
</table>

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D.3. Nouns: weak and strong forms

1. Lo
2. Nom. sg. śv-ā corresponds to rāj-ā. Both are difficult (see above).
3. The strong form voc. sg. śv-an regularly equals the stem.
4. The weak forms before vowel-initial ending like instr. sg. śu-n-ā are zero-grade forms (just nasal without vowel) and with expected vowel for halfvowel before consonant n (hV).
5. By SY_ N one obtains the weak forms like śv-a-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>yuv-n-ās (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-bhyās (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>yū-n-as (4)</td>
<td>yuv-a-bhyām (5)</td>
<td>yuv-a-bhyās (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>yū-n-as (4)</td>
<td>yuv-n-ōs (4)</td>
<td>yuv-n-ām (4)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>yū-n-ī (4)</td>
<td>yuv-n-ōs (4)</td>
<td>yuv-a-su (5)</td>
<td></td>
</tr>
</tbody>
</table>

1. Lo
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 one obtains the weak forms like yuv-a-bhis.

The n. (!) noun nām-an (“name”) finds a similar explanation. We obtain

<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-ī/nām-an-ī (2, 4)</td>
<td>nām-ān-ī (3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>nām-a, nām-an (2)</td>
<td>nām-n-ī/nām-an-ī (2, 4)</td>
<td>nām-ān-ī (3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>nām-a (1)</td>
<td>nām-n-ī/nām-an-ī (2, 4)</td>
<td>nām-ān-ī (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-bhyās (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>nām-n-as (4)</td>
<td>nām-a-bhyām (5)</td>
<td>nām-a-bhyās (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>nām-n-as (4)</td>
<td>nām-n-ōs (4)</td>
<td>nām-n-ām (4)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>nām-n-ī/nām-an-ī (2, 4)</td>
<td>nām-n-ōs (4)</td>
<td>nām-a-su (5)</td>
<td></td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

1. nām-a is regular weak stem without ending from *nom-n.

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 r 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</td>
<td>ātm-an-āu (1)</td>
<td>ātm-an-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>ātm-an</td>
<td>ātm-an-āu (1)</td>
<td>ātm-an-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>ātm-an-ām (1)</td>
<td>ātm-an-āu (1)</td>
<td>ātm-an-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-n-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>
D.3. Nouns: weak and strong forms

1. Nom. sg. karm-a is regular weak stem without ending due to SY_N.

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-a. However, kara-n-a could not have survived for long (compare ātm-an-a).

5. Similar to nom. sg., we find forms like karm-a-bhis by SY_N.

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 aŋ (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. (“yogī”) and other in-stems. They do not show any strong-weak alternation:

<table>
<thead>
<tr>
<th>yōg-in m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nom.</td>
<td>yōg-i (2)</td>
<td>yōg-in-ā (1)</td>
<td>yōg-in-as (1)</td>
</tr>
<tr>
<td></td>
<td>voc.</td>
<td>yōg-in (1)</td>
<td>yōg-in-ā (1)</td>
<td>yōg-in-as (1)</td>
</tr>
<tr>
<td></td>
<td>acc.</td>
<td>yōg-in-am (1)</td>
<td>yōg-in-ā (1)</td>
<td>yōg-in-as (1)</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>yōg-in-ā (1)</td>
<td>yōg-i-bhyām (3)</td>
<td>yōg-i-bhis (3)</td>
</tr>
<tr>
<td></td>
<td>dat.</td>
<td>yōg-in-ē (1)</td>
<td>yōg-i-bhyām (3)</td>
<td>yōg-i-bhyas (3)</td>
</tr>
<tr>
<td></td>
<td>abl.</td>
<td>yōg-in-as (1)</td>
<td>yōg-i-bhyām (3)</td>
<td>yōg-i-bhyas (3)</td>
</tr>
<tr>
<td></td>
<td>gen.</td>
<td>yōg-in-as (1)</td>
<td>yōg-in-ōs (1)</td>
<td>yōg-in-ām (1)</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>yōg-in-i (1)</td>
<td>yōg-in-ōs (1)</td>
<td>yōg-i-zu (3, 4)</td>
</tr>
</tbody>
</table>

1. The stem yōg-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. rāj-ā, yōg-i also exhibits compensatory lengthening for original s (RCOMLS, pp. 46) with unexpected loss of final n.

3. In the weak forms before consonants (bh or s) the n of rāj-an becomes syllabic and turns into a. By analogy, n is also missing in the corresponding forms of yōg-in:

<table>
<thead>
<tr>
<th>rāj-an</th>
<th>with instr. pl.: rāj-a-bhis</th>
</tr>
</thead>
<tbody>
<tr>
<td>yōg-in</td>
<td>with instr. pl.: yōg-i-bhis</td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

4. RUKI

There exist also n. in-stems. Some are build on n. as-stems (p. 94), 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. tap-as

It seems that the declension of tapas-vin ("ascetic") is a rather late development where sound laws, if applied at all, work through analogy.

<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></td>
<td>tapas-vi (1)</td>
<td>tapas-vin-i (4)</td>
<td>tapas-vim-i (3)</td>
</tr>
<tr>
<td>voc.</td>
<td></td>
<td>tapas-vi/tapas-vin (2)</td>
<td>tapas-vin-i (4)</td>
<td>tapas-vim-i (3)</td>
</tr>
<tr>
<td>acc.</td>
<td></td>
<td>tapas-vi (1)</td>
<td>tapas-vin-i (4)</td>
<td>tapas-vim-i (3)</td>
</tr>
<tr>
<td>instr.</td>
<td></td>
<td>tapas-vin-a (4)</td>
<td>tapas-vi-bhyäm (5)</td>
<td>tapas-vi-bhis (5)</td>
</tr>
<tr>
<td>dat.</td>
<td></td>
<td>tapas-vin-e (4)</td>
<td>tapas-vi-bhyäm (5)</td>
<td>tapas-vi-bhyas (5)</td>
</tr>
<tr>
<td>abl.</td>
<td></td>
<td>tapas-vin-as (4)</td>
<td>tapas-vi-bhyäm (5)</td>
<td>tapas-vi-bhyas (5)</td>
</tr>
<tr>
<td>gen.</td>
<td></td>
<td>tapas-vin-as (4)</td>
<td>tapas-vin-ōs (4)</td>
<td>tapas-vin-ām (4)</td>
</tr>
<tr>
<td>loc.</td>
<td></td>
<td>tapas-vin-i (4)</td>
<td>tapas-vin-ōs (4)</td>
<td>tapas-vi-ṣu (6)</td>
</tr>
</tbody>
</table>

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-āṇ-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, kartar)

We now turn to in-between nouns (p. 187), 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 FW men-tor.

◊ In the strong forms, we have this suffix tor. The strong forms with oi.
D.3. Nouns: weak and strong forms

\[ \text{weak forms: } \text{owel ending} \]

\[ \text{strong forms: } \text{owel ending} \]

orinate from ie.

according to Brugmann’s law Lo.

\[ \text{In the weak forms, we see } tr \text{ before vowels or } tr \text{ before consonants.} \]

We begin with the declension pattern of në-tar (“leader”):

<table>
<thead>
<tr>
<th>në-tar m. case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>në-tā (2)</td>
<td>në-tār-āu (1)</td>
<td>në-tār-as (1)</td>
</tr>
<tr>
<td>voc.</td>
<td>në-tar (3)</td>
<td>në-tār-āu (1)</td>
<td>në-tār-as (1)</td>
</tr>
<tr>
<td>acc.</td>
<td>në-tār-ām (1)</td>
<td>në-tār-āu (1)</td>
<td>nē-tīr (6)</td>
</tr>
<tr>
<td>instr.</td>
<td>nē-tr-ā (4)</td>
<td>nē-tr-bhyām (5)</td>
<td>nē-tr-bhis (5)</td>
</tr>
<tr>
<td>dat.</td>
<td>nē-tr-ē (4)</td>
<td>nē-tr-bhyām (5)</td>
<td>nē-tr-bhyās (5)</td>
</tr>
<tr>
<td>abl.</td>
<td>nē-tr-as (4)</td>
<td>nē-tr-bhyām (5)</td>
<td>nē-tr-bhyās (5)</td>
</tr>
<tr>
<td>gen.</td>
<td>nē-tr-ās (4)</td>
<td>nē-tr-ōs (4)</td>
<td>nē-tīr-ṅām (7)</td>
</tr>
<tr>
<td>loc.</td>
<td>nē-tar-i (9)</td>
<td>nē-tr-ōs (4)</td>
<td>nē-tr-ṅū (5, 8)</td>
</tr>
</tbody>
</table>

1. Lo

2. Nom. sg. nē-tā may be due to COMLs: *tor-s → *tōr → *tār. Finally the r is dropped after the long ā (similarly, we have rāj-ā where the n is lost).

3. As usual, voc. sg. nē-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. në-tr-ā.

5. Before a consonant-initial ending, we obtain forms like në-tr-bhis (pp. 20).

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 COMLs.

7. nē-tīr-ṅām has long r because the thematic ie. gen. pl. marker is Ṣnōm (LAR).

8. RUKI

9. The loc. nē-tar-iis irregular for expected weak form nē-tr-i. Note that nē-tar-i is not a strong form which would be nē-tār-i by Lo. Maybe, analogy is to blame, for example,

<table>
<thead>
<tr>
<th>marut</th>
<th>with voc. sg.:</th>
<th>marut-i</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td>nē-tar</td>
<td>with voc. sg.:</td>
</tr>
</tbody>
</table>
D. Grammar: nouns and adverbs

Be careful: *bhar-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 ḫ, for example *nē-trī* ("woman leader"). They are formed like *nad-tā* ("river"), see pp. 214.
- Neuter agent nouns are often used as n. adjectives. They are treated on pp. 222.

**Kinship nouns (pitār, mātār)**

Kinship nouns (such as *pitār*, "father") are very similar to agent nouns:

<table>
<thead>
<tr>
<th>pit-ar m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>pit-ā (2)</td>
<td>pit-ar-āu (1)</td>
<td>pit-ar-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>pit-ar (3)</td>
<td>pit-ar-āu (1)</td>
<td>pit-ar-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>pit-ar-am (1)</td>
<td>pit-ar-āu (1)</td>
<td>pit-ṛ-ṇ (6)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>pit-r-ā (4)</td>
<td>pit-ṛ-bhīyām (5)</td>
<td>pit-ṛ-bhīs (5)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>pit-r-ē (4)</td>
<td>pit-ṛ-bhīyām (5)</td>
<td>pit-ṛ-bhīyas (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>pit-ṛ-ē (10)</td>
<td>pit-ṛ-bhīyām (5)</td>
<td>pit-ṛ-bhīyas (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>pit-ṛ (10)</td>
<td>pit-r-ōs (4)</td>
<td>pit-ṛ-ṇām (7)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>pit-ar-ī (9)</td>
<td>pit-r-ōs (4)</td>
<td>pit-ṛ-ṣu (5, 8)</td>
<td></td>
</tr>
</tbody>
</table>

1. In contrast to agent nouns, the suffix does not contain ie. o so that Brugmann’s law Lo is not applied.

2. Nom. sg. pit-ā may be due to COMLs: "er-s → ēr → ār. Finally the r is dropped after the long ā (similarly, we have rāj-ā 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-ā.

5. Before a consonant-initial ending, we obtain forms like pit-ṛ-bhis (pp. 20).

6. The thematic ie. acc. pl. marker ns is cerebralized after r-sounds, but not in a word-final position (see CERN). Syllabic ṛ is long by COMLs.

7. pit-ṛ-ṇām has long ṛ because the thematic ie. gen. pl. marker is Hūm (LAR).

8. RUKI

9. The loc. pit-ar-ī is irregular for expected weak form pit-r-ī.

10. Abl. and gen. sg. pit-us are irregular.

An example for a f. kinship term is mātār ("mother"): 212
D.3. Nouns: weak and strong forms

<table>
<thead>
<tr>
<th>māt-ar f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>māt-ā</td>
<td>māt-ar-āu</td>
<td>māt-ar-as</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>māt-ar</td>
<td>māt-ar-āu</td>
<td>māt-ar-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>māt-ar-am</td>
<td>māt-ar-āu</td>
<td>māt-ī-s (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>māt-r-ā</td>
<td>māt-r-bhyām</td>
<td>māt-r-bhis</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>māt-r-ē</td>
<td>māt-r-bhyām</td>
<td>māt-r-bhyas</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>māt-us</td>
<td>māt-r-bhyām</td>
<td>māt-r-bhyas</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>māt-us</td>
<td>māt-r-ōs</td>
<td>māt-ī-nām</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>māt-ar-i</td>
<td>māt-r-ōs</td>
<td>māt-r-ṣu</td>
<td></td>
</tr>
</tbody>
</table>

On the basis of pitar ("father"), the only innovation concerning feminine mātar ("mother") concerns the acc. pl. māt-ī-s. Compare

<table>
<thead>
<tr>
<th></th>
<th>thematic a declension</th>
<th>inbetween declension</th>
</tr>
</thead>
<tbody>
<tr>
<td>masculine</td>
<td>dēv-ā-n</td>
<td>pit-ī-n</td>
</tr>
<tr>
<td>feminine</td>
<td>dēv-ā-s</td>
<td>māt-ī-s</td>
</tr>
</tbody>
</table>

D.3.6. Stems in long diphthongs

In this section, we consider stems like rāy m./f. ("wealth") and glāv m. ("moon"). They do not show any weak-strong alternation, but are athematic. Beginning with the āv-nouns, we find

<table>
<thead>
<tr>
<th>glāv m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>glāu-s (2, 3)</td>
<td>glāv-āu (1)</td>
<td>glāv-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>glāu-s (2, 4)</td>
<td>glāv-āu (1)</td>
<td>glāv-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>glāv-am (1)</td>
<td>glāv-āu (1)</td>
<td>glāv-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>glāu-ā (1)</td>
<td>glāu-bhyām (2)</td>
<td>glāu-bhīs (2)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>glāv-ē (1)</td>
<td>glāu-bhyām (2)</td>
<td>glāu-bhyas (2)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>glāu-as (1)</td>
<td>glāu-bhyām (2)</td>
<td>glāu-bhyas (2)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>glāu-as (1)</td>
<td>glāv-ōs (1)</td>
<td>glāv-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>glāu-i (1)</td>
<td>glāv-ōs (1)</td>
<td>glāu-su (2)</td>
<td></td>
</tr>
</tbody>
</table>

1. glāu before vowels by DIPH
2. glāu before consonants by DIPH
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 āy-stem, consider the paradigm
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>rây m./f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>râ-s (2, 3)</td>
<td>rây-āu (1)</td>
<td>rây-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>râ-s (2, 4)</td>
<td>rây-āu (1)</td>
<td>rây-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>rây-ām (1)</td>
<td>rây-āu (1)</td>
<td>rây-as (1)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>rây-ā (1)</td>
<td>râ-bhyām (2)</td>
<td>râ-bhis (2)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>rây-ē (1)</td>
<td>râ-bhyām (2)</td>
<td>râ-bhyas (2)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>rây-as (1)</td>
<td>râ-bhyām (2)</td>
<td>râ-bhyas (2)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>rây-as (1)</td>
<td>rây-ōs (1)</td>
<td>rây-ām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>rây-i (1)</td>
<td>rây-ōs (1)</td>
<td>rā-su (2)</td>
<td></td>
</tr>
</tbody>
</table>

1. rây before vowels by DIPH

2. By DIPH before consonants, one should expect un.at. râ-bhis rather than râ-bhis.

3. Nom. sg. marker s is clearly observable

4. Voc. sg. irregularly differs from the stem.

D.3.7. Feminine r- and ū- stems

nâdi and vadhū

There exist two f. declensions with long r and long ū, respectively. They strongly resemble each other. The r-stem is exemplified by nâdi (“river”):

<table>
<thead>
<tr>
<th>nâdi f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>nâ-r (1, 2)</td>
<td>nâ-y-āu (4)</td>
<td>nâ-y-as (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>nâ-r (3)</td>
<td>nâ-y-āu (4)</td>
<td>nâ-r-s (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>nâ-r-m (1)</td>
<td>nâ-y-āu (4)</td>
<td>nâ-r-s (1, 6)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>nâ-r-ē (4, 5)</td>
<td>nâ-r-bhyām (1)</td>
<td>nâ-r-bhis (1)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>nâ-r-ē (4, 6)</td>
<td>nâ-r-bhyām (1)</td>
<td>nâ-r-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>nâ-r-ōs (4, 6)</td>
<td>nâ-r-bhyām (1)</td>
<td>nâ-r-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>nâ-r-ōs (4, 6)</td>
<td>nâ-r-ōs (4)</td>
<td>nâ-r-nām (1)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>nâ-r-ām (4, 6)</td>
<td>nâ-r-ōs (4)</td>
<td>nâ-r-śu (1, 7)</td>
<td></td>
</tr>
</tbody>
</table>

The nâdi model has been used for many f. r-nouns, such as bâla-vat-r or bhar-a-nīt-r. For m. nouns, consider sēnā-nīs 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-u-s (1, 2)</td>
<td>vadh-v-āu (4)</td>
<td>vadh-v-as (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>vadh-u (3)</td>
<td>vadh-v-āu (4)</td>
<td>vadh-v-as (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>vadh-u-m (1)</td>
<td>vadh-v-āu (4)</td>
<td>vadh-u-s (1, 6)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>vadh-u-ē (4, 5)</td>
<td>vadh-u-bhyām (1)</td>
<td>vadh-u-bhis (1)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>vadh-u-ē (4, 6)</td>
<td>vadh-u-bhyām (1)</td>
<td>vadh-u-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>vadh-u-ōs (4, 6)</td>
<td>vadh-u-bhyām (1)</td>
<td>vadh-u-bhyas (1)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>vadh-u-ōs (4, 6)</td>
<td>vadh-u-ōs (4)</td>
<td>vadh-u-nām (1, 6)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>vadh-u-ām (4, 6)</td>
<td>vadh-u-ōs (4)</td>
<td>vadh-u-śu (1, 7)</td>
<td></td>
</tr>
</tbody>
</table>
D.3. Nouns: weak and strong forms

The \textit{vadhū} pattern is much less prominent and comprises the f. nouns

\begin{itemize}
\item \textit{cam-ū} ("army")
\item \textit{svaśr-ū} ("mother in law")
\item \textit{juh-ū} ("ladle"), see \textit{hu} ("to sacrifice")
\end{itemize}

The two paradigms (\textit{nad-ī} and \textit{vadhū}) are quite parallel:

1. Before consonant-initial endings, the long vowel is present.
2. In contrast to the nom. sg. \textit{nad-ī}, we find the usual nom. sg. marker \textit{s} in \textit{vadhūs}.
3. The voc. sg. \textit{nad-i} and \textit{vadh-u}, respectively, are formed from the stem but with the short vowel.
4. Before vowel-initial endings, \textit{hV} leads to forms like \textit{nad-y-ā} or \textit{vadh-v-ā}.
5. Instr. sg. ending \textit{ā} as usual for m. and f. athematic declensions.
6. These two paradigms consistently use thematic feminine endings in line with this table:

\begin{center}
\begin{tabular}{c|c|c|c|c|c}
 & singular & & & plural & \\
 & dative & abl./gen. & locative & acc. & gen. \\

them. fem. nouns & \textit{āi} & \textit{ās} & \textit{ām} & \textit{Vs} & \textit{Vnām} ← \textit{VHuṇām} (LAR) \\
\end{tabular}
\end{center}

7. \textbf{RUKI}

\textit{dhī} and \textit{bhū}

Apart from \textit{nadī} and \textit{vadhū}, we find monosyllabic stems in long \textit{i} and long \textit{ū}, respectively, that look peculiar at first sight. Consider \textit{dhī} ("intellect"):

\begin{center}
\begin{tabular}{c|c|c|c|c}
\textit{dhī} f. & case & sg. & dual & pl. \\

nom. & \textit{dh-ī-s} (1, 2) & \textit{dh-īy-āu} (4) & \textit{dh-īy-as} (4) \\

voc. & \textit{dh-ī-s} (3) & \textit{dh-īy-āu} (4) & \textit{dh-īy-as} (4) \\

acc. & \textit{dh-īy-am} (4) & \textit{dh-īy-āu} (4) & \textit{dh-īy-as} (4, 6) \\

instr. & \textit{dh-īy-ā} (4) & \textit{dh-ī-bhyām} (1) & \textit{dh-ī-bhīs} (1, 8) \\

dat. & \textit{dh-īy-ē/dh-īy-āt} (4, 5) & \textit{dh-ī-bhyām} (1) & \textit{dh-ī-bhyās} (1) \\

abl. & \textit{dh-īy-as/dh-īy-ās} (4, 5) & \textit{dh-ī-bhyām} (1) & \textit{dh-ī-bhyās} (1) \\

gen. & \textit{dh-īy-as/dh-īy-ās} (4, 5) & \textit{dh-īy-ōs} (4) & \textit{dh-īy-am/dh-ī-nām} (1, 4, 5) \\

loc. & \textit{dh-īy-ī/dh-īy-ām} (4, 5) & \textit{dh-īy-ōs} (4) & \textit{dh-ī-sū} (1, 7) \\
\end{tabular}
\end{center}

The numbers are explained below the \textit{bhū} paradigm. The same pattern is followed by the f. nouns
D. Grammar: nouns and adverbs

◇ bh-ī ("fear")
◇ śr-ī ("wealth")
◇ hr-ī ("shame")

In a parallel fashion (replace i/i/j by u/u/v), we have bhū ("earth"):

<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></td>
<td>bh-ū-s (1, 2)</td>
<td>bh-uv-āu (4)</td>
<td>bh-uv-as (4)</td>
</tr>
<tr>
<td>voc.</td>
<td></td>
<td>bh-ū-s (3)</td>
<td>bh-uv-āu (4)</td>
<td>bh-uv-as (4)</td>
</tr>
<tr>
<td>acc.</td>
<td></td>
<td>bh-uv-am (4)</td>
<td>bh-uv-āu (4)</td>
<td>bh-uv-as (4, 5)</td>
</tr>
<tr>
<td>instr.</td>
<td></td>
<td>bh-uv-ā (4)</td>
<td>bh-ū-bhyām (1)</td>
<td>bh-ū-bhīs (1, 7)</td>
</tr>
<tr>
<td>dat.</td>
<td></td>
<td>bh-uv-ē/bh-uv-ā (4, 5)</td>
<td>bh-ū-bhyām (1)</td>
<td>bh-ū-bhyās (1)</td>
</tr>
<tr>
<td>abl.</td>
<td></td>
<td>bh-uv-as/bh-uv-ās (4, 5)</td>
<td>bh-ū-bhyām (1)</td>
<td>bh-ū-bhyās (1)</td>
</tr>
<tr>
<td>gen.</td>
<td></td>
<td>bh-uv-as/bh-uv-ās (4, 5)</td>
<td>bh-uv-ās (4)</td>
<td>bh-uv-ām/bh-ū-nām (1, 4, 5)</td>
</tr>
<tr>
<td>loc.</td>
<td></td>
<td>bh-uv-ī/bh-uv-ām (4, 5)</td>
<td>bh-uv-ās (4)</td>
<td>bh-ū-śu (1, 6)</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. 23) leads to forms like dh-īy-ā or bh-uv-ā.
5. Consider this table for feminine endings of both athematic and thematic nouns:

<table>
<thead>
<tr>
<th>athem. nouns</th>
<th>dative</th>
<th>abl./gen.</th>
<th>locative</th>
<th>acc.</th>
<th>gen.</th>
</tr>
</thead>
<tbody>
<tr>
<td>è</td>
<td>as</td>
<td>i</td>
<td>as</td>
<td>ām</td>
<td></td>
</tr>
<tr>
<td>then. nouns</td>
<td>āi</td>
<td>ās</td>
<td>ām</td>
<td>Vs</td>
<td>Vnām ← VHnām (LAR)</td>
</tr>
</tbody>
</table>

Both dhī and bhū show both the thematic (nadī) endings except for acc. pl. where the athematic ending prevails.

6. RUKI

7. dh-ī-bhīs and bh-ū-bhīs are peculiar in not reflecting DA. It seems that Grassmann’s law was not operative any more when these forms were built.
D.3. Nouns: weak and strong forms

**strī and punar-bhū**

Another f. noun is *strī* ("woman") that exhibits forms similar to those of *dhī* and *nadī*:

<table>
<thead>
<tr>
<th><em>strī</em> f.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>strī</td>
<td>str-īy-āu</td>
<td>str-īy-as</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>strī</td>
<td>str-īy-āu</td>
<td>str-īy-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>str-īy-am/str-ī-ām (!)</td>
<td>str-īy-āu</td>
<td>str-īy-as/str-ī-ās (!)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>str-īy-ā</td>
<td>str-ī-bhyām</td>
<td>str-ī-bhūs</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>str-īy-ā</td>
<td>str-ī-bhyām</td>
<td>str-ī-bhūs</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>str-īy-ās</td>
<td>str-ī-bhyām</td>
<td>str-ī-bhūas</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>str-īy-ās</td>
<td>str-īy-ōs</td>
<td>str-ī-nām</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>str-īy-ām</td>
<td>str-īy-ōs</td>
<td>nad-ī-śu</td>
<td></td>
</tr>
</tbody>
</table>

After taking V+hV into account, the only difference to the *nadī* paradigm concerns the accusatives, with the (first) athematic one and the (second) thematic one.

Finally, we turn to *punar-bhū* f. ("remarried widow") which belongs to *bhū* ("to be"). This noun does not apply V+hV by replacing ū by uv before vowel endings. Instead we find forms like instr. sg. *punar-bhū-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-bhū-v-ā* and *punar-bhū-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><em>su-dhī</em> m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>su-dhī-ś</td>
<td>su-dhī-y-āu</td>
<td>su-dhī-y-as</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>su-dhī-ś</td>
<td>su-dhī-y-āu</td>
<td>su-dhī-y-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>su-dhī-y-am</td>
<td>su-dhī-y-āu</td>
<td>su-dhī-y-as</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>su-dhī-ā</td>
<td>su-dhī-bhyām</td>
<td>su-dhī-bhīs</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>su-dhī-y-ē</td>
<td>su-dhī-bhyām</td>
<td>su-dhī-bhīyas</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>su-dhī-y-as</td>
<td>su-dhī-bhyām</td>
<td>su-dhī-bhīyas</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>su-dhī-y-ās</td>
<td>su-dhī-y-ōs</td>
<td>su-dhī-y-nām</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>su-dhī-y-ām</td>
<td>su-dhī-y-ōs</td>
<td>su-dhī-śu</td>
<td></td>
</tr>
</tbody>
</table>

and

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<table>
<thead>
<tr>
<th>prati-bhū</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>prati-bh-ū-s</td>
<td>prati-bh-uv-āu</td>
<td>prati-bh-uv-as</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>prati-bh-ū-s</td>
<td>prati-bh-uv-āu</td>
<td>prati-bh-uv-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>prati-bh-uv-ām</td>
<td>prati-bh-uv-āu</td>
<td>prati-bh-uv-as</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>prati-bh-uv-ā</td>
<td>prati-bh-ū-bhyām</td>
<td>prati-bh-ū-bhīs</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>prati-bh-uv-ē</td>
<td>prati-bh-ū-bhyām</td>
<td>prati-bh-ū-bhyās</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>prati-bh-uv-as</td>
<td>prati-bh-ū-bhyām</td>
<td>prati-bh-ū-bhyās</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>prati-bh-uv-ās</td>
<td>prati-bh-uv-ōs</td>
<td>prati-bh-uv-ām</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>prati-bh-uv-s</td>
<td>prati-bh-uv-ōs</td>
<td>prati-bh-ū-su</td>
<td></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. dhēnu

◇ 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</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>mun-i-s (1)</td>
<td>mun-ī (5)</td>
<td>mun-ay-ās (2, 3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>mun-ē (2)</td>
<td>mun-ī (5)</td>
<td>mun-ay-ās (2, 3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>mun-ī-m (1)</td>
<td>mun-ī (5)</td>
<td>mun-ī-n (7)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>mun-ī-n-ā (3, 6)</td>
<td>mun-ī-bhyām (3)</td>
<td>mun-ī-bhīs (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>mun-ay-ē (2, 3)</td>
<td>mun-ī-bhyām (3)</td>
<td>mun-ī-bhyās (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>mun-ē-s (2)</td>
<td>mun-ī-bhyām (3)</td>
<td>mun-ī-bhyās (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>mun-ē-s (2)</td>
<td>mun-ī-bhyām (3)</td>
<td>mun-ī-bhyās (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>mun-āu (4)</td>
<td>mun-ī-ās (1)</td>
<td>mun-ī-sū (3, 9)</td>
<td></td>
</tr>
</tbody>
</table>

with

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<table>
<thead>
<tr>
<th>Case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>mat-i-s</td>
<td>mat-i</td>
<td>mat-ay-as</td>
</tr>
<tr>
<td>voc.</td>
<td>mat-ê</td>
<td>mat-i</td>
<td>mat-ay-as</td>
</tr>
<tr>
<td>acc.</td>
<td>mat-i-m</td>
<td>mat-i</td>
<td>mat-i-s</td>
</tr>
<tr>
<td>instr.</td>
<td>mat-y-á</td>
<td>mat-i-bhyâm</td>
<td>mat-i-bhis</td>
</tr>
<tr>
<td>dat.</td>
<td>mat-ay-ê</td>
<td>mat-i-bhyâm</td>
<td>mat-i-bhyas</td>
</tr>
<tr>
<td>abl.</td>
<td>mat-ê-s</td>
<td>mat-i-bhyâm</td>
<td>mat-i-bhyas</td>
</tr>
<tr>
<td>gen.</td>
<td>mat-ê-s</td>
<td>mat-y-ê-s</td>
<td>mat-ê-nâm</td>
</tr>
<tr>
<td>loc.</td>
<td>mat-âu</td>
<td>mat-y-ê-s</td>
<td>mat-ê-su</td>
</tr>
</tbody>
</table>

1. We often find i 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. 186. In this sense, the vocative equals the stem with
   strong declension sign.

3. Some endings are very familiar (for example from marut): instr. sg. ã, dat. sg. ê, or instr. pl. bhis.

4. Loc. sg. ending ãu differs from the usual ending i encountered in marut-i or dêv-ê ← “dêv-a-i”.

5. “Since” ãu occurs as the or as a loc. sg., ãu cannot be used in the dual forms NVA.

   There, we find the long thematic vowel instead, as in mun-i or mat-i.

6. Instr. sg. m. mun-i-n-ã exhibits additional n, presumably modeled on in stems,
   for example gög-in-ã. Indeed, these two words can be used together quite often.

7. Compare acc. pl.
   ◊ mun-i-n, m., versus mat-i-s, f., with
   ◊ dêv-ã-n, m., versus dêv-ã-s, f.

   Revisit subsection D.1.2 p. 185

8. Gen. pl. are thematic as might be expected. The long vowels are explained by the
   laryngeal in the ie. ending Hnêm.

9. RUKI

10. The f. paradigm allows the thematic nadi endings in dative through locative singular, in line with this table:

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<table>
<thead>
<tr>
<th>singular</th>
<th>dative</th>
<th>abl./gen.</th>
<th>locative</th>
</tr>
</thead>
<tbody>
<tr>
<td>athem. nouns</td>
<td>ê</td>
<td>as</td>
<td>i</td>
</tr>
<tr>
<td>them. nouns</td>
<td>ái</td>
<td>ás</td>
<td>ám</td>
</tr>
</tbody>
</table>

**Special case: pati**

In compounds like

- nam-pati m. ("lord of the people, king")
- vanas-pati m. ("lord of the forest, tree")

the paradigm of *pati* ("husband") follows *muni* above. However, in isolation, *pati* shows some peculiarities but is "more regular" than *muni* or *pi-tar*:

<table>
<thead>
<tr>
<th>pat-i m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>pat-i-s</td>
<td>pat-i</td>
<td>pat-ay-as</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>pat-i</td>
<td>pat-i</td>
<td>pat-ay-as</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>pat-i-m</td>
<td>pat-i</td>
<td>pat-i-n</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>pat-y-ā (1)</td>
<td>pat-i-bhyām</td>
<td>pat-i-bhis</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>pat-y-ē (2)</td>
<td>pat-i-bhyām</td>
<td>pat-i-bhyas</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>pat-y-us (3)</td>
<td>pat-i-bhyām</td>
<td>pat-i-bhyas</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>pat-y-us (3)</td>
<td>pat-y-ōs</td>
<td>pat-i-nām</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>pat-y-āu (4)</td>
<td>pat-y-ōs</td>
<td>pat-i-śu</td>
<td></td>
</tr>
</tbody>
</table>

1. Instr. sg. *pat-y-ā* does not show unexpected n like *mun-i-n-ā*.

2. Dat. sg. *pat-y-ē* does not exhibit the unusual "strong" declension sign as does *mun-ay-ē*.

3. *pat-y-us* exhibits the *us*-ending otherwise known from
   - kinship terms like *pit-us* (pp. 212)
   - tor-nouns like *nē-t-us* (pp. 211)
   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.

**u-stems (gur-u, dhēn-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. 22) and replace

- i by u and y by v
D.3. Nouns: weak and strong forms

◊ ē by ṥ (and ay by av)

◊ ō by ǎ

Compare, again, a masculine paradigm

<table>
<thead>
<tr>
<th>gur-u m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>gur-u-s (1)</td>
<td>gur-ā (5)</td>
<td>gur-av-as (2, 3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>gur-ō (2)</td>
<td>gur-ā (5)</td>
<td>gur-av-as (2, 3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>gur-u-m (1)</td>
<td>gur-ā (5)</td>
<td>gur-ū-n (7)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>gur-u-nā (3, 6, 11)</td>
<td>gur-u-bhyām (3)</td>
<td>gur-u-bhas (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>gur-av-ē (2, 3)</td>
<td>gur-u-bhyām (3)</td>
<td>gur-u-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>gur-ō-s (2)</td>
<td>gur-u-bhyām (3)</td>
<td>gur-u-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>gur-ō-s (2)</td>
<td>gur-v-ōs (1)</td>
<td>gur-ū-ṇām (8, 11)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>gur-āu (4)</td>
<td>gur-v-ōs (1)</td>
<td>gur-u-su (3, 9)</td>
<td></td>
</tr>
</tbody>
</table>

with a feminine one:

<table>
<thead>
<tr>
<th>dhēn-u m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>dhēn-u-s (1)</td>
<td>dhēn-ā (5)</td>
<td>dhēn-av-as (2, 3)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>dhēn-ō (2)</td>
<td>dhēn-ā (5)</td>
<td>dhēn-av-as (2, 3)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>dhēn-u-m (1)</td>
<td>dhēn-ā (5)</td>
<td>dhēn-ū-s (7)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>dhēn-v-ā (3)</td>
<td>dhēn-u-bhyām (3)</td>
<td>dhēn-u-bhas (3)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>dhēn-av-ē (2, 3)/dhēn-v-āi (10)</td>
<td>dhēn-u-bhyām (3)</td>
<td>dhēn-u-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>dhēn-ō-s (2)/dhēn-v-ōs (10)</td>
<td>dhēn-u-bhyām (3)</td>
<td>dhēn-u-bhyas (3)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>dhēn-ō-s (2)/dhēn-v-ōs (10)</td>
<td>dhēn-v-ōs (1)</td>
<td>dhēn-ū-nām (8)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>dhēn-āu (4)/dhēn-v-ām (10)</td>
<td>dhēn-v-ōs (1)</td>
<td>dhēn-u-su (3, 9)</td>
<td></td>
</tr>
</tbody>
</table>

1. hV

2. DIPH in the sense of strong declension signs unrelated to fig. [D.1] p. [86]. In this sense, the vocative equals the stem with strong declension sign.


4. Loc. sg. ending āu differs from the usual ending i encountered in marut-i or dēv-ē ← “dēv-ā-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-u-nā exhibits additional n, presumably modeled on in stems, for example gōg-in-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
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◊ mun-īn, m., versus mat-īs and with
◊ dēv-ān, m., versus dēv-ā-s, f.

8. Gen. pl. are thematic as might be expected. The long vowels are explained by the laryngeal in the ie. ending Hnōm.

9. RUKI

10. Thematic nāḍī endings in dative through locative singular

11. CERn

Neuter u- or un-stems and ū or ūp-stems

The n. u-stems like madh-u ("honey") have been strongly influenced by n. (v)in-stems like tapas-vin (p. 210). 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. 208).

<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-ūn-i (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>madh-u/ū (1, 3)</td>
<td>madh-un-ī (2, 4)</td>
<td>madh-ūn-i (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>madh-u (1)</td>
<td>madh-un-ī (2, 4)</td>
<td>madh-ūn-i (4)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>madh-un-ā (2)</td>
<td>madh-u-bhyām (5)</td>
<td>madh-u-bhīs (5)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>madh-un-ē (2)</td>
<td>madh-u-bhyām (5)</td>
<td>madh-u-bhyās (5)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>madh-un-as (2)</td>
<td>madh-u-bhyām (5)</td>
<td>madh-u-bhyās (5)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>madh-un-as (2)</td>
<td>madh-un-ōs (2)</td>
<td>madh-ū-nān (6)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>madh-un-ī (2)</td>
<td>madh-un-ōs (2)</td>
<td>madh-ū-śu (7)</td>
<td></td>
</tr>
</tbody>
</table>

1. The stem madh-u is clearly present in sg. NVA.

2. The stem madh-un is prevals in many other forms.

3. Besides madh-u, the second voc. sg. madh-ō also exists, similar to voc. sg. gur-ō.

4. Compare
   ◊ nom. dual tapas-vin-ī with madh-un-ī and
   ◊ nom. pl. tapas-vin-i with madh-ūn-i.

Pl. NVA madh-ūn-i are probably due to analogy with forms like phal-ā-ṇi or kārma-ṇī.

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. 209).

6. The long vowel ū is easily explained by the laryngeal in the ie. ending Hnōm.
D.4. Adverbs from fossilized case endings

7. RUKI

At this point, we may introduce n. agent nouns because there declension resembles n. madhu very closely. We look at the paradigm for gan-tr. In order to focus on the similarities with madh-u/madh-un we assume two stems gan-t/r/gantr-:

\[
\begin{array}{|c|c|c|}
\hline
\text{case} & \text{sg.} & \text{dual} & \text{pl.} \\
\hline
\text{nom.} & \text{gan-t/r} & \text{gan-t/r-} & \text{gan-t/r-} \\
\text{voc.} & \text{gan-ar/gantr} & \text{gan-t/r-} & \text{gan-t/r-} \\
\text{acc.} & \text{gan-t/r} & \text{gan-t/r-} & \text{gan-t/r-} \\
\text{instr.} & \text{gan-t/r-ô} & \text{gan-t/r-bhyâm} & \text{gan-t/r-bhis} \\
\text{dat.} & \text{gan-t/r-ô} & \text{gan-t/r-bhyâm} & \text{gan-t/r-bhyas} \\
\text{abl.} & \text{gan-t/r-as} & \text{gan-t/r-bhyâm} & \text{gan-t/r-bhyas} \\
\text{gen.} & \text{gan-t/r-ô} & \text{gan-t/r-ôs} & \text{gan-t/r-ôm} \\
\text{loc.} & \text{gan-t/r-ô} & \text{gan-t/r-ôs} & \text{gan-t/r-su} \\
\hline
\end{array}
\]

The copy-paste operations involve replacing madh by gantr and then

1. u by r,
2. un by r- and, finally,
3. ūn by r-

In particular, the voc. singulars also fit. We have

\[
\begin{array}{|c|c|c|}
\hline
\text{f.g. of declension sign} & \text{z.g. of declension sign} \\
\hline
\text{madh-u} & \text{madh-ô} & \text{madh-u} \\
\text{gantr-} & \text{gantr-ar} & \text{gantr-} \\
\hline
\end{array}
\]

D.4. Adverbs from fossilized case endings

Many adverbs stem from fossilized case endings.

D.4.1. Accusative

\( \text{a}-va±yam (\text{"not to be wished \to necessarily, indeed"}) \leftarrow a + ya\text{-gerundive of } va± (\text{"to wish"}) \)

\( \text{i}-sat (\text{"being in that manner \to a bit, somewhat"}) \leftarrow i + \text{n. pres. part. of } as (\text{"to be"}) \)

\( \text{ciram} (\text{"for a long time, long ago"}) \text{ from } \text{cim} (\text{"long"}) \)

\( \text{taras} (\text{"fast"}) \text{ from } \text{taras n. cons. ("ferry, advancement, energy")} \)

\( \text{nâma} (\text{"by name"}), \text{ see the declension on p. } 207 \)
D. Grammar: nouns and adverbs

- **nir-bhāram** (“completely”) &lt; nis + bhara
- **prati-dinam** (“every day”) &lt; prati + dinam
- **praty-aham** (“every day”) &lt; prati + ahar (but here as if acc. from aham, n., which does not exist)
- **yathākāman** (“according to desire, at will”) &lt; yathā + kāma (“desire”)
- **śīghram**
- **sādhu** (“well”), see sādh (“to be successful, to lead to one’s goal”)
- **sukham** (“happily”)

### D.4.2. Instrumental

- **a-khilena** (“in its entirety, all in all”) &lt; a + khila (“wasteland, rest”)
- **a-cirēna** (“for a short time”) &lt; a + cira (“long”)
- **uccaih** (“loud”) &lt; ucca (“high”)
- **tārēṇa** (“fast, by force”) &lt; tāras n. (“ferry, advancement, energy”)
- **cīnēṇa** (“after a long time”) from cira (“long”)
- **prāgyēṇa** (“usually, probably”) &lt; pra-aya (“quantity, a state or condition of life like youth, death”)
- **vi-starēṇa** (“at length”) &lt; vi-stara (“extension, detail”, see str)
- **sahas-ā** (“with might → forcibly, suddenly”) from sahas n. (“might, power”)

### D.4.3. Ablative

- **a-cirēt** (“for a short time”) &lt; a + cira (“long”)
- **dūrēt** (“from afar”) &lt; dūra (“far”)

### D.4.4. Locative

- **cīrē** (“in a long time → finally”) &lt; cira (“long”)
- **dūrē** (“far away”) &lt; dūra (“far”)
- **sa-padi** (“immediately”) &lt; sa (“together”) + pad m. (“foot”)??

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D.4.5. *tas*-suffix

The *tas*-suffix is mostly used in the abl. sense.

- ▶ *agra-tas* (“first, in front”) ← *agram* (“top, summit, beginning”)
- ▶ *grāma-tas* (“from the village”) ← *grāma* (“village”)
- ▶ *prṣṭha-tas* (“behind”) ← *prṣṭham* (“back”)
- ▶ *śāstra-tas* (“according to the śāstras”) ← *śāstram* (“text, manual”)
- ▶ *sva-tas* (“with one’s own power”) ← *sva* (“own”)

D.4.6. *śas*-suffix

*śas* is added to numbers or quantifiers.

- ▶ *ēkāika-śas* (“one by one”) ← *ēka* (“one”) + *ēka* + *śas*
- ▶ *prāya-śas* (“usually, probably”) ← *prāya* (“quantity, a state or condition of life like youth, death”)
- ▶ *śata-śas* (“by the hundred”) ← *śatam* (“hundred”)

D.4.7. *vat*-suffix

- ▶ *kapi-vat* (“like a monkey”) ← *kapi* (“monkey”)

D.4.8. *dhā*-suffix

*dhā* can often be translated as “-fold”

- ▶ *dvi-dhā* (“twofold”) ← *dvi* (“two in compounds”)
- ▶ *bahu-dhā* (“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. [122]) but the first syllable. Consider these examples:
D. Grammar: nouns and adverbs

<table>
<thead>
<tr>
<th>length. form</th>
<th>translation</th>
<th>origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>jānakī</td>
<td>daughter of</td>
<td>Janaka (name of a king)</td>
</tr>
<tr>
<td>dāśa-rath-i</td>
<td>son of Daśa-rath-a</td>
<td>daśa (“ten”) + rath-a (“chariot”)</td>
</tr>
<tr>
<td>parvat-i</td>
<td>daughter of the mountain</td>
<td>parvat-a (mountain)</td>
</tr>
<tr>
<td>pāutr-a</td>
<td>grandson</td>
<td>pāutr-a (“son”)</td>
</tr>
<tr>
<td>prā-kr. a</td>
<td>elementary, natural</td>
<td>prā-kr-a (“accomplished”)</td>
</tr>
<tr>
<td>lāuk-ik-a</td>
<td>worldly</td>
<td>lāuk-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>a-tith-ya-m</td>
<td>hospitality</td>
<td>a-tith-i (“guest”)</td>
</tr>
<tr>
<td>a-rōg-ya-m</td>
<td>health</td>
<td>a-rōg-a (“health”) ← ruj</td>
</tr>
<tr>
<td>a-las-ya-m</td>
<td>idleness</td>
<td>a-las-a (“idle”) ← las</td>
</tr>
<tr>
<td>āśevar-ya-m</td>
<td>lordship</td>
<td>āśevar-a (“lord”)</td>
</tr>
<tr>
<td>jād-ya-m</td>
<td>stupidity</td>
<td>jād-a (“stupid”)</td>
</tr>
<tr>
<td>trāigun-ya-m</td>
<td>pertaining to the three g.</td>
<td>trāigunās (“three gunas”)</td>
</tr>
<tr>
<td>dāridr-ya-m</td>
<td>poverty</td>
<td>dāridr-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 (“poor”)</td>
</tr>
<tr>
<td>māitr-ya-m</td>
<td>friendship</td>
<td>māitr-a (“friend”)</td>
</tr>
<tr>
<td>vānij-ya-m</td>
<td>trade</td>
<td>vānij (“merchant”)</td>
</tr>
<tr>
<td>sāur-ya-m</td>
<td>valor</td>
<td>sāur-a (“brave”)</td>
</tr>
<tr>
<td>svā-sth-ya-m</td>
<td>health</td>
<td>svā-sthā (“well at ease”) ← sthā</td>
</tr>
</tbody>
</table>

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.
Beekes [1995, pp. 107] argues for

\[ \text{ie. } * m\text{h}_1\text{n}o \]

as the underlying form:

◇ Athetic verbs attach \( m\text{h}_1\text{n}o \) directly to their weak present stem causing \( m \) to become syllabic (LAR).

◇ Thematic verbs should have produced \( a\text{-mina} \) (a Prakrit form \( mina \) does indeed exist). Levelling was then responsible for \( a\text{-māna} \):

<table>
<thead>
<tr>
<th>influenced by</th>
<th>with long ( ā ) before ( n )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ā\text{n}a )</td>
<td>( a\text{-māna} )</td>
</tr>
<tr>
<td>turns into</td>
<td>with long ( ā ) before ( n )</td>
</tr>
</tbody>
</table>
E. Etymological dictionary

E.1. Introductory remarks

If you are looking for a 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 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></td>
<td>infinitive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td>future</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
</tr>
<tr>
<td></td>
<td>imperfect</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
</tr>
<tr>
<td></td>
<td>perfect</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
</tr>
<tr>
<td></td>
<td>aorist</td>
<td>3. pers. sg.</td>
<td>3. pers. pl.</td>
</tr>
<tr>
<td></td>
<td>desiderative</td>
<td>3. pers. sg.</td>
<td>adjective</td>
</tr>
</tbody>
</table>

If several forms exist, only one or seldomly two are cited.

E.2. Vowels

E.2.1. a

-a- negating prefix (p. 61)

a-ga (“not going → tree”) with second part ga from gam (pp. 120)

an-a-gata (“not having come → future”) with last part PPP gata of gam

an-antā (“without end → infinite”)

an-ēka (“not one → manyfold, several”) with second part ēka (“one, single”)

an-r̥ta (“not true”) with second part PPP r̥ta

◇ “fitting → true” from ar (“to fit, to connect”) or
◇ “reached → true” from r̥ (“to rise, to reach”)

an-id (“without i”) with second part id (traditional expression for oi. i)←

a-vaśyam adv. (“not to be wished → necessarily, indeed”), see vaś (“to wish”)

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E. Etymological dictionary

← ie. *n

→ gr. FW a-theist, an-archy (just like Sanskrit!)

∼ lat. FW in-effective, im-possible

∼ e. un-true, un-believable

∼ nhg. un-gläubig

anīhas n. ("fear, distress")

← ie. *h₁enɣhes

→ nhg. eng ("narrow") ∼ nhg. Ang-st ("fear")

ak-ṣi n. ("eye")

īkṣ 1. class: īkṣate ("to see")

← ie. *h₃ekws

→ lat. oculus ("eye") with FW ocular ("lense") etc.

agni m. ("fire")

aṅgāra ("coal")

← ie. *h₁ngʷ-ni

→ lat. ignis, e. FW ignite

agram ("top, summit, beginning")

with loc. sg. agrē prep. with gen. ("in front, ahead of")

ēkāgra ("one-pointed, focussed") with first part ēka ("one, single")

a-ghn-ya ("bull")

a-ghn-yā gerundive (p. 128 "not to be killed → cow")

see alpha privativum (p. 61), SY_N and han

aj 1. class: ajati ("to drive"), see ajra

aja ("the animal that is led → goat")

ajira ("schnell")

ajma or ajman n. ("path, move")

ājī m./f. ("race course, contest")

samāja m. ("meeting, gathering")
E.2. Vowels

← ie. *ḥ₂eḡ́ (“to drive, to do”)

→ ogr. FW dem-agogue and pedagogue

∼ lat. FW

◊ before vowel ag-ile, ag-ent, ag-enda, ag-itate

◊ before voiceless t (turning ag into ak) act, action, active, actual, re-act

**ajra** (“cattle ground”), see aj

← ie. *ḥ₂eḡ́ro (“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. 66)

**añc** 1. class: *añcati* or

**ac** 1. class: *acati* (“to bend, to go”)

← ie. *Henk*

→ ogr. *o gös* (“hook”) with gr. FW *oncology*

∼ lat. *uncus* (“hook”)

Many ac/añc words like

<table>
<thead>
<tr>
<th>preposition</th>
<th>ac adjective</th>
<th>ac adverb</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>anu</strong> (“along”)</td>
<td><em>añ-avńc</em> (“directed upward, northern”)</td>
<td><em>avn-ak</em> (“behind”)</td>
</tr>
<tr>
<td><strong>apa</strong> (“away, off, back”)</td>
<td><em>añ-avńc</em> (“directed backward, western”)</td>
<td><em>apā́k</em> (“in or from the west”)</td>
</tr>
<tr>
<td><strong>awa</strong> (“off, away”)</td>
<td><em>avn-avńc</em> (“directed downward, southern”)</td>
<td><em>avn-ak</em> (“downward”)</td>
</tr>
<tr>
<td><strong>ud</strong> (“out”)</td>
<td><em>ud-ac</em> (“directed upward, northern”)</td>
<td><em>ud-ak</em> (“in or from the north”)</td>
</tr>
<tr>
<td><strong>tins</strong> (“across, over”)</td>
<td><em>tīr̥-ac</em> (“sideward”)</td>
<td></td>
</tr>
<tr>
<td><strong>ni</strong> (“into”)</td>
<td><em>ny-ac</em> (“downward”)</td>
<td></td>
</tr>
<tr>
<td><strong>pra</strong> (“before”)</td>
<td><em>prā́c</em> (“directed forward, eastern”)</td>
<td><em>prā́k</em> (“in front, in the east”)</td>
</tr>
</tbody>
</table>

and also

◊ *prā́-ud-ac* (“north-eastern”)
E. Etymological dictionary

aṇj 7. class: anakti (“to anoint, to reveal”)
abhī-vya-ak-ta (“clear, manifest”)

at 1. class: atati (“to go, to roam”)
at 1. class: atati (“to go, to roam”) later
aḷavī (“forest”)
← ie. *h₂et (“to drive, to do”)
→ lat. annus (“year”) ← ie. *h₂et-nos (similarly in penna, see pat) with FW annual

ati (“beyond, a lot”)
atiSa (“exceedingly, very”) ← ati + iva
← ie. *h₁eti
→ lat. et (“and”) known from et cetera (“and the remaining”) and the sign ᵇ 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
ātithya (“hospitalable”)
ātithyaṃ (“hospitality”)
ātithēya (“hospitalable”)

ad 2. class: atti (“to eat”)
annam (“food") ← ad-nam

<table>
<thead>
<tr>
<th></th>
<th>pres. tense</th>
<th>inf.</th>
<th>fut.</th>
<th>imperf.</th>
<th>perf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ad  (“to eat&quot;)</td>
<td>at-ti (1)</td>
<td>at-tam (1)</td>
<td>at-sy-a-ti (1)</td>
<td>at-sy-a-n-ti</td>
<td>ād-a-t (2)</td>
</tr>
</tbody>
</table>

1. BA

2. ād regularly from a-ad with imperfect marker a, but irregularly with thematic vowel.

3. Perhaps regular from weak form ie. *e₁h₁d-.

4. ād regularly from a-ad by reduplication.

5. Compare ca-kr-us. Perhaps ād-us is regular from weak form ie. *h₁e₁h₁d-.
E.2. Vowels

$\leftarrow$ ie. $^{*}h_{1}ed/^{*}h_{1}od$

$\rightarrow$ ogr./lat./e./nhg. regular developments to be distinguished between full grade and zero grade below

Full-grade representatives of ed are

- e. eat in line with sound law GER and
- nhg. ess-en because of sound law NHG_C

The zero grade of $^{*}h_{1}ed$ is just d. Present participles, or build on these, are

- oi. danta ("an elephant’s tusk")
- gr. FW dont-ology
- lat. FW dent-al
- e. tooth (NHG_E) and
- nhg. Zahn (NHG_C)

Thus, tooth means "eater".

a-diti f. ("liberation")
- also: name of a goddess, mother of the ādityas, like mitra, varuṇa
  
  see p. 61) and dā ("to bind")

adhas ("under")

$\leftarrow$ ie. $^{*}H_{o}ndher/^{*}H_{o}ndhes$

$\rightarrow$ lat. FW infrastructure may belong here.

$\sim$ e. under $\sim$ nhg. unter (But compare e. hound $\sim$ nhg. Hund on p. 3 where germ. d is not changed to nhg. t after n, see )

anala ("insatiable, fire") where the second part of an-ala is related to

alam ("enough")

anas n. ("vehicle for heavy burdens, cart")

$\leftarrow$ ie. $^{*}h_{3}enHos/^{*}h_{3}enos$

$\rightarrow$ lat. onus (gen. oneris) as in onus of proof

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E. Etymological dictionary

\textit{an} \ 2. class: \textit{anīti} ("to breathe") and, perhaps, \textit{ānīla} ("wind")

\begin{align*}
apāṇa & \leftarrow apa + āna ("downward breath, elimination") 
udāṇa & \leftarrow ad + āna ("upward breath") 
prāṇa & \leftarrow pra + āna ("vital breath") 
vyaṇa & \leftarrow vi + āna ("moving breath, circulation") 
samāṇa & \leftarrow sama + āna ("even breath, digestion") 
animāṇati & \text{desiderative (difficult)} 
\end{align*}

\( \leftarrow \text{ie. } \ast h_{2}\text{enh}_1 \)
\( \rightarrow \text{lat. FW } \text{animated, animal } \text{from lat. } \text{anima} \leftarrow \ast \text{anamos ("wind, soul")} \)

\textit{anu} ("along, corresponding")

\textit{anuja} ("being born later \rightarrow younger (brother")

\textit{anvaṅc} ("following") \(\leftarrow\) anu-aṅc, see aṅc above

\textit{anvak} ("behind")

\textit{anta} ("border, ending")

\textit{vēdāṇta} ("end of Vedic literature"), see vid

\textit{antar, antarā} ("in between, inside")

\( \leftarrow \text{ie. } \ast h_1\text{enter / } h_{2\text{nt}} \text{er} \)
\( \rightarrow \text{lat. } \text{inter as in } \text{inter-national} \)
\( \sim \) nhg. \textit{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. \( h_{2\text{nt}} \text{er} \). Then, we have expected \textit{t} in \textit{unter} as in \textit{Vater} (see pi-tar). Compare nhg. \textit{unter} at entry \textit{adhas}.

\textit{antara} ("another")

\( \leftarrow \text{ie. } \ast h_1\text{entero} \)
\( \rightarrow \text{e. other } \sim \text{nhg. anderer (NHG_E for loss of e. n, for dentals compare bhrātar below)} \)

\textit{antarikṣam} ("transparent space \rightarrow airspace") with first part \textit{antar} and with second part from \textit{āks}

\textit{antarasya} ("station, dwelling place") with first part \textit{antar} and with second part from \textit{vas} ("to dwell")

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antastyam (“intestines”) ← antar (wrong sandhi r → s before t) + suffix -tya (compare apatyam)

anti (“opposite, in the face of”)
antimitra (“surrounded by friends”)
← ie. *h2ent (“front, face”), a root noun with locative oi. anti
→ gr. FW antipode (“who has his feet against ours”), see pad
~ lat. ante known from ante Christum natum

antyēṣṭi f. (“offering for the dead”) ← antya (“being at the end”, see anta above) + īṣṭi f. (“offering”, see yaj)

anya (“other”)
← ie. *an-go/*al-yo
→ ogr. allos and gr. FW allergy, allegory
~ lat. alius and lat. FW alibi

anvōṇyās (“one another”) is petrified from nom. sg. anyas anyas by the sandhi rule COMLz. The acc. sg. is not anyamanyam, but anyōnyam.
See also ari.

anvañc (“following”), see anus and anic

ap f. (“water”), only pl.
apsu-ja ctp7 (“born in the waters”) formed with loc. rather than the usual stem, see jan
apsu-jit ctp7 (“vanquishing among the waters or in the region of the clouds”), again with loc., see ji
ab-da (“water giver → cloud”, “when clouds reappear → year”) with BA, see dā
ab-dhī (“holding water → ocean”) with BA, see dhā
dvīpa (“being surrounded by water from two (sides) → island”) ← dvi + zero-grade h2p (LAR). dvi as in dvi-pad (“with two feet”) or dvi-vacana (“dual”)
pratiṣṭha (“against the stream, going in opposite direction → adverse, displeasing”) ← prati + zero-grade h2p (LAR).
samīpa (“with the stream → near, adjacent, close at hand”) ← sam + ap in analogy with pragya
anūṇa (“near the water, watery → marshy”) ← anu + zero-grade h2p (LAR).
nīpa (“towards the water → lowly”) ← ni + zero-grade h2p (LAR).
E. Etymological dictionary

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1. The general pattern of ap is close to that of marut (see p. 193).

2. Long ā in nom. and voc. cases is mysterious.

3. DIS

← ie. *h₂ep/*h₂ekw

→ lat. aqua

apā (“away”)
apara (comparative: “a later one, another one”)
apama (superlative: “the latest, the last”)
apānic (“backward, western”), see aṅc
apatyam (“child, offspring”), for suffix tyā compare antastyam

← ie. *apo

→ ogr. apo and gr. FW apocalypse (for sec. part see kulam)

apās (“action, deed, rite”)
apnas (“wealth, action”)

← ie. *h₃epes

→ lat. apas with FW opera and opulent and German opfern (“to sacrifice”) with unclear NHG_C (why not *affern?)

∼ nhg. üben (“to exercise”), üblich by VER

Both Sanskrit (with apnas from apās) and Latin (see opulent) convey the idea that you get rich from working.

apānic (“backward, western”), see apa and aṅc

api (“also, even”, question particle)
E.2. Vowels

← ie. *$h_{1}$epi, loc. sg. of a root noun

**abda**

◊ **ab-da** (“water giver → cloud”, “when clouds reappear → year”) with **BA**, see **ap** and **dā**

◊ **a-bd-a** ← *a-pd-a (“without feet, inaccessable”) with **BA**, see **pad**

**abhi** (“around, on both sides, toward”)

← ie. *$h_{2}$mbhi → gr. FW *amphi*-theater

~ lat. FW *ambi*-ence, *ambi*-valent, *ambi*-guous

See also **abha** (“both”).

**abhi-s-ti** m. (“protector”)/ **abhi-s-ṭi** f. (“protection”), see as for second part

**abhīṣṭa** (“desired”) ← **abhi** and **iṣṭa** (PPP of **iṣ**)

**abhīṣu** (“rein”) ← **abhi** and **iṣ**

**abhram** (“cloud, airy space”)

← ie. *nebh (“sky, mist”) and zero-grade ie. *$n_{h}bh$-ro

Compare **ambhas** and **nabhas**.

**abhvea** (“not being (good) → monstrous, powerful”)

← ie. *$n_{h}bhuh$-a

**am** 2. class: **amṛti** (“to grab, to harm”)

**ama-tram** (“the pot that is grabbed → drinking vessel”)

**a-matī** (“poor”), **amatī** f. (“not knowing, poverty”)

See **man**. Someone is considered poor because he is not thought of, or not borne in mind by, human or divine benefactors.

**amā** (“home, at home”)

**amāt** (“from home”)

**amāṭya** (“house companion, minister”)

See **svāmin**.
E. Etymological dictionary

**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”) ← *n-nbh* with BA, see abhrām and nabhas.

ambhas also means power, perhaps because a flood can be very powerful.

**ayas** n. cons. (“ore, iron”) ← ie. *h₂eyes / ayes → lat. *aes, aēris* n.

**a-yogū** (“girl without brothers (and sisters)”) See p. 61 yuj, and other feminine family nouns like vadhdū (see vadh) and śvaśrū (see there).

**ar** (“to fit, to connect”)

**ara** (“spoke” (of a wheel)) PPP ṛṭa (“fitting, true”), but see ṛ

**an-ṛta** (“not well fitted → not true”) with alpha privativum, but see ṛ

ṛtu m. (“time of year, right time”) and see ṛtvij

**ara-mali** f. (“right mind → piety”)

**aram/alam** adv. (“sufficient, properly”), see p. 42

**alakam** adv. (“in vain”) ← ie. *h₂er → lat. FW art

ṛṭē (“without”) is a loc. of some noun ṛṭa but is not clear whether it belongs here.

**araṇī/araṇī** f. (“wood for producing fire”)

**araṇā** (“foreign”)

**araṇya** (foreign land, forest)

**araṇyavāsin = araṇyavāukas = vanāukas** (see vas and ōkas)

**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”)

According to Thieme [1957, p. 72], ārī is an unambiguous, very common term for ‘enemy’ in classical Sanskrit. However, in the Rgveda, Thieme argues, ārī is sometimes used in the sense of “guest”. In his “Der Fremdling im Rgveda” (1938), Thieme claims “stranger” to be the original underlying meaning of both enemy and, in RV, guest.

The god Aryaman means god Hospitality: “In my Fremdling 141-4 I have shown that the figure of God Aryaman in the RV becomes clear and consistent on the hypothesis that he is the personified and deified hospitality. He is the god who rewards the host, protects the guest, punishes those who act disgracefully (against guests) and watches over truth.” (Thieme, p. 82)

Finally, it is interesting to take note of Thieme’s claim that ār(i)ya (in English: aryan) was the term used by the Old Indians to describe themselves as people who are being hospitable to strangers.

Leaving Thieme, ārī might be a person who presents himself in a fitting manner (see above) as a guest or as an enemy. Or ārī is the other, see anya.

arc 1. class: arcati (“to shine, to praise”)

← ie. *h₁erkʷ

ārjuna (“white, silvery”)

← ie. *årj or ie. *h₂erj

→ lat. argentum → fr. argent

arthā (“wealth, meaning”)

sārthaka (“caravan”) ← sa (“together with”) + arthā

bhūārthā (“fact, issue”) ← bhūta (PPP of bhū) + arthā

← ie. *??

→ lat. ??

ardha (“half, part”)

← ie. *h₂ordh₁-i (“wheel rim”)

← lat. orbis (with b after r) as in the pope’s blessing arbi et orbi

Arnha (“small, weak”)

← ie. *h₂orbho
E. Etymological dictionary

→ gr. FW orphan (OGR)

∼ nhg. Erbe (“what the orphan obtains, bequest”) according to GER, Arbeit (“done by the orphan → labour”), arm (“being without parents → poor”)

aršas (“hemorrhoids”)
← ie. *h₁elkes
→ gr. elkos (“abcess, ulcer”)
∼ lat. ulcus and FW ulcer

arh 1. class: arhati (“to deserve, to have to, to be worthy”)
← ie. *h₂elg“h
→ gr. alphagein (“to deserve”)

a-lasa (“inert, languid”) ← a + rasa (“plant juice, essence”), see p. 42

ava (“down, away”)
avara (comparative: “a lower one, a later one”)
avama (superlative: “the lowest, the last”)
avānic (“directed downward”) ← ava-aṅc, see aṅc
avāk (“downward”), see aṅc

av 1. class: avati (“to help, to promote”)
PPP ūta ← ie. *h₂uH-to (LAR), also in indrōta ← indra + ūta (“helped by Indra”)
ūti f./m. (“help”)
ininitive avitum ← *h₂euH-tum (LAR)
ō-man m. (“protection, grace”) ← *h₂euH-m (but no effect of second laryngeal as in avitum above?)
← ie. *h₂euH

See also avi below.

avi m. (“sheep”)
← ie. *h₂ōvi
→ lat. ovis with FW ovine (“with respect to sheep”)
∼ e. ewe

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E.2. Vowels

\(\text{aś} \) 9. class: \textit{aśnāti} ("to eat")

\(\text{prāṭarāśa} \) ("breakfast") ← \(\text{prāṭ\,ar} \) ("in the morning") + \(\text{āśa} \) ("meal")

\(\text{phalāśin} \) ("vegetarian") ← \(\text{phala} \) ("fruit") + \(\text{āśa} \) ("meal") + in suffix

infinitive \textit{aśitum} (LAR)

← ie. *\(\text{HekH} \)

\(\text{aśman} \) m. ("stone")

← ie. *\(\text{ak} \)

→ gr. \textit{akropolis} ("pointed town, castle")

\(\text{aśva} \) ("horse")

\(\text{aśv-in} \) ("having horses", a pair of gods who use horses to pull the sun across the sky)

\(\text{āśu} \) ("fast") It would be nice if \(\text{āśu} \) and \(\text{aśva} \) were related, but this is far from certain.

\(\text{āśv-aśva} ← \text{āśu} + \text{aśva} \) ("to have fast horses")

← ie. *\(\text{hekko} \)

→ gr. FW \textit{hippo, hippodrome}

∼ lat. FW \textit{equestrian}

\(\text{aśvattha} \) ("banyan tree ← horse food") ← \(\text{aśva} \) ("horse") + \(\text{d} \) (zero grade of \textit{ad}, "to eat") + \(\text{tha} \) (suffix)

\(\text{aśta} \) ("acht")

← ie. *\(\text{hekito}/*\text{okto} \)

→ gr. FW \textit{octopus/octopo} ("with eight feet"), see \textit{pad} for second part

∼ lat. FW \textit{October} ("the eighth month, with March being the first in the Roman calendar")

∼ e. \textit{eight} ∼ nhg. \textit{acht}

\(\text{as} \) 4. class: \textit{asyāti} ("to throw, to shoot")

\(\text{as-ra} \) ("throwing, painful")

\(\text{asi} \) m. ("sword")

\(\text{abhy-as-ta} \) ("repetition, learning") ← \(\text{abhi} \) ("around, on both sides, toward") + \(\text{asta} \)

(PPP of \textit{as})
**E. Etymological dictionary**

**abhy-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") with paradigm on p. 140

*asu* m. ("living, existence"), in particular in *gatāsu* ("with life gone away, dead") ← *gata* (PPP of gam) + *asu*

*sat* ("being, good"), adj. from pres. part. of *as* ("to be") with *sat-kavi* m. ("good poet")

*i-ṣat* ("being in that manner → a bit, somewhat") ← ī + n. pres. part. of *as* ("to be")

*satīvam* ("being, nature, living being") ← *sat + tva* (suffix)

*ṣatya* ("true, real") ← *sat + ya* (suffix)

*ṣatam* ("where someone is → home, home country") may be related, used in *ṣatam gacchati* ("he dies", "it (the sun) sets"), but see also *nas*.

*bodhisattva* ("a Buddha saint") has often been written as *bodhisatva* in Buddhist Hybrid Sanskrit (see *Bhattacharyya* [2010]). See also *saj*.

*asura* ("lord of life, god, demon") ← *asu + ra* (suffix) may also belong here. In any case, misunderstanding this as *a + sura*, the noun *sura* ("not demon, god") has been created by back-formation.

*upā-s-ti* m. ("servant") with first part preposition *upa*

*abhī-ṣ-ṭi* m. ("protector")/ *abhī-ṣ-ṭi* f. ("protection") with first part preposition *abhī*

See *su*.

← ie. *h₁es*

→ lat. *est* → fr. *il est*

~ e. *is* ~ nhg. *ist*

**asūy: asūyatī** ("he grumbles, he resents") perhaps formed from *a* ("not") + *su* ("good")?

*asthi* n. ("bone")

← ie. *h₂ost-h₂*

→ gr. FW *osteoporosis*

~ lat. FW *osseous* ("concerning bones"), to *ossify*

*aham*

← ie. *h₁eγoh₂m*

→ lat. *ego* with FW *egotism*

~ Berlinish icke (GER)
E.2. Vowels

∼ e. I ∼ nhg. ich

Courageous laryngalists defend this development:

\[ i.e. \star h_1 e \acute{\jmath}o h_2 m \]
\[ \rightarrow h_1 e \acute{\jmath}h_2 o m \text{ (laryngeal metathesis of } h_2 \text{ and } o) \]
\[ \rightarrow e \acute{\jmath}h_1 o m \text{ (} \acute{\jmath}h_2 \rightarrow \acute{\jmath}h, \text{ LAR)} \]
\[ \rightarrow a h a m \text{ (PPAL)} \]

**ahar/ahan** n. ("day")
**aho-rātra**, n. ("day and night"), see remark 5 below
**pratyaham** ("daily, every day"), see section [D.4](#), pp. 223

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<td>acc.</td>
<td>ahar (1)</td>
<td>ahān-i/ahan-i (2, 3)</td>
<td>ahān-i (6)</td>
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<td>ahas-su/ahaf-su (5)</td>
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1. The first stem **ahar** serves as NVA singular.
2. Building on the second stem **ahan**, many forms follow the nāman pattern (p. 207).
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. 208).
4. Taking **ahas** as a third stem, one obtain aho-bhyās and similar forms (p. 195).
   The sandhi rule applied is similar to COMLz, but note that the change is not a word-final one.
5. The third stem seems also in use in loc. pl., compare manas-su/manaḥ-su (p. 195).
6. Lo

E.2.2. ā

**ātman** m. ("self")

← i.e. *ēh₁t-mo(n)* with dat. sg. *ēh₁t-mē(n)-ei*

→ Luther’s bible *Odem* ~ nhg. Atem (probably built on a weak form, see VER, p. 68)
E. Etymological dictionary

ādhra ("needy, weak, poor"), see LAR, see pp. 110
nādh 1. class: nādhatê ("to be needy, to beg")
← ie. *neHdh

Unrelated nāth 1. class: nādhatê has the same meaning as nādh.

āyus ("life")
yuvam. ("youngster"), see 207
← ie. *h₂oy-a-, where yuv-an is build from the zero grade
→ gr. FW eon ("age, lifetime")
~ nhg. ewig ("forever")

ās 2. class: āstê ("to sit")
āśanam ("sitting, throne")
āsandî ("throne")

E.2.3. i

i 2. class: ēti ("to go"), pp. 141
PPP ēta, also with prepositions:

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<td>anu-i</td>
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<td>abhî-ti-s</td>
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<tr>
<td>ud-i</td>
<td>ud-i-ta</td>
<td>to go up</td>
<td>ud-i-ti-s</td>
<td>sunrise</td>
</tr>
<tr>
<td>upa-i</td>
<td>upê-ta</td>
<td>to go towards</td>
<td>upê-ti-s</td>
<td>approach</td>
</tr>
<tr>
<td>prâ-i</td>
<td>prê-ta</td>
<td>to set off</td>
<td>prê-ti-s</td>
<td>escape</td>
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palây 10. class: palâyatê ("to flee") from *parâyatê ← *parâ-ayatê (see parâ)??
sahâyya ("companion, helper") ← saha + aya and sâhâyya ("fellowship, help") (see pp. 223)
ayana/ayanam ("going, motion, hallway") as in
  ◦ vâtâyannam ("window") from vâta ("wind")
  ◦ râmâyanam (name of Indian epic) from râma ("name of Indian hero")
  ◦ samâvâya ("inheritance, cooccurrence") from sama ("same") + aya ("down")

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E.2. Vowels

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<tr>
<td>perfect</td>
<td>iy-ây-a (3)</td>
</tr>
</tbody>
</table>

1. âi-t ← a-i-t is regular by a MVS sound law (pp. 29).

2. Not clear. Could a similar rule as the one applied in 4. be responsible for â in ây-an ← a-i-an before a vowel ending?


→ ie. *ei

→ lat. FW i-eration

See yâ

iti (“in this way → thus”, indicates quotes or thoughts), perhaps from i above
iti-hâsa (“thus, indeed, it was → history, legend”) ← iti + ha (“indeed”) + âsa (3. pers. sg. perfect of as, p. 173)
~ lat. ita (“in this manner”)

idh/ indh 1. class: indhatê (“to set fire to”)
PPP iddda (“inflamed”) by ASH
← ie. *h2eidh

→ gr. aithô (“I set on fire”)

iva
atîva (“exceedingly, very”) ← ati + iva
← ie. *h2iva

iș 1. class: icchati (“to wish”), may well be related to iș (“to press, to send”) below
gavis m./f./n. (“wishing cows, greedy”)
icchā (“wish”)
← ie. *h2eis (“to seek, to desire”)

→ e. ask ~ ohg. eiscōn → nhg. heischen
E. Etymological dictionary

Compare gam, gaghati (“to go”) and pracch, prachhati (“to ask”).

is 1. class: ḫṣati, 4. class: ḫṣatit, 9. class: ḫnati (to press, to send”) may well be related to is (“to wish”) above

isu m. (“arrow”)

isat adv. (“a bit, getting close to”)

← ie. *h₁eis (“to set in motion”)

→ lat. ĭra (“anger”) as in FW irate

It seems probable that the two is are one word, only. An arrow (isu)

◇ may be directed towards what is wished for (the first is)

◇ may have been sent (the second is) or

E.2.4. ĭ

įkṣ 1. class: ĭkṣate (“to see”), see ak-ṣi n. (“eye”) originally a desiderative (see pp. 114) formed from ie. ie. *h₃ekʷ by reduplication with i, zero grade and suffix s:

\[
\begin{align*}
*{h₃i-h₃ekʷ-s} & \rightarrow ĭkʷ-s (ie. ih \rightarrow oi. ĭ) \\
*{h₃-kekʷ-s} & \rightarrow ĭk-s (see pp. 34) \\
*{h₃-kekʷ-s} & \rightarrow ĭk-s (RUKI) \rightarrow ĭk-s- nhi watches over \\
{h₃-kekʷ-s} & \rightarrow ĭk-s-aťi sight
\end{align*}
\]

įś 2. class: ĭšte (“to own, to rule”) ĭś-vara “god, lord”

← ie. *h₂eiık

→ e. own ~ nhg. eigen (VER)

E.2.5. u

ukṣ 4. class: ukṣ-a-ti (“to grow, to get strong”)

← ie. *h₂eug-/*h₂euxks-

→ lat. FW auction (with backward assimilation) and name of emperor Augustus

~ nhg. wachsen ← *h₂euxs (with metathesis)
E.2. Vowels

ud (“out of, up”)
uttara (comparative: “a higher one, the later one”)
uttama (superlative: “the extreme, the last, the best”)
anuttama (superlative: “unsurpassed”)
ctw with vigraha: avidyamāṇah uttamaḥ yasmat satō (“that in relation to which there is no supreme”)
udac (“directed upward, northern”)
udak (“in or from the north”)
un-mārga (“a wrong or evil way”) ← ud + mārga
← ie. *ud

→ gr. FW hysteria (compare Indo-Iranian DzD) ~ oi. uttara above
~ e. out ~ nhg. aus

ud/und 7. class: u-na-t-ti/ 6. class: undati (“to make wet”)
unna (“wet”) ← ud-na
udan n. (“water”)
udakam (“water”)
ōdman n. (“floods, rain”)
← ie. *ved-n/*ved-r

→ gr. FW hydrate
~ lat. unda “Welle”
~ e. water ~ nhg. Wasser

upa (“to, near”)
upaniṣad f. (“what is taught when sitting down and close to”, indische Geheimlehre, see sad)
upadēṣa (“teaching”, see diṣ)
← ie. *(s)upo

→ gr. FW hypo-thesis (sec. part see dhā), hypo-crite
~ lat. sub (with lat. s as in super, see upari) with FW sub-mit, sub-ject, sub-set
~ but not e. of or off or nhg. auf

upari (“over”)
← ie. *(s)upér(i)
E. Etymological dictionary

→ gr. FW hyperbola, hyper-active (sec. part lat, see aj), hyper-tension (sec. part lat)

~ lat. super (with lat. s as in sub, see upa) with FW superman, supervision, superficial

~ e. over ~ nhg. über (note the ie. stress and consult VER)

**upastha** (“womb, genitals, sheltered place”)
- ◇ *upa* (“to, near”) + *sthā* (from *sthā*, compare p. 122) or
- ◇ *upas* (“womb”) +
  - *sthā* (from *sthā*, compare p. 122) or
  - *tha* (suffix)

**upa-s-li** m. (“servant”)  
← *upa* (“to, near”) + zero grade of *as*

**ubha** (“both”), probably related to *abhī* (“around, on both sides, toward”)

**uru** (“wide”)
- **var-ījans** (comparative, “wider”)
- **var-īštha** (superlative, “widest”), superlative ending cognate with e. *st* as in widest (LAR and p. 66)

f. *urvī* also (very similar to *prthei*, see *prthu*) in
- ◇ *urvī-pati* m. (“king”)
- ◇ *urvī-talam* (“earth, ground”)

**varas** (“width, extension”)

**urvasī** (an *apsaras* f. (“heavenly nymph”) with “extended wishes”) ← *urvasī* ← *uru* + *vaś* (“to wish”) + *s*-suffix

**uras** (“(wide) breast”)

maybe **uluka** (“with a broad face → owl”) ← *uru-Hka*

possibly also *ūru* m. (“thigh”) with strange analogy

<table>
<thead>
<tr>
<th><em>bāhu</em> (“much, many”) adj.</th>
<th>giving rise to body part:</th>
<th><em>bāhu</em> m. (“arm”)</th>
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<tr>
<td>just as</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>uru</em> (“wide”) adj.</td>
<td>giving rise to body part:</td>
<td><em>ūru</em> m. (“thigh”)</td>
</tr>
</tbody>
</table>

**uṣas** f. (“dawn, aurora”)

← ie. *h₂eus*

→ lat. FW *aurora*
E.2.6. ū

ūti f./m. (“help”), see av (“to help, to promote”) ← ie. *h₂uH-ṭi (LAR)

ūdhar n. (“udder”)
← ie. *ūdher
→ e. udder ~ nhg. Euter

ūrṇā (“wool”)
← ie. *uḷHn
→ e. wool ~ nhg. Wolle

ūrdhva (“tending upwards, raised, elevated”)
ūrdhvam adv. (“upwards, beyond”)
~ ogr. orthodox, orthopedist (OGR)

ūḥ 1. class: ūhati (“to carry, to modify”)
PPP ūḍha
sam-ūḥ (“to heap together”) and sam-ūha (“heap, bulk, union”)
ūḥ goes back to vaḥ (“to drive, to bring”). Long ū may result from PPP by levelling.

E.2.7. ṛ

ṝ 1. class: ṝcchati / 3. class: ṝjarti / 5. class: ṝṇoti (“to rise, to reach”)
PPP ṛta (“proper, right, moved”), but see ar
PPP ṛnṛta (“false, undeserved”), but see ar

ṝkṣa (“bear”)
← ie. *h₂ṛtko/h₂ṛtko
→ gr. FW arctic with metathesis of the consonants (“belonging to the bear constellation
→ with respect to the north pole”)
~ lat. ursus (with difficulties) and PNs Urs and Ursula
E. Etymological dictionary

Oi. Ŀkśa perhaps by Ŀk → Ŀš → Ŀś → Ŀś (similarly, Ŀśam)?

ṝṭe (“without”)
Originally a loc. of some noun

ṝṭvij m. (“offering at the right time → priest”)
← rtu (“time of year, right time”) + zero grade of yaj (“to sacrifice”)

E.2.8. ē, āi

ēka (“one, single”)
ēkākin (“single, alone”) ← ēka + ak (suffix) + in (suffix)
ēkāgra (“one-pointed, focussed”) with second agram (“top, summit, beginning”)

E.2.9. ḍ, āu

ḍjas (“power”), see *vaj (“to get strong”)

ḍjman m. (“strength, power”), see *vaj (“to get strong”)

ḍdman n. (“floods, rain”), see ud (“to make wet”)

ḍman m. (“protection, grace”), see av (“to help, to promote”)

E.3. Velar stops

E.3.1. k

kanyā (“girl, daughter”)
kānā (“girl”)
kānī (“girl”)
← ie. *ken-
→ lat. FW re-cent

kavi m. (“wise, poet”)
← ie. *kovHi- (the laryngeal makes the syllable closed so that Brugmann’s law Lo does not apply)
E.3. Velar stops

→ lat. FW caution and the warning “cave canem”

kas (“who”), see also kôvida

cid as in

◇ kaścid (“someone”) by BA
◇ kadācid (“sometime”)
◇ kū-cid (“somewhere, anywhere”)
◇ kva-cid (“somewhere, anywhere”)

kiyat (“how large, how long”) and kiyān-mātra (“measuring how much → small”)

ku (“wherever → unknown origin/source → bad, little”) as in

◇ ku-śīda (“lazy”) and ku-sūdam (“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

kū (“where”), variant of ku

ku-tas (“from where”) with common adverbial suffix tas

kū-cid (“somewhere, anywhere”)

kva (“where(to)”)”

kim (“what”) where

◇ k instead of expected e (SPAL) stems from levelling with kas or ku and
◇ kim (with m as in many other neuter forms like phalam) is seen as a very ancient form for expected cid

kuv-id (“whether indeed, whether perhaps”) ← kū + id (see ced under ca)

← ie. *kwē/*kwō

→ lat. FW (saying) quid pro quo (“reward, return service”)  
~ e. what, who  ~ nhg. was, wer

kāṅks 1. class: kāṅkṣati (“to wish, to desire”), see kāma below

kāma (“wish, desire”)  
← ie. *keH/*kemH-
E. Etymological dictionary

→ lat. cārus (“dear, expensive”) with Karitas, a German Catholic welfare organization

~ fr. cher

~ e. whore ~ nhg. Hure

Probably also related to

◊ kānta (“beloved”) ← *kHm-to (LAR) and somehow to

◊ kāns above

kāla (“time”)
kālāntaka (“ender of time → god of death’’)
kālātmaka (“determined by time/fate”)

Two explanations for kāla:

◊ from kr (“to make”) because the decisive action has to be undertaken at the right point in time

◊ from car (“to turn”) because “The Times They Are A-Changin” (Bob Dylan)

kāś 1. class: kāsatē (“to appear, to shine”)

← ie. *kʷečē

kās 1. class: kāsate (“to cough”)
kās f./kāsā (“cough”)
kāsa (“cough”)

← ie. *kʷas

→ nhg. husten (“to cough”)

kup 1. class: kupyati (“to be angry”)
kōpa (“anger”)

← ie. *keu(H)p (“to boil, to be agitated”)

→ lat. capiō (“I desire strongly”), lat. FW cupid (name of god of love), cupidity (“lust, desire, greed”)

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E.3. Velar stops

kuti f. (“bending, curve”)
kulīla (“bent, curved, deceitful”)
kāutiya (“deceit, falsity”)
kāutiya (author of the arthaśāstra)

kulam (“house, herd, family”)??
kulā (“producer of objects with holes → potter”)
kulā-cakram (“potter’s wheel”) If the original meaning of kula is “hole → house → family”, from
← ie. *kol (“??”)?-
~ e. hole, hollow ~ nhg. hohl (“hollow”) See also oi. saranam von ie. *kēl.

kṛ 8. class: karōti (“to make”)
kara (“maker → hand”) su-kara (“doable”)
pra-kṛta (“made, accomplished”) and f. prakṛti (“nature, basis, cause”). The derivative (pp. 225) prakṛta that denotes the Middle Indian language(s), i.e., Prakrit or the Prakrits, refers to those languages that are derived from the prā-krta (“elementary”) language Sanskrit.
sanā-s-kṛta with s before k for obscure reasons.

kṛt 7. class: krṇatti (“to spin”)
mi. kaṭa (“mat”) ← karta where r is dropped while cerebralizing ṭ (pp. 31)

kṛt 6. class: krṇati (“to cut”)
← ie. *(s)ker(t)
→ e. shear~ nhg. scheren (“to shear”) See also carman (“leather”).

kṛp f. (“look, beauty”) kṛt-s-na (“bodily → complete, whole”) ← kṛp-s-na (by BA because s is a dental sound!)
← ie. *kerp??
~ lat. corpus with FW in English corps, corporation and lat. FW in German Körper (“body”)
E. Etymological dictionary

**kr**p 1. class: **kr**patē (“to lament, to moan, to beg”)  
**kr**pā (“compassion”)  
**kr**cehra (“difficult, dangerous”) ← **kr**τ-s-ra (similar to ??) ← **kr**p-s-ra (by BA because s is a dental sound!)  
← ie. *k??  
→ ??

**kr**śa (“thin”)  
* kraś-īyans (comparative, “thinner”)  
* kraś-īṣṭha (superlative, “thinnest”), superlative ending cognate with e. st as in thinnest (LAR)

**kr**ś 1. class: **kar**ṣati (“to draw (a furrow), to pull, to drag”)  
**kar**ṣaka (“farmer”)  
**kar**ṣvala (“farmer”) where it would certainly be nice to relate val to nhg. wühlen (“to dig into”)  
**kar**ṣū (“furrow”)  
**kar**ṣna (“the colour of the earth after furrowing → black”)  
**kar**ṣman n. (“furrow, the target designated by a furrow → race target”)  
**ka**ś 1. class: **ka**ṣati (“to rub, to rasp”) ← **kar**ś where r is dropped, but s already cerebralied (pp. 51) and also  
◊ PPP **kaśla** (“harsh, severe”)  
◊ **nīkaśa** (“touchstone, criterion”)  

See also **ca**r (“to go”)

**kτ** 6. class: **ki**rati (“to outpour, to sprinkle”)  
PPP **kūr-ṇa** (pp. 108)  
**kūr-i** (“who outpours fame or praise → poet”)  
**ci-ki**r-īṣ-u (pp. 119)  
← ie. *kṛH

**kētu** m. (“brightness”), see **cīt**  
← ie. *keit (“to be bright”) ← ie. *kai (“to shine, to burn”)

**kēśa** (“hair”) → pa. kēśa  
← ie. *??

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kôvida (“experienced”) ← kas vida (“who knows”) by COMLz

kratu m. (“power, energy”)
← ie. *kretu (“to freeze, to form a crust”)
→ ogr. FW demo-cracy
~ maybe e. hard ~ nhg. hart

krand 1. class: krandati (“to lament, to cry”)
← ie. *kel
→ lat. clārus (“loud, clear, famous”), calāre (“to call out, to call together”), clamare, and con-ciliāre (“to join, to make friends with”)
with FW 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)
krūra (“bloody, raw, cruel”) ← ie. zero grade *kruh₂-ro
← ogr. kreas (“meat”) (OGR)
also ogr. FW crystal (originally “fossilized ice”)
~ lat. cru-or (“blood”) and
® crūdus (“raw, clotted”) with lat. FW crude, cruel
® crūsta (“crust, bark”) with lat. FW crust (in German: Kruste)
~ e. raw ~ nhg. roh ← ohg. (h)rō

krī 9. class: krīṇāti / krīṇēlē (“to buy”), see p. 171
vi-krī (“to sell”)
← ie. *kʷreih₂
From kʷri-neh₂-ti, one should expect *krīṇāti, with short i, instead. See pp. 82

krīḍ 1. class: krīḍatī (“to play”)

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E. Etymological dictionary

← ie. *krisd (compare nīdam ← ni-sd-am)

klam 4. class: klāmyati (“to tire”) where walking is tiring;
kram 4. class: krāmyati (“to walk”) where the unrelated śram may also have been involved
PPP krānta (LAR, BA)
← ie. *kremH
Both krām-ya-ti and krānta are regular zero grades.

klid 4. class: klidyati (“to get wet”)
PPP klinna (compare p. 101)
klēda (“wetness, humidity, decay”)

klōman m./n. (“right lung”), possibly dissimilated from plōman
← ie. *plemon (“swimmer → lung”), see pr
→ lat. FW pulmonary

kṣam f. (“earth”), difficult
← ie. *dhyhom
→ ogr. chthōn with FW cthonic (“coming from the earth”), with metathesis of the initial consonants
~ lat. homō, hominis with FW homunculus
~ nhg. Bräutigam

kṣi 2. class: kṣēti (“to dwell, to possess, to rule”)
kṣūti f. (“earth, living place”)
kṣēma (“habitable, comfortable”)
kṣētram (“field, place”)
kṣatram (“government, leadership”)
kṣatriya (“ruling”)
kṣatriya (“warrior, ruler”)
kṣi 9. class: kṣipāti (“to destroy, to perish”)
kṣiti f. (“destruction, doom”)

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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.

**kṣip** 6. class: *kṣipati* (“to throw, to dash”)
PPP *kṣipta*

*kṣipra* (“fast, quick”)

- *kṣēp-īrans* (comparative, “quicker”)
- *kṣēp-īṣṭha* (superlative, “quickest”) (LAR)

*kṣēpa* (“shot”)

*kṣēpṇā* adv. (“fast”)

**kṣud** 1. class: *kṣōdati* (“to stamp, to crunch”)
PPP *kṣuṇṇa* (compare p. 101)

*kṣudra* (“small, miserable, mean”)

- *kṣōd-īrans* (comparative, “small”)
- *kṣōd-īṣṭha* (superlative, “smallest”)

**kṣudh** 4. class: *kṣudhyati* (“to be hungry”)
PPP *kṣudhita*

*kṣudhī f./kṣudhā* (“hunger”)

**kṣuh** 4. class: *kṣubhyati* / 1. class: *kṣōbhātē* (“to tremble, to be excited”)
PPP *kṣubdha*

← ie. *kṣubh*

→ e. to shove, shovel (NHG_E)

~ nhg. schieben, Schub (GER) and also somehow Schaufel, Schippe

**E.3.2. kh**

**khan** 1. class: *khanati* (“to dig”)
PPP *khāta* (see p. 107)

*khanitrām* (“shovel”) (compare p. 95)

*khani* f. (“pit, mine”)

← ie. *kenh₁* (without explaining oi. word-initial kh)

**kham** (“hole, hole containing the axis, air space”)
**su-kham** (“smoothly moving axis in the kha → fortune, happiness”)

**khaqa** (“bird”), see pp. 73

**kha-jalam** (“air space water → dew, fog”)

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E. Etymological dictionary

khād 6. class: khādati (“to eat”)
Non-sensical suggestion: kh-ad, see ad

khila (“wasteland, rest”)
khiḷī kr (“to empty”)
a-khilam (“everything, universe”)
a-khilēna (“in its entirety, all in all”)

khya 2. class: khyaṭi (“to tell”), perhaps similar to mnā (see p. 73)?

E.3.3. g

gaja (“elephant”)
Possibly related to garj?

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/ gandham (“smell, odor”)
su-gandhi (“fragrant”)

gam 1. class: gacchati (“to go”)

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<th></th>
<th>present tense</th>
<th>infinitive</th>
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<td>gacch-a-n-ti</td>
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<td>future</td>
<td>gam-i-sya-a-ti (3)</td>
<td>gam-i-sya-a-n-ti (3)</td>
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<td>imperfect</td>
<td>a-gam-a-t</td>
<td>a-gam-a-n</td>
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<tr>
<td>perfect</td>
<td>ja-gam-a (4)</td>
<td>ja-gam-as (4)</td>
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<tr>
<td>them. aorist</td>
<td>a-gam-a-t (5)</td>
<td>a-gam-a-n (5)</td>
</tr>
<tr>
<td>desiderative</td>
<td>ji-gam-i-ṣ-a-ti (3)</td>
<td>ji-gam-i-ṣ-a-u (3)</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. 171).
E.3. Velar stops

5. Thematic aorist, but in full grade

On the one hand, *gam*

← ie. *gʰem* (see also ġā below)

→ gr. FW *basis* with zero grade (IE_SY_N) and gr. FW *acro-bat* (“someone who tiptoes”) (for akro- (“top, summit, castle”) see āšman)

∼ lat. *venīre* with FW *inter-ven-tion, con-vent, con-ven-tion, advent* (“coming of Jesus Christ”), *e-vent, prevention*

∼ nhg. *kommen, bequem*

On the other hand, *gacchati*

← ie. *gʰm-šk*

→ ogr. *ba-sk-ō*

Compare *iš, icchati* (“to wish”) and *pracch, prochati* (“to ask”).

*gabha* (“spreading of thighs → vulva”) (DA)

← ie. *ghebh/ie. *ghebhol* (“crotch, especially at the top of a house = gable”)

→ ogr. *kephalē* (OGR, a Greek version of DA) (“top, head”) with FW *cephalic, cephalogram*

∼ lat. *habere* with FW *habitus, habile, habilitation*

∼ e. *gable* ∼ nhg. *Giebel, Gabel* (“fork”)

∼ e. *to give* ∼ nhg. *geben*

*gabhasti* m. (“arm, hand”) (DA)

← ie. *ghabh* (“to grab, to hold”)

→ ogr. *kephalē* (OGR, a Greek version of DA) (“top, head”) with FW *cephalic, cephalogram*

∼ but not e. *to have* ∼ nhg. *haben, see šap*
E. Etymological dictionary

*gaya* (‘life, possession, dwelling place, family’), see āv

*garuḍa* (name of a mythical bird)
*garut* m. (‘wing’)
*garutmaṇṭ* (‘winged one → bird’ = *garuḍa*)

These three words are related, but in a difficult manner.

*garj* 1. class: *garjati* (‘to roar, to thunder’), related to *gaja*?

*grdh* 4. class: *grdhyaṭi* (‘to be greedy’)

PPP *grddha*

*gardha* (‘greed’)
*grdh-yaḥ* (‘greed’)
*grdhra* (‘greedy’)
*grdhra* (‘vulture’)

*garh* (‘to lament’) and *grabh* (‘to take, to grab’) may somehow be related

*garbhā* (‘womb, embryo’)

← ie. *gwolbh* (‘to grab, to hold’)

→ ogr. *a-delphos* (‘from the same womb → brother’) with place name *Phil-a-delphia* where the a is related to oī. sam

*gar* (‘to gulp, to swallow up’)

*gara* (‘swallowing’)

*garam* (‘potion’)

*aṭa-gara* (‘one who swallows a goat → serpent’)

*gal* 1. class: *galaṭi* (‘to drop, to trickle’)

*gala* (‘neck’) with *gala-duvarmaṇ* (‘throat door → mouth’)

*grīva* (‘neck’)

*suṇgrīva* (‘one with a beautiful neck’, name of the monkey king who helps Rāma recover Sītā who was abducted by Rāvana)

cbw, vigraha: *sobhanāḥ grīvaḥ yasya saḥ* (“he whose neck is beautiful”)

*dauṣagṛīva* (‘one with ten necks’, i.e., Rāvana)

cbw, vigraha: *dauṣa grīvāḥ yasya saḥ* (“he whose has ten necks”)

*ga* 3. class: *ṛgāṭi* (‘to go’)

*gā-ṭram* (‘instrument for going → body limb’)

*gā-tu* m. (‘place for going → course, lane’)

← ie. *gwecḥ₂*
E.3. Velar stops

Probably related to *gam above.

\textit{gā/gāi} 
1. class: \textit{gāyati} / 2. class: \textit{gāti} (“to sing”)
\textit{gāthā/gāthā} (“singing”)
\textit{gāthaka} (“singer”)
PPP \textit{gīla} by laryngeal metathesis (compare p. 295) from \textit{*giH-to} ← \textit{*gHi-to}
← ie. *\textit{geH-i}

\textit{gup} 
10. class: \textit{gōpāyati} (“to protect cows → to protect”)
\textit{gōpā} (“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 \textit{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

<table>
<thead>
<tr>
<th>PPP</th>
<th>with 10. class</th>
</tr>
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<tbody>
<tr>
<td>\textit{gup-ta}</td>
<td>\textit{lōpayati}</td>
</tr>
</tbody>
</table>

just as

<table>
<thead>
<tr>
<th>PPP</th>
<th>with 10. class</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{gup-ta}, falsely</td>
<td>\textit{gōpāyati}</td>
</tr>
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</table>

\textit{gō} m./f. (“bull, cow”)
\textit{gōpā} m. (“herdsman, cow protector”), for second part, see \textit{pā}
\textit{gōpāla} (“herdsman, cow protector”), for second part, see \textit{par}
\textit{gōpāti} m. (“lord of cows, ruler, bull”), for second part, see \textit{patī}
\textit{gōtama} (“possessing many cows → rich”)
\textit{gōtram} (“cowshed”)
\textit{gōṭṣha} (“where the cows stand → cowshed”), for second part, see \textit{sthā}
\textit{gōḍhā} (“sucking cows” → name for a kind of lizard), for second part, see \textit{dhē}
← ie. *\textit{gōwou}

→ lat. dialectal \textit{bōs, bovis} with \textit{bovine spongiform encephalopathy} (short: BSE) and \textit{beef} (english, but from Norman invasion)

∼ e. \textit{cow} ∼ nhg. \textit{Kuh}

\textit{guru} (“heavy”) with \textit{guru} m. (“teacher”)
\textit{gar-īyans} (comparative, “heavier”)
\textit{gar-īṣṭha} (superlative, “heaviest”)
\textit{gāreṇa} m. (“heavy object → stone”)
← ie. *\textit{gōrōhi₂u}

→ gr. FW \textit{barometer}

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E. Etymological dictionary

∼ lat. FW gravity

guh 1. class: gūhati (“to hide”)

<table>
<thead>
<tr>
<th></th>
<th>guh (“to hide”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td>guh-a-ti (2)</td>
</tr>
<tr>
<td></td>
<td>guh-a-n-ti (2)</td>
</tr>
<tr>
<td>PPP</td>
<td>gūdh (1)</td>
</tr>
<tr>
<td>imperfect</td>
<td>a-gūh-a-t (2)</td>
</tr>
<tr>
<td></td>
<td>a-gūh-a-n (2)</td>
</tr>
<tr>
<td>perfect</td>
<td>ju-gūh-a (2, 3)</td>
</tr>
<tr>
<td></td>
<td>ju-guh-us (3, 4)</td>
</tr>
<tr>
<td>sa-aorist</td>
<td>a-ghuk-š-a-t (5)</td>
</tr>
<tr>
<td>desiderative</td>
<td>ju-ghuk-š-a-ti (6)</td>
</tr>
<tr>
<td></td>
<td>ju-ghuk-š-u (6)</td>
</tr>
</tbody>
</table>

1. PPP gūdh is perfectly regular:
   ie. *ghu  gh-to (zero grade and to PPP marker)
   → guh-dha (DA and ASH)
   → guz-dha (SZ before voiced cons.)
   → guz-dha (RUKI)
   → guz-đha (CERD)
   → gu-đha (COMLz)

2. guh-a-ti for expected full grade gōh-a-ti. Levelling may be responsible, see PPP gūdh.

3. The perfect reduplication with ju is analogic secondary palatalization as in cu-kšōbh-a (p. 175). 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 *gheuğh.

6. Expected appearance of aspiration as in future form bhôt-sy-a-ti (pp. 36, 98).

← ie. *gheuğh

→ ??

gūrta (“agreeable, welcome”)
gūrti f. (“praise”)

← ie. gwUGH-to (“welcome”)

→ lat. FW con-grat-ulation, gracious
E.3. Velar stops

grham ("house") DA and p. 47
← ie. *ghrdho
→ Slavic placenames like Bel-grade

granth 9. class: grathṇāti ("to bind, to wind")
grantha ("knot, text, book") (LAR)
grathin ("reading books")
PPP grathīta (SY _ N)
← ie. *grenth₂ and more basically ie. *ger ("turning, to bend, to braid")

→ Many Germanic, in particular nhg. successors, such as
   ◇ nhg. krenzen ("to produce or attach something wound") and hence nhg. Kranz
   ◇ nhg. Kringle ("small circle")
   ◇ nhg. krank ("bent, buckled → ill")
   ◇ nhg. Krampf ~ e. cramp

Similar to grabha ("capture", see grabh below), observe

   ie. *grenth₂-o
   → *grenth-o (LAR)
   → granth-a (A Ā)

Revisit subsection C.2.5 (pp. 82) 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>*grnt-ne-H-ti</td>
</tr>
</tbody>
</table>

The last line should yield *grāṇāti by SY _ N and LAR instead of grathṇāti above. The latter is to be explained by levelling, for example by

grāṇāti
influenced by grantha with aspirated t
  turns into granthāti with aspirated t

grabh (later grabh) 9. class: grbhṇāti/grbhṇāti ("to seize, to take")
grabha ("capture")
PPP grabhīna with unexpected full grade and unusual long ī
grabhīlar ("capturer") with expected full grade (pp. 94), but funny long ī
← ie. *ghrebh₂
E. Etymological dictionary

∼ e. to engrave, grave

∼ nhg. graben (“to dig”), Grab (“grave”), Grabe (“pit”), grübeln (“to brood”)

∼ Dutch gracht with ch as in nlg. Nichte (see napbar) ∼ nhg. Graht (out of use)

The oi. root grabh (in full grade) and in particular forms like grabha (“capture”) show this development:

\[
\begin{array}{cccc}
\text{ie.} & \ast ghrebh_{2-o} & \rightarrow & \ast ghrebh-o \quad \text{(LAR)} \\
& \rightarrow & ghrah-a \quad (\text{A} \tilde{\text{A}}) \\
& \rightarrow & grabh-a \quad (\text{DA}) \\
\end{array}
\]

Similar to grathnāti (see granth), observe

<table>
<thead>
<tr>
<th>class</th>
<th>*gana sign</th>
<th>( \sqrt{\text{f.g.}} )</th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>*ne</td>
<td>*yeug</td>
<td>*yu-ne-( \gamma )-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>*grntH</td>
<td>*grn( \tilde{\gamma} )-ne-H-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*ghrebH</td>
<td>*grb( \tilde{\gamma} )-ne-H-ti</td>
</tr>
</tbody>
</table>

Again, by SY_\_N and LAR, we should expect *grbntāti rather than grbhntāti above. And, again, levelling of the form

\[
\begin{array}{c|c|c}
\text{grbnāti} & \text{influenced by} & \text{grbntāti} \\
\text{turns into} & \text{grabhā with aspirated} & \text{grbhntāti} \quad \text{with aspirated} \ t \\
\end{array}
\]

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. \( \ast steh_{3} \) produced both the aspirated th or th and also the PPP form sthīta where i goes back to the laryngeal (see p. C.2.2.).

E.3.4. gh

gharma (“heat”)

← ie. \( g^{w} \text{herm/} g^{w} \text{horm} \)

→ gr. FW thermic, thermos bottle (OGR)

∼ e. warm

ghṛ 2. class: ji-ghar-ti (“to sprinkle”)

← ie. \( g^{w} \text{herh}_{1} \) ähnlich

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E.4. Palatal stops

E.4.1. c

cā ("and")
cēd ("if") $\leftarrow$ ca + id (see kuv-id under kas)

$\leftarrow$ ie. *kʷe

$\rightarrow$ gr. te (OGR)

$\sim$ lat. que

cašš 1. class: caššatē ("to see, to appear")
cašša ("eye")
caššas ("eye")
caššan n. ("eye")

Probably, cašš is the reduplicated form *kʷe-kʷk from ie. *kʷek, see kāš ("to appear, to shine")

cakram ("wheel, circle")

$\leftarrow$ ie. *kʷe-kʷlo, a reduplicated form

$\rightarrow$ gr. FW cycle, en-cycl-ical, (en)cyclo-pedia, bicycle, re-cycle

$\sim$ lat. colere ("be busy, to cultivate") with FW colony, clown, cult, culture and the German town Köln $\leftarrow$ "Colonia Agrippina"

caṇḍ 1. class ("to be white, to glow, to shine")
caṇḍra ("shining")
caṇḍra ("moon")
caṇḍra-ka ("moon")
caṇḍra-vant ("bright as the moon")
caṇḍra-kānta ("lovely as the moon"), for second part see kāma ("wish, desire")
E. Etymological dictionary

← ie. *kand
→ lat. FW candid (“white → frank”), candel, candidate (men standing for elections wore white togas),
also lat. incendere (“set on fire”) with FW incense

cam 1. class: cāmati (“to slurp”)
camūs (“bowl, army”)
car 1. class: carati (“to go”), see cakum
cal 1. class: calati (“to move”)
← ie. *k'wel (see p. section B.3.6 p. 42)
→ nhg. Hal-s (“the mover, the turner → neck”)

kɾs (“to pull, to drag”) may also be related, from ie. *k'ol-s.
carman n. (“leather”)
← ie. *(s)ker-men (“torn skin”)
→ nhg. Schirm, Herbst, Schere, scharf

krt (“to cut”) is a t extension.
catvāras (nom. pl. m.) “vier”
← ie. *k'etuor
→ gr. FW tetrahedron
≈ lat. quatuor
≈ e. four ≈ nhg. vier

cāru (“beautiful”)

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
### E.4. Palatal stops

← ie. *kw*ei

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.

**ci**

1. class: *cētati* (“to observe, to appear”), see *kētu*
   whence intensive verb *cēkitē*

### E.4.2. ch

**chid**

7. class: *chī-na-t-ē* (“split, to cut”)

**chid-ē** ("with holes, damaged"), see pp. 110

### E.4.3. j

**jān**

4. class: *jāyātā* (“to beget, to be born”)

**jāyā** (“who has born (again) her husband in a son → wife”) or from *jī?*

**jana** (“man”)

**janaka** (“father”)

<table>
<thead>
<tr>
<th>jan (“to beget”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>jā-y-a-tē (1)</td>
</tr>
<tr>
<td>jā-y-a-tē (1)</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>jan-i-tum (2)</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>jā-ta (1)</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>jan-i-sy-a-tē (2)</td>
</tr>
<tr>
<td>jan-i-sy-a-tē (2)</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>a-jā-y-a-ta (1)</td>
</tr>
<tr>
<td>a-jā-y-a-n-ta (1)</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>ja-jā-ē (3)</td>
</tr>
<tr>
<td>ja-jā-irē (3)</td>
</tr>
<tr>
<td>ḫā-aorist</td>
</tr>
<tr>
<td>a-jan-ış-ta (2)</td>
</tr>
<tr>
<td>a-jan-ış-a-ta (2, 4)</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
<tr>
<td>ji-jan-ī-š-tē (2)</td>
</tr>
<tr>
<td>ji-jan-ī-š-u (2)</td>
</tr>
</tbody>
</table>

1. The ie. full grade root is *gēnH*. The 4. class builds on the zero grade. By LAR, jā-y-a-tē is regular from ie. *gēnH*-ge/o-tei. Similarly, we have zero grades in imperfect and PPP.

2. By LAR, the laryngeal shows up as i between consonants in jan-i-tum ← *gēnH*-tum and in several other forms.

3. The (weak!) ātmanēpada perfect endings are ē and irē for sg. and pl., respectively. Before these vowel-endings, the laryngeal regularly drops. BA.

4. SY _N_ explains a-jan-īṣ-a-ta for 3. pers. pl. ending n-ta.
E. Etymological dictionary

← ie. *ǵenH

→ gr. FW genealogy

∼ lat. (FW) genus ~ oi. jana (“people, person”), ante Christum natum (“before Christ was born”), nation, nature. Compare modern English knight (unpronounced k) with nhg. Knecht, but the g is still present in FW co-gnate (“to be born with, related”)

∼ e. kin(ship)

∼ nhg. Kind (“begotten”, formally a PPP)

See also jānu and jīnā.

jāni f./ jānī (“woman, wife”)

← ie. *ǵw enh₂

→ gr. FW gyn-ecology

∼ e. queen (compare quick under jīv)

∼ Old Irish ben (“woman”)

jalam (“water”)
jalāśaya (“water”)

← ie. *ǵ??

jānu n. (“knee”)

← ie. *ǵenu/ǵonu

→ lat. FW genu-flection

∼ e. knee ~ nhg. Knie

Related to jīnā and jīnā?

jīnā 9. class: jānāti (“to know”)
jījnāsā (“desire to find out → investigation”)
jījnāsanam (“desire to find out → curiosity”)
E.4. Palatal stops

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>jñā (“to know”)</td>
<td></td>
</tr>
<tr>
<td>present tense</td>
<td>jā-nā-ti (1)</td>
</tr>
<tr>
<td>infinitive</td>
<td>jñā-tum (3)</td>
</tr>
<tr>
<td>PPP</td>
<td>jñā-ta (4)</td>
</tr>
<tr>
<td>future</td>
<td>jñā-sy-a-ti (3)</td>
</tr>
<tr>
<td>imperfect</td>
<td>a-jā-nā-t (1)</td>
</tr>
<tr>
<td>perfect</td>
<td>ja-jñā-āu (5)</td>
</tr>
<tr>
<td>sis-aorist</td>
<td>a-jñā-sīt</td>
</tr>
<tr>
<td>desiderative</td>
<td>ji-jñā-s-a-tē (4)</td>
</tr>
</tbody>
</table>

1. The ie. root is *gēnh₃. Consider

<table>
<thead>
<tr>
<th>class</th>
<th>*gān</th>
<th>sign</th>
<th>3. pers. sg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>*ne</td>
<td>*neu</td>
<td>*pu-ne-H-ti</td>
</tr>
<tr>
<td>9</td>
<td>*ne</td>
<td>*gēn</td>
<td>*gē-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-nī, krī-na-nī, jā-na-nī

3. The infinitive and the future are formed regularly from the full grade gēnh₃ → jñā. BA.

4. Very unusually, the PPP is formed with the full grade. The regular weak form would have been *gē-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.. LAR, BA.

← ie. *gēnh₃

→ gr. FW gnosis (“knowledge of God”)

∼ lat. FW to note, notion, and, with g, co-gn-ition and re-co-gn-ize (compare co-gnate under jan)

∼ e. know ← Old English cnáwan

∼ nhg. kennen (originally causative, see Gothic kannjan)
E. Etymological dictionary

jñā seems a consequential verb that is related to jom and also to jānu: The father recognizes his child by setting it on his knee.

ji 1. class: jayati (“to conquer”)
jāyā (“who has been captured → woman”) or from jan?
See jjā.

jī 1. class: jayati (“to conquer”)

PPP jīrṇa (“wasted, aged”)
jarā (“age”)
← ie. *ṛṛḥ-no

→ lat. grānum (in “cum grāno salis”) and FW pomegranate or Granatapfel

∼ e. corn ∼ nhg. Korn (z.g., IE_SY_L) and Kern (f.g.)
For similar PPP examples, see pp. 106.

jīv 1. class: jīvati (“to live”) ← ie. z.g. *gwi3-e-ti by SPAL, LAR

PPP jīva (“living”)
gaya (“life, possession, dwelling place, family”) ← ie. *gwi3-o3-no (no SPAL)
← ie. **gwi3-o3- and ie. **gwi3-ve

→ gr. FW bio-logy (OGR)

∼ lat. FW vital, vitamin, Konvikt (in Germany: a flat shared by catholic students of theology), Viktualienmarkt (market place in Munich)

∼ e. quick

∼ nlg. erquicken, quicklebendig

∼ nhg. keck

jus 4. class: juseṭe (“to like, to enjoy”)
← ie. *geus (“to choose, to enjoy”)

→ lat. gūstus in “with gusto” and French “chacun à son goût” where the circumflex is reminiscent of eliminated s (as in hôpital)

∼ e. choose ← Old English ceosan ~ nhg. kiesen (old for “examine, choose”) (NHG_E)

∼ nhg. kosten (in the sense of “to taste, to enjoy”) versus erkoren, Kür and Kurfürst by VER

jjā 2. class: jyāti (“suppress”)
Consequential of ji, see pp. 73

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E.5. Dental stops and nasal

E.5.1. t

tad
← ie. *tad
→ lat. is-tud
~ e. that
~ nhg. das

tan 8. class: tanôti ("to stretch")
tanu ("thin") and tanu f./tanû ("body")
tan-tram ("loom, teaching, manual")

<table>
<thead>
<tr>
<th>tan (&quot;to stretch&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
</tr>
<tr>
<td>tan-ô-ti (3)</td>
</tr>
<tr>
<td>tan-v-an-ti (4)</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>tan-tum or tan-i-tum (1)</td>
</tr>
<tr>
<td>PPP</td>
</tr>
<tr>
<td>ta-ta (2)</td>
</tr>
<tr>
<td>future</td>
</tr>
<tr>
<td>tan-i-sy-a-ti (1)</td>
</tr>
<tr>
<td>tan-i-sy-a-n-ti (1)</td>
</tr>
<tr>
<td>imperfect</td>
</tr>
<tr>
<td>a-tan-ô-t (3)</td>
</tr>
<tr>
<td>a-tan-v-an (4)</td>
</tr>
<tr>
<td>perfect</td>
</tr>
<tr>
<td>ta-tân-a (5)</td>
</tr>
<tr>
<td>tên-us (6)</td>
</tr>
<tr>
<td>ès-aorist</td>
</tr>
<tr>
<td>a-tan-ê-t</td>
</tr>
<tr>
<td>a-tan-è-s-us</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
<tr>
<td>ti-tam-s-a-ti (7)</td>
</tr>
<tr>
<td>ti-tam-s-u (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. [C.2.5] for an analysis of the 8. class: Instead of interpreting tan-ô-ti as tan + gana sign ˆ, it is preferable to analyze ta-ô-ti as *tn-nc-ô-ti instead.

4. The pl. tan-ô-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 PRII par. 3. pers. pl. forms as in practically all athematic classes except the third one (p. 134). 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-bhâr-a from bhr ("to bear") or

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E. Etymological dictionary

◇ pa-pāt-a from pat (“to fall”).
See pp. 172

6. tēn-us or pēt-us (the latter from pat, “to fall”) are analogical built on zero-grade forms like
◇ sēd- from ie. *se-sd- (root sad) or
◇ yēt- from ie. *ye-it- (root yat).
See p. 177

7. Like mi-maṃ-s-a-tē (p. 115) ti-taṃ-s-a-ti
◇ is build irregularly from the full grade (the regular zero-grade desiderative of tan would be *ti-ta-s-a-tē by SY
◇ shows anusvara before s.

← ie. *ten
→ gr. FW tone (strings (of violins) are stretched to produce a tone)
~ e. thin
~ nhg. dünn

tap 1. class: tapati (“to be hot, to burn”)
PPP tapa with irregular full grade
tapas (“heat, asceticism”)
tapoji (“born from heat”), COMLz
tapu m.f.n. / tapus m.f.n. (“hot”), the latter in tapuspa m.f.n. (“drinking something hot”)
anu-lāpa (“remorse”)
← ie. *tep??

tāmisrum (“darkness”) (no RUKI because of r after s)
← ie. *temHsr
→ lat. tenebrae (pl., only)

tark 10. class: tarkayati (“to consider, to ponder”)
tarka (“science of reasoning, logic, consideration”)
tarku (“spindle”)
E.5. Dental stops and nasal

← ie. *terkʷ

→ lat. torquere with PPP tortus (by regular simplification) and FW in English torture, retort and FW in German torkeln (from lat. torculus („winepress“))

~ nhg. drehseln

Compare tções

tiras („sideward, horizontal“)
tirac („sideward, horizontal“), see aic
tirac („horizontally going (animal)“)

tila („sesame plant, sesame com“)
tâlam („oil“) → pa. têla → ptk. têlla

tʂ 4. class: trsyati („to thirst“)
mi. lasati/tasyati with expected ɬ → a and ʂ → s

← ie. *ts („be dry“)

→ lat. toast ← lat. tostus ← *tostos („dried“)

~ lat. terra („the dry one, the earth“) with FW terrarium, territory, French sou-terrain

tɬ 1. class: tarati / 4. class: tirati („to cross, to rescue“)

PPP tîpa

tîram („bank, shore“)
tîrtha/tîrham („ford, passage → ritual bath place“)

← ie. *terH

→ og. tor-nos → lat. tornus → FW in German Turnus („cycle, rotation“), and, via French tourner, FW in English tour, tourist and FW in German Turnier („having horses run in a cycle → competition“), whence Turner („young fighter“ → „gymnast“)

~ e. throw, e. thread ~ nhg. Draht („wire“), nhg. drehen

See trā. Compare tark.

tê, enclitic for pers. pron. 2. pers. sg. both gen. (for non-enclitic tava) and dat. (for non-enclitic tubhyam)

← ie. *toi

→ ogr. toi
E. Etymological dictionary

té, 1. pers. pers. pron. of *tad
← ie. *toi
→ lat. *is-ti
≈ nhg. *die

*tyaj* 1. class: *tyaji* (“to abandon”)
← ie. *tjew*
→ ogr. sebomai (“I worship, I am respectful”) with PPP sebastos (“venerable”) in PN Sebastian.

*trayas* (“three”)
← ie. *treyes*
→ gr. FW triad
≈ lat. tres in FW triumvirate (for second part see viro)
≈ e. three ≈ nhg. drei

*tras* 1. class: *trasati* (“to tremble”)
mi. *tasati* with expected tr → t
← ie. *tres/*ters
→ lat. FW terror

*trak* 2. class: *trak* (“to save”)
Consequential of tr, see pp. 73

*tvav* 1. class: *tvavatē* (“to hurry”)
PPP tūrṇa, tvavī, tūrta
sa-tvam adv. (“fast”)
a-tvā “without hurry → leisure”
← ie. *tavH??

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E.5.2. d

danḍa (“stick, punishment”), mi where r seems to have cerbralized nd.
← ie. *dendr-o
→ ogr. dendron (“tree”)

dam 4. class: dāmyatī (“to tame”)
PPP dānta
← ie. *dem (“to build, to fit”)
→ gr. FW despot ← *dems potis (“lord of the house”, for second part see pati)
∼ lat. FW domene, dominare, domesticare, Italian madonna (← mea domina, “Maria, the
mother of Jesus”), French madame
∼ e. tame ~ nhg. zahm
∼ e. timber ~ nhg. Zimmermann
∼ nhg. ziemlich (“fairly, tolerably” and, unusually, “properly”)

daridra (“poor”)
← ie. *d??

dāśa (“ten”)
← ie. *dekm
→ ogr. deka with FW decade
∼ lat. decem with FW dean (“leader of 10 men, of a faculty”), decillter, decimate (“to
kill every 10. man”)
∼ e. ten ~ nhg. zehn

dah 1. class: dahati (“to burn”)

E. Etymological dictionary

<table>
<thead>
<tr>
<th>&quot;dah&quot; (“to burn”)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>infinitive</td>
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<td>PPP</td>
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<td>future</td>
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<td>imperfect</td>
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<tr>
<td>perfect</td>
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<tr>
<td>is-aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>

1. From ie. "dheg”h-e-ti, dah-a-ti is obtained by DA and SPAL.

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. 36). Here, as in the aorist and the desiderative, the ie. root-initial aspiration is revealed within Sanskrit!

5. For the perfect sg. da-dah-a, consult pp. [77] to see how Brugmann’s law Lo produces the long ā.

6. Irregularly, this is-aorist (pp. [81]) 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. "dheg”w

→ lat. FW fever

dā 3. class: da-dā-ti (“to give”)
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-η-ti* or
   ◊ *da-d-a-ti* ← *de-dh₃n-ti* (LAR: laryngeal drops between consonant *d* and vowel *η*).

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. *da-dā-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, the laryngeal drops between consonant *d* and vowel *u*. Indeed, *dā* (“to give”) and *dbhā* (“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 *bh* or *a-bi-bhar-us* from *bhr*.

6. The perfect *da-d-āu* exhibits

   ◊ 3. pers. sg. ending *āu* and
   ◊ weak form.

   For similar examples like *ta-sth-āu* from *sthā*, see p. 175.

7. The desiderative (see pp. 114) is formed by reduplication with *i*, zero grade and suffix *s* (or maybe *Hs*):

   *di-dh₃-s-*
   ⇒ *di-d-s-* (irregular drop of laryngeal against LAR.)
   ⇒ *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. *deh₃*

   ⇒ gr. FW *dose* (in German, closer to the original: Dosis) also gr. FW *an-eכ-dote*
   (originally “not edited”)

   ~ lat. FW *date* and *data* (PPP forms) with prefixes: lat. FW *e-dit, man-date, tra-dit-ion*
E. Etymological dictionary

dā 1. class: dā-ti / 6. class: dyā-ti (“to cut”)
dā 6. class: dyā-ti (“to bind”)
aditi f. (“freedom, liberation”)

dāru n. (“wood”) with long ā probably from ie. *deru and Lo
  ← ie. *deru/*doru
  → e. tree, true

  ~ nhg. Treue, Trost, trauen where t → ts is repressed—just try to pronounce tsreu.

dāś 1. class: dāśati / 2. class: dāsti / 5. class: dāśnoti (“to venerate, to consecrate”) dīks 1. class: dīks-a-tē (“to initiate, to consecrate”) desiderative *di- dik-s- → dīks- (CCL where compensatory lengthening occurs in contrast to bhik-s-a-ti, p. [117] Could ie. *deHū explain both dāś and dīks?"
  ← ie. *dek (“to experience, to perceive”)
  → lat. discere desiderative (“to want to perceive → to learn”) or frequentative (“to take in repeatedly → to learn”) with iterative suffix ske (see gam, vāńch)
    lat. docere (← ie. causative dek-eye-) (“to make perceive → to teach”) with FW docile, document, doctor

dinam (“day”) prati-dinam (“every day”) ← prati + dinam

diś 6. class: diśati (“to show”)
diś f. (“hint, direction”)
diśti f. (“hint, fortune”) with instrum. diśtyā (“Thank God!”)
deśa (“region, land”)
  ← ie. *deįk
  → ogr. deįk-nu-mi (“I show”) with FW apo-dic-tic, para-digm, syn-dic-ate, all of them in zero grade

  ~ lat. dēcere with zero-grade FW 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”.

  ~ lat. dēcere
E.5. Dental stops and nasal

∼ nhg. ver-zeihen and also zeigen, Zeigefinger

∼ e. toe ∼ nhg. Zehe (i.e., finger (pointer) of the foot)

∼ e. token ∼ nhg. Zeichen (“sign”)

dih 2. class: dêgdhi (“to smear”)

<table>
<thead>
<tr>
<th></th>
<th>dih (“to smear”)</th>
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</thead>
<tbody>
<tr>
<td>present tense</td>
<td>dê-g-dhi (1)</td>
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<tr>
<td>infinitive</td>
<td>dê-g-dhum (1)</td>
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<tr>
<td>PPP</td>
<td>diq-dha (1, 2)</td>
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<tr>
<td>future</td>
<td>dhêk-sy-a-ti (4)</td>
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<tr>
<td>imperfect</td>
<td>a-dhêk (4, 5)</td>
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<tr>
<td>perfect</td>
<td>di-dih-ê (6)</td>
</tr>
<tr>
<td>aorist</td>
<td>a-dhiks-us (4, 7)</td>
</tr>
<tr>
<td>desiderative</td>
<td>di-dhik-s-a-ti (4, 8)</td>
</tr>
</tbody>
</table>

1. The origin is ie. *dheigh. The full grade yields oî. ê 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. PII exhibits an. This holds for all verbs in the 2. class (except sās, see [49], but the 3. class shows just a (which would then turn into a).

4. The future form dhêk-sy-a-ti needs three observations:
   ◇ “Failed” aspiration shift together with expected backward assimilation produces k from gh.
   ◇ Very much like in dhök-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. 41). AFP is then followed by non-application of DA (similar to 4.).

6. The perfect forms are ātmanēpedia and hence weak (pp. 171).

7. It is not clear what type of aorist a-dhiks-us might be. For dh compare 4.

8. di-dhik-s-a-ti is expected desiderative in zero grade and without DA in the second syllable, but DA in the reduplication syllable.

← ie. *dheigh
E. Etymological dictionary

→ lat. fingere (“to build”) with present-stem nasal infix that is still present in
  ◊ Englisch feign
  ◊ German fingieren (“to feign”), and
  ◊ German Finte (via Italian)

∼ lat. without the nasal infix, FW figure, fiction (backward assimilation)

∼ nhg. Teig ∼ e. dough (also in doughnut = donut)

∼ e. la-dy ← Old English hlæf-dīge (“woman who kneads dough → woman whose bread one eats”) where the first part hlæf is e. loaf or nhg. Laib.

\[ d(u)vā \] (“two’’)

← ie. *du(v)ā (V+hV)

→ gr. FW duopoly

∼ lat. duo with FW duett, dualism, doubt (which of two alternatives is correct)

∼ lat. duo-decim (see dāśa) with FW English dozen and German Dutzend

∼ lat. du-plus (“twofold, twice as much’, for plus see pū (‘to fill’)) with FW English double and German doppelt

∼ e. two ∼ nhg. zwei

∼ e. twig ∼ nhg. Zweig

And, closely related, dvi used in combinations such as

◊ dvi-pad (“with two feet”) and similar in
  • ogr. di-pous
  • lat. FW bi-ped and
  • Old English twi-fēte

◊ dvi-dēvata (“for two goods’’)

◊ dvi-ja (“twice born → Brahmin, bird”), for second part see also jān

◊ dvi-bhuja (“with two arms’’), see also ??

◊ dvi-vacana (“dual”), for second part see vac

◊ dvi-jāni (“twice married”), for second part see jani

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E.5. Dental stops and nasal

← ie. *dvis/*dvi

→ gr. FW δί-πους (“with two feet”)

~ lat. bellum ← Old Latin dvellum (“war between two parties”)

~ nhg. composition form zwie with Zwieback, Zwirn, Zwitter, Zwiesprache, Zwilling, zwischen.

dura (“far”)

dav-īyāns (comparative, “farther”)
dav-istha (superlative, “farthest”)

dus (“bad, evil”), used in combinations such as

◊ dur-uktā (“bad word”)

◊ ?? duh-kham (“misfortune”), see su-kham

◊ dur-ga (“place that is difficult to get at, danger”), (zr), see gam

◊ dur-gā (devī) (“inaccessible goddess, Shiva’s wife”) (zr)

◊ dur-bala (“without power”) (zr) see balam

◊ duṣ-kṛt (“acting in an evil manner”), see kṛ
duh 2. class: dōgdhi (“to milk”)

<table>
<thead>
<tr>
<th>dīh (“to milk”)</th>
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<tbody>
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<td>present tense</td>
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<tr>
<td>imperfect</td>
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<tr>
<td>perfect</td>
</tr>
<tr>
<td>sa-aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>

1. The origin is ie. *dheugh. The full grade yields oi. ə and the two aspiration laws DA and ASH lead to dōg-dhi and the infinitive dōg-dham.

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 sās, see 149), 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-§). DA cannot occur in the main syllable.

5. a-dhôk is explained by CCL and AFP (pp. 41). AFP is then followed by non-application of DA (similar to 4.).

6. The sg. perfect form is in parasmâipada and hence strong (pp. 171). The plural is regularly weak.

7. du-dhakṣ-a-ti is expected desiderative in zero grade and without DA in the second syllable, but DA in the reduplication syllable.

← ie. *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 duhûtā ("daughter")

duḥitār f. “daughter”
← ie. *dhagh₂tēr
→ ogr. thagatēr
∼ e. daughter
∼ nhg. Tochter

dr̥ś 1. class: paśyati ("to see")
PPP dr̥ṣ-īa (CERD)
dr̥ś f. ("sight")
ī-dṛṣ, īḍykaśa ("as seen → suchlike")
darśanam ("seeing, system, revelation")
← ie. derk
→ ogr. derkomai

dēva ("god")
← ie. *deivo
→ lat. FW divine, divinity and Latin phrase “deus ex machina”
E.5. Dental stops and nasal

**dram**

**drav**

**drā** 2. class: **drāti** (“to run”), perhaps consequential?

← ie. *dreh₂

See **dram, drav**

**dvār** f. (“door”) (with d instead of dh because of dvā?)

← ie. *dhwer/dhur

→ lat. FW forum

~ e. *door ~ nhg. Tür and Tor

**dvēs** 2. class: **dvēšti** (“to hate”)

<table>
<thead>
<tr>
<th>dvēš (“to hate”)</th>
<th></th>
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<td>infinitive</td>
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<td>PPP</td>
<td>dvēš-ta (1)</td>
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<td>future</td>
<td>dvēk-sy-a-ti (2)</td>
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<tr>
<td>imperfect</td>
<td>a-dvēt (3)</td>
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<tr>
<td>perfect</td>
<td>di-dvēš-a (4)</td>
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<td>sa-aorist</td>
<td>a-dvēk-š-a-t (2)</td>
</tr>
<tr>
<td>desiderative</td>
<td>di-dvēk-š-a-ti (2)</td>
</tr>
</tbody>
</table>

1. Assuming ie. *dveis, we obtain the present tense, 3. pers. sg.

*dvēis-ti (full grade)

→ dvēš-ti (DIPH)

→ dvēš-ti (RUKI)

→ dvēš-ti (CERD)

The infinitive dvēš-tun and the PPP dvēš-ta (zero grade) can be explained in very much the same manner.

2. **DIS**

3. **a-dvé-t** is regular:

*e-dveis-t (full grade)

→ a-dvēs-t (AA, DIPH)

→ a-dvēš-t (RUKI)

→ a-dvēş-t (CERD)

→ a-dvé-t (AFP)
E. Etymological dictionary

4. The perfect forms *dī-dvēs-a* (strong form) and *dvi-dvis-us* (weak form) present no problems (see pp. 171).

← ie. *dveis

dveis may well be related to *dvis/dvi* (“twice”).

dvis/dvi (“twice”), see dwā

E.5.3. dh

**dhan** 3. class: *da-dhan-ti* (“to run, to bear fruit”)

**dhanyā** (“rich”)

??**dhānyām** (“corn”)

← ie. *dhenh₂

→ ogr. FW eu-thanasia (see su), thanatology (with euphemism “to run away → to die”)

**dhr** 1. class: *dhar-a-ti* (“to hold, to keep”)

**dharma** (“law, religion, duty”)

← ie. *dher

→ lat. FW firm

**dhā** 3. class: *da-dhā-ti* (“to set, to put”)

??**dhanam** (“wealth”), sa-dhana (“rich”),

**dhātar** m. (“founder, preserver, fate”)

vi-dhā (“to distribute, to determine”) with

◊ vi-dhī m. (“regulation, method, rite”)

◊ vi-dhēya gerundive (“which is to be determined”)

◊ vi-dhēya (“duty, obligation”)

<table>
<thead>
<tr>
<th>dhā (“to set, to put”)</th>
<th>da-dhā-ti (1)</th>
<th>da-dh-a-ti (2)</th>
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<td>dhā-tum (3)</td>
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<td>hi-ta (4)</td>
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<tr>
<td>future</td>
<td>dhā-sy-a-ti (3)</td>
<td>dhā-sy-a-n-ti (3)</td>
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<td>a-da-dhā-t (1)</td>
<td>a-da-dh-us (5)</td>
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<tr>
<td>perfect</td>
<td>da-dh-āu (6)</td>
<td>da-dh-us</td>
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<tr>
<td>root aorist</td>
<td>a-dhā-t</td>
<td>a-dh-us</td>
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<tr>
<td>desiderative</td>
<td>dhā-t-s-a-ti (7)</td>
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E.5. Dental stops and nasal

1. The sg. da-dhā-ti is a strong form (in full grade) and originates from ie. *dhe-dheh₁-ti. 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-ŋ-ti or da-d-a-ti ← *de-dh₃ŋ-ti (LAR: laryngeal drops between consonant d and vowel ŋ).

3. The infinitive and the future show expected full grade.

4. For the PPP hi-ta, remember
   ◦ occasional word initial dh → h (p. 47) and
   ◦ LAR 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. 175

7. The desiderative (see pp. 114) is formed by reduplication with i, zero grade and suffix s (or maybe Hs):

   *dhā-dhh₁-s-
   → dhi-dh-s- (irregular drop of laryngeal against LAR)
   → dhī-d-s- (ASH, but s not aspiratable)
   → dhi-t-s (BA) → dhi-t-s-a-ti he wishes to set

   An regular (!) alternative desiderative didhiṣati exists where the laryngeal does not drop:

   *dhī-dhh₁-soi
   → dhe-dh-soi (irregular drop of laryngeal against LAR)
   → dha-dh-sē (AA, DIPH)
   → dha-d-sē (ASH, but s not aspiratable)
   → dhatsē (BA)
E. Etymological dictionary

In contrast, the corresponding 3. pers. dhat-tê is “wrong”. One should expect the bud-dha result:

\[
\begin{align*}
*dhe-dhh_1-toi \\
\rightarrow dhe-dh-loi & \text{(irregular drop of laryngeal against LAR)} \\
\rightarrow dha-dh-tê & \text{(AÄ, DIPH)} \\
\rightarrow dha-d-dhê & \text{(ASH)} \\
\rightarrow da-d-dhê & \text{(DA)} \\
\end{align*}
\]

However, proportional analogy produced

<table>
<thead>
<tr>
<th>dā</th>
<th>with 3. pers. sg. pres. tense ātm.</th>
<th>dat-tê ← *dad-tê</th>
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<tbody>
<tr>
<td>dhāa</td>
<td>with 3. pers. sg. pres. tense ātm.</td>
<td>dhat-tê</td>
</tr>
</tbody>
</table>

Alternatively, one may surmise that a laryngeal somehow prevented ASH to affect the tê-ending.

\[\text{← ie. } *dheh}_1\]

\[\rightarrow \text{ agr. } ti-thē-mi \text{ (OGR, OGR_DA)}\]

with k-extension (archaic) FW apothecary (in German: Apotheke), FW in German: Bibliothek, Theke

with other extensions thesis and theme

\[\sim \text{ lat. facere (“to make, to do”) with } \text{FW } \text{af-fect, } \text{per-fect, } \text{ef-fi-cient, } \text{de-ficit, } \text{fak-simile}\]

\[\text{ponti-fex (“bridge maker”) and even: pontiff}\]

French façon hence in English fashion

\[\sim \text{ e. } \text{do } \sim \text{ng. } \text{tun}\]

\[\sim \text{ e. } \text{deed } \sim \text{ng. } \text{Tat}\]

and even the ng. ending -tum in Altertum or Herzogtum

but not dhātrī f. (“nurse”), see dhē

\text{dhāv 1. class: } \text{dhāv-a-li (“to run”)}

\text{dhī 3. class: } \text{di-dhū-tê (“to think, to reflect”)}

\[\text{← ??ie. } *dhiH\]

\text{dhūma (“smoke”)}
E.5. Dental stops and nasal

← ie. *dhūmo
→ gr. FW thyme

~ lat. FW fume, per-fume, French par-fumé (“perfumed”)

dhra 10. class: dhārayati (“to hold, to support”)
??dhī-ra (“steady, head-strong”), see pp. C.4.6
← ie. *dher

dhr̥ 5. class: dhṛṣṇoti (“to dare”)
← ie. *dhrs

→ e. dare (but not nhg. traen, see dāru)

dhē 1. class: dhayati (“to suck, to slurp”)
dhātrī (“nurse”), but see dhātar under dhā

dhēna (“milk cow”)
dhēnu f. (“milk cow”)
dhāsyu (“willing to drink, willing to eat”)
gōdhā (“sucking cows” → name for a kind of lizard), for first part see gō
← ie. *dheh₁-i

dhyā(i) 4. class: dhyāya-ti (“to think, to contemplate”)
dhyā 2. class: dhyā-ti (“to think, to contemplate”)
dhyānam (“meditation”) → pa. jhāna → Zen (buddhism)
dhyā consequential of dhī, see pp. 73

E.5.4. n

na (“not, no”)
← ie. *ne, full grade of ie. *n (see a)

naklam (“night”)
← ie. *nokʷt

→ lat. FW nocturnal
E. Etymological dictionary

∼ e. night ∼ nhg. Nacht

nadh (‘to bind’) (in dictionaries normally under nah)
P PPP naddha (‘bound’), see pp. 99 (SY_N)
naddhi f. (‘binding’) ← nadh-ti, see pp. 108 (SY_N)
← ie. *nendh (see a)

nand 1. class: nandati (‘to rejoice, to be satisfied’)
ānanda/ānandam (‘delight’), hence sānanda (‘delighted’) cbv with first part sa (‘together with’)

nap-tar m. (‘grandson’)
← ie. *nepot
→ lat. FW nepotism and English nephew/niece
∼ nhg. Neffe

∼ nlg. Nichte (‘niece’) ← ie. *nepti f. (where we have Low German cht for Germanic ft, as in Dutch gracht under grabh)

It is thought that ie. *nepot might mean ‘not master → minor’ (see pati).

nabh 1. class: nabhatê (‘to burst’)
nabhas (‘sky, mist’)
← ie. *nebh
→ lat. nebula with FW nebulous
∼ nhg. Nebel

Compare abhram and ambhas.

nara (‘man’)
nārāyana (epithet for Viṣṇu)
sūnāra (‘to have good men → powerful’) ← ie. *h₁su-h₂nero (LAR), (see su).
← ie. *h₂ner (‘be strong, possessing vital powers’)
→ ogr. anēr, andros with FW andrology (d inserted to ease pronounciation)
∼ lat. PN Ner-ō
E.5. Dental stops and nasal

nyt ("to dance") may be related.

nyt 4. class: n\textit{ntyati} ("to dance")
mi. n\textit{aṭa} ("dancer")
See n\textit{ara}.

nava ("new")
← ie. *n\textit{evo}
→ ogr. FW neo-liberal, Neolithic (OGR)
≈ lat. novus (L\textit{AT-V}) with FW novice, renovate, innovate, novelty
≈ e. new ≈ nhg. neu

naś 4. class: n\textit{asyati} ("to perish")
← ie. *n\textit{ekē}
→ ogr. FW necrology

nas 1. class: n\textit{salē} ("to unite with somebody")
PPP astam (SY-N) ("where someone returns to safely → home, home country"), also
astam gacchati ("he dies", "it (the sun) sets"), but see also as
← ie. *n\textit{es} ("to return home safely")
→ ogr. PN Nestor
≈ nhg. nährren (causative: "to make return home safely → to save"), but not related to
e. nourish

nah see nadh

nadh 1. class: n\textit{dhatē} ("to be needy, to beg")
ādhra ("needy, weak, poor") ← ie. *\textit{Hdh-ro} (L\textit{AR})
← ie. *\textit{neHdh}

Unrelated nāth has the same meaning as nadh.

nāman n. ("name") (Lo), see pp. 207
← ie. *\textit{nomnē}
E. Etymological dictionary

→ ogr. o-nomastic with difficult word-initial o

∼ lat. nōmen (with long ō by “wrong” levelling with (g)nō, see ānā) with FW nominal

∼ e. name ∼ nhg. Name

ni (“down, into”)
nitarāṁ adv. (“down from, completely”)
nyac (“directed downward”) ← ni-añc, see añc above
nyag-rōdha-pāda-pa (“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 kṛ (“to humiliate”)

nyak bhū (“to debase oneself”)

nir/nis (“out of, away from”)

nī 1. class: nayati (“to lead”)
sēnā-nī m. (“army general”)
grāma-nī m. (“village leader”)
agra-nī m. (“leader”)

← ie. *neyH

The three agent nouns sēnā-nī etc. are declined along the lines of feminine nadī (“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>sēnānī m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>sēnā-nī-s (1)</td>
<td>sēnā-ny-āu (4)</td>
<td>sēnā-ny-as (4)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>sēnā-nī-s (2)</td>
<td>sēnā-ny-āu (4)</td>
<td>sēnā-ny-as (4)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>sēnā-ny-am (3)</td>
<td>sēnā-ny-āu (4)</td>
<td>sēnā-ny-as (4)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>sēnā-ny-ā (5)</td>
<td>sēnā-nī-bhyām (4)</td>
<td>sēnā-nī-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>sēnā-ny-ē (5)</td>
<td>sēnā-nī-bhyām (4)</td>
<td>sēnā-nī-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>sēnā-ny-as (5)</td>
<td>sēnā-nī-bhyām (4)</td>
<td>sēnā-nī-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>sēnā-ny-as (5)</td>
<td>sēnā-ny-ōs (4)</td>
<td>sēnā-ny-ām (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>sēnā-ny-ām (6)</td>
<td>sēnā-ny-ōs (4)</td>
<td>sēnā-nī-ū (4)</td>
<td></td>
</tr>
</tbody>
</table>

1. Observe nom. sg. marker m./f. here in sēnā-nī-s, in contrast with nom. sg. nadī.
2. The voc. sg. equals the nom. sg. sēnā-nī-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 nadīm and nadīs.

4. Many endings are the same as for marut and nadī.

5. Feminine forms are avoided and marut forms are taken instead in instrum. sg. sēnā-ny-ā versus nady-āi and four other forms.

6. The loc. sg. is the feminine form sēnā-ng-ām instead of *sēnā-ny-i, perhaps because the ending ny-i is impossible in word-final position?

nīḍam ("nest") (see sad)
← ie. *nizdo
→ e. nest

nūḍa (and very similarly mūḍha) can be explained by a series of sound laws:

\[
\begin{align*}
ni-śd-o & \quad (sd \ z.g. \ of \ sad) \\
ni-zd-o & \quad (SZ \ before \ voiced \ cons.) \\
\rightarrow & \quad ni-zd-a \quad (\text{AĀ, RUKI}) \\
\rightarrow & \quad ni-zd-a \quad (\text{CERD}) \\
\rightarrow & \quad nīḍ-a \quad (\text{COMLz})
\end{align*}
\]

E.6. Labial stops and nasal

E.6.1. p

pañča ("fünf")
FW punch ("drink with 5 components")
← ie. *penkwe
→ ogr. FW pentagon
~ lat. quīnge with FW quint-essence, quintet
~ e. five (NHG_E) ~ nhg. fünf

pañḍita ("wise, learned") ← (not ie.) *pañdā ← pañnā ← prajñā f. ("intellect"), see jñā (nd is a hypercorrection—in other cases, no here, nd → nn)

pat 1. class: patati ("to fly, to fall") with pat-tram ("bird, feather, letter")
E. Etymological dictionary

← ie. *pet

→ lat. petere (“to strive for”) with FW compete, repeat, appetite, petition and also lat. penne (“feather”) ← ie. *pet-neh₂ (similarly lat. annus, see at)

In German, school boys are sometimes called Pennäler, i.e., those who carry a Pennal containing the writing utensil penne, and the school itself is colloquially called Penne.

~ e. feather ~ nhg. Feder

pati m. (“lord, husband”)

← ie. *poti

→ ogr. FW despot ← *dems poti (“lord of the house”, for first part see dam)

~ lat. pot-esse and FW potent, potential

See na-ptar.

pad m. (“foot”)

pāda m. (“foot, chapter, verse”) with

◇ pāda-pa m. (“foot drinker → tree”), for second part, see pā (“to drink”)

◇ pāda-ja m. (“śūdra”), for second part, see jan (“to be born”)

◇ pāda-rajas (“dust at the feet”)

← ie. *pod/ped (two dialectal variants)

→ ogr. FW (from o-grade) anti-pode, podium (with lat. ending), polyp ← ogr. poly-pous (for first part see pr)

~ lat. FW (from e-grade) pedal, pedicurist (for second part see sicher, p. 65), pedestrian, centipede (for first part see śatām)

~ e. foot ~ nhg. Fuß

panth m. (“path”) with declension

<table>
<thead>
<tr>
<th>pānth m.</th>
<th>case</th>
<th>sg.</th>
<th>dual</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>pānth-ās (2)</td>
<td>pānth-ān-āu (1)</td>
<td>pānth-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>voc.</td>
<td>pānth-ās (2)</td>
<td>pānth-ān-āu (1)</td>
<td>pānth-ān-as (1)</td>
<td></td>
</tr>
<tr>
<td>acc.</td>
<td>pānth-ān-am (1)</td>
<td>pānth-ān-āu (1)</td>
<td>pāth-as (3)</td>
<td></td>
</tr>
<tr>
<td>instr.</td>
<td>pāth-ā (3)</td>
<td>pāth-i-bhyām (4)</td>
<td>pāth-i-bhīs (4)</td>
<td></td>
</tr>
<tr>
<td>dat.</td>
<td>pāth-ē (3)</td>
<td>pāth-i-bhyām (4)</td>
<td>pāth-i-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>abl.</td>
<td>pāth-as (3)</td>
<td>pāth-i-bhyām (4)</td>
<td>pāth-i-bhyas (4)</td>
<td></td>
</tr>
<tr>
<td>gen.</td>
<td>pāth-ās (3)</td>
<td>pāth-ōs (3)</td>
<td>pāth-ām (3)</td>
<td></td>
</tr>
<tr>
<td>loc.</td>
<td>pāth-ī (3)</td>
<td>pāth-ōs (3)</td>
<td>pāth-ī-su (4)</td>
<td></td>
</tr>
</tbody>
</table>
1. The strong forms with oi.

\[ \tilde{a} + n + \text{vowel ending} \]

go back to ie.

\[ o + n + \text{vowel ending} \]

according to Brugmann’s law Lo. They seem to be formed on nouns like rājan.

2. Nom. and voc. sg. panth-ās is difficult.

3. By SY_N, one obtains the weak forms before vowel-initial endings like instr. sg. path-ā.

4. path-i-bhīs may be explained in lines similar to sthīta where the laryngeal is responsible for both i and the aspiration. Originally, one might have a form like pat-i-bhīs, but levelling would then provide for the aspiration in these forms, too. A more plausible explanation may be that path-i-bhīs is formed by analogy with other forms like mun-i-bhīs. In fact, without the “thematic vowel” i, the resulting pad-bhīs would be confusing.

← ie. *pontH (LAR)

→ lat. FW ponti-fex (for second part see p. 286)

not related are e. path ~ nhg. Pfud

par (“to cross”)
gō-pāla (“herdsman, cow protector”) with l rather than r (p. 42)
pāra (“further shore or opposite bank of a river, the utmost reach or extent”)

← ie. *per

→ ogr. FW pore, port, 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.

~ e. ford ~ nhg. Furt

~ e. Oxford ~ nhg. Ochsenfurt
E. Etymological dictionary

∼ nhg. fahren / Fahren / führen
∼ e. fare / farewell

parā (prefix meaning supremacy, price, excess)

pard 1. class: pardatē (“to fart”)
← ie. *perd
→ e. fart ∼ nhg. furzen

pari (“around”)
← ie. *peri
→ gr. FW perimeter, periphery (see bhr)
∼ lat. per as in pay-per-view, per se
∼ nhg. ver as in ver-laufen

palāy 10. class: palāyatē (“to flee”), see i and parā

paś-ya-ti with root drś (see there)
← ie. *(s)pek with s-mobile (compare schlecken on p. E.7.3)
→ gr. FW scope, skepticism (where p and k are interchanged)
∼ lat. FW spectrum

pā 2. class: pā-ti (“to protect”)
← ??ie. *peh3

pā 1. class: pibati (“to drink”)

<table>
<thead>
<tr>
<th>pā (“to drink”)</th>
<th>pi-b-a-ti (1)</th>
<th>pi-b-a-n-ti (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td>pā-tum (2)</td>
<td>pā-sy-a-ti (2)</td>
</tr>
<tr>
<td>PPP</td>
<td>pā-ta (3)</td>
<td>a-pi-b-a-t (1)</td>
</tr>
<tr>
<td>future</td>
<td>pā-sy-a-ti (2)</td>
<td>a-pi-b-a-n (1)</td>
</tr>
<tr>
<td>imperfect</td>
<td>a-pib-a-t (1)</td>
<td>a-pib-a-n (1)</td>
</tr>
<tr>
<td>perfect</td>
<td>pā-p-āu (4)</td>
<td>pā-p-āus (5)</td>
</tr>
<tr>
<td>root aorist</td>
<td>a-pā-t</td>
<td>a-p-ās (5)</td>
</tr>
<tr>
<td>desiderative</td>
<td>pā-p-ā-s-a-ti</td>
<td>pā-pā-s-u</td>
</tr>
</tbody>
</table>
1. \textit{pi-ba-ti} is a reduplicated form, somewhat similar to \textit{ti-ṣṭh-a-ti}. From the ie. root \textit{*peh₃}, one obtains

\begin{align*}
\textit{pi-b-a-ti} & \quad \text{(reduplicated form)} \\
\rightarrow \quad \text{\textit{pi-b-eti} (LAR: h₃ makes t voiced)} \\
\rightarrow \quad \text{\textit{pi-b-ati}}
\end{align*}

Similarly, we have the imperfect \textit{a-pi-b-a-ta}.

2. The long-\textit{a} forms \textit{pā-tam} and \textit{pā-sy-a-ti} are both regularly full-grade from the same ie. root \textit{*peh₃} \rightarrow \textit{pā}.

3. \textit{pī-ta} cannot simply be explained from the ie. root \textit{*peh₃}. Instead, one sometimes assumes the ie. root \textit{*peh₃i}. However, the zero grade \textit{*ph₃i} could not have led to long \textit{i}. One way out may be metathesis \textit{*pih₃} and then LAR. The same explanation may hold for the passive \textit{pī-ṣṭ-atē}.

4. See section C.7, pp. 171.

5. Perfect plural \textit{pā-p-us} and root aorist plural \textit{a-p-us} are similar. While the perfect has reduplication, the root aorist does not. Both have ending \textit{us}.

\begin{align*}
\leftarrow \text{ie. } \textit{*peh₃/peh₃i} \\
\rightarrow \text{gr. FW \textit{symposium} (with lat. ending)}
\end{align*}

\textit{pāṇḍu} ("pale", PN)

\textit{pāda} ("foot, chapter, verse"), see \textit{pad}

\textit{pī-lar} m. ("father"); \textbf{not} cognate with \textit{pā} ("to protect") \leftarrow \text{ie. } \textit{peh₃}

\begin{align*}
\leftarrow \text{ie. } \textit{ph₂tēr} \\
\rightarrow \text{gr. } \textit{pātēr} \text{ with FW \textit{patriot, patriarch} (clear indication of h₂, see subsection B.1.4)} \\
\sim \text{lat. FW \textit{patron, patrician}, German \textit{Patrone} ("cartridge")} \\
\sim \text{e. } \textit{father} \sim \text{nhg. } \textit{Vater} (\text{VER})
\end{align*}

\textit{putra} ("son")

\begin{align*}
\leftarrow \text{ie. } \textit{put-lō} \\
\rightarrow \text{lat. FW \textit{puerile}}
\end{align*}
E. Etymological dictionary

**pr**/**p?** 9. class: **prarati** (“to fill, to fulfill”)  
PPP **pūrṇa** (p. 434)

**pur** f. (“plentitude”) with inst. pl. **pūrbhis**  
**puru** (“much, plenty”)

**plu** 1. class: **plavatē** (“to swim”), see also **klōman**

← ie. *pelH/*pHev

→ gr. FW polyphony, **polygamy, polyg** ← ogr. **poly-pous** (for second part see **pad**)

~ lat. **plenus** (“full”) with FW **plenum, plenary, plenty, complete, complement, manipulation** with first part lat. **manus** (“hand”), i.e., “a handful of substances → artifice”

~ lat. **plēbs** (“people”) with FW **plebiscite**

~ e. **full** ~ nhg. **voll**

~ e. **folk, folklore** ~ nhg. **Volk**

**pūrva** (“front, former”)

← ie. *prvo/*prmo

→ e. **former**

**prthu** (“wide, large”)

**prthvē** (“earth, land”), also (very similar to **urvē** see **uru**)

◇ **prthvē-pati** m. (“king”)

◇ **prthvē-talam** (“earth, ground”)

← ie. *plthu/*pltu

→ gr. (via lat.) FW **plate**

**pra** (“before, a lot”)

**pratara** (comparative: “an earlier one”) and adv. **prataram** (“in the future”)

**pratama** (superlative: “the earliest”) and adv. **pratāmām** (“especially, preferably”)

**prāc** (“directed forward, eastern”), see **āc**

**prāk** (“in front, in the east”)

**pra-bhu** m. (“lord, master”), see p. ??

← ie. *pro
E.6. Labial stops and nasal

→ gr. FW *pro-biotic, prophecy (see bhā), prophylactic

~ lat. FW such as *proverb, protest, product

~ nhg. ver as in ver-laufen

pracch 6. class: *pyčhati ("to ask")

On the one hand,

◇ full grade nouns prāś-na ("question") and prāś-ṭar ("questioner")

◇ zero-grade PPP pṛṣṭa

← ie. *prek ("to dig, to muzzle") and ie. *porko ("nuzzler → pig")

→ lat. porcus ("pig") and diminutive porcellus ("farrow, piglet") whence porcelain (i.e., "china")

On the other hand, pracch

← ie. *prk-sk

→ nhg. erforschen ("to research")

(compare gam and iṣ)

prati ("against")

pratiṭā ("against the stream, going in opposite direction → adverse, displeasing") ←
prati + zero-grade h2p from ap (LAR).

pratiṭāra, pratiṭāra ("vengeance, retaliation"). Could ĭ be due to words like pratiṭa?

prāc ("directed forward, eastern") see pra and aṅc

E.6.2. ph

E.6.3. b

bandh 9. class: badh-ṇā-ṭi ("to bind")

bandhu m. ("relative")
E. Etymological dictionary

<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 bad-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. 82.

3. Similar to
   ◊ bhōt-sy-a-ti ← ie. *bheudh-s from budh (“to know”) or
   ◊ dhōk-sy-a-ti ← ie. *dheugh-s from duh (“to milk”)

bhant-sy-a-ti ← ie. *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. 171).

← ie. *bhendh
→ e. bind ~ nhg. binden

balam (“power”)
bāla (“strong one (to be) → boy”)
← ie. *belo
→ lat. FW de-bil-ity

bah-u (“much, many”), zero grade

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E.6. Labial stops and nasal

← ie. "bhengh ("dense")

→ gr. pachus ("thick, plumb") with FW pachycephalosaurus ("thick headed dinosaur") and pachydermia ("thickness of tissue")

∼ nhg. be-engen ??

bāhu m. ("arm"), DA, PPAL

← ie. "bhāghú

→ nhg. Bug

Note the strange analogy

<table>
<thead>
<tr>
<th>bahu (&quot;much, many&quot;) adj.</th>
<th>giving rise to body part:</th>
<th>bāhu m. (&quot;arm&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>just as</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ūru (&quot;wide&quot;) adj.</th>
<th>giving rise to body part:</th>
<th>ūru m. (&quot;thigh&quot;)</th>
</tr>
</thead>
</table>

budh 1. class: bōdhati("to know")

<table>
<thead>
<tr>
<th>budh (&quot;to know&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>ās-aorist</td>
</tr>
<tr>
<td>desiderative</td>
</tr>
</tbody>
</table>

1. The origin is ie. "bheudh. The full grade yields oi. ā (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 bhā ("to be"). There, ie. "bheuH + infinitive ending tum yields bhav-i-tum by LAR. 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 bhōt-sy-a-ti, observe:

   ◇ "Failed" ASH together with BA produces t from dh.

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E. Etymological dictionary

◇ Similar to dhôkṣy-a-ti ← ie. *dheugh-s (oi. duh, “to milk”), the original initial bh emerges (no DA possible).

5. The perfect forms are ātmanēpada and hence weak (pp. 171).

6. a-bôdh-ī-t is an ī-aorist which can be clearly seen from the pl. a-bôdh-ī-us. For “thematic” ī see section C.8 pp. 179

7. Desiderative bu-budh-īs-a-ti again shows ī taken by analogy from sēt roots.

← ie. *bheudh

→ lat. fidēs, fideī (”trust, credit, belief”) also in “defensor fideī” (“defender of faith”), a title for the English kings, lat. FW fidelītūs and in English faith

~ e. bid ~ nhg. bieten (“to bid, to offer”)

budhnam (”depth, ground”)

← ie. *bhudhno

→ lat. fundament where n and d are interchanged (as in lat. unda, see udan)

~ e. bottom ~ nhg. Boden (“ground”) where both e. tt and nhg. d is unclear

Perhaps, budhnam is related to budh (semantically, compare German “ergründen”)

E.6.4. bh

bhaj 1. class: bhajati (“to divide, to allot”)

bhaga (“wealth, happiness”)

bhaginī (“sister”)

bhakti f. (“allotment, division, love, devotion”)

bhāgā (“part”)

bhikṣ desiderative 1. class: bhikṣ-a-tē (“to wish to share, to beg”), see p. 117

bhikṣu (“begging”)

← ie. *bheg

→ gr. FW bacteriophage

~ nhg. Bäcke (“eater → cheek?”)

bhan 1. class: bhanati (“to speak”)

← ie. *bheh₂/*bhen

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E.6. Labial stops and nasal

→ gr. FW

◊ blas-phemny 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-phasia where ogr. a ~ oi. a ~ e. un
◊ prophet
◊ phone, phonetics, phoneme

~ lat. FW

◊ 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 Fée (“fairy”) and gefeit (“immune”)
◊ fable, fabulous
◊ profession, professor
◊ in-fant, in-fantile (“who does not speak → baby”, semantically compare puerile at oi. puta), infantryman (“child → boy → foot soldier”)

~ germ. *ben
→ e. ban ~ nhg. Bann
~ French banal
~ Italian bandito

bhañj 7. class: bhanakti (“to break”)
bhaña (breaking, defeat)

PPP bhagna
← ie. *bh??

bhand 1. class: bhandatê (“to shine, to gleam”)
bhad-ra (“happy, lucky”), zero grade by SY _N, for other examples see pp. [110]

bhā 2. class: bhāti (“to shine”)
bhās 1. class: bhāsati (“to shine”)
← ie. *bheH(s)

→ gr. FW photo, phos-phor (“which carries light”, for second part see bhy)
~ nhg. bählen ("to make shiny → to polish (the floor)"
E. Etymological dictionary

**bhid** 7. class: *bhinatti* (“to split”)
← ie. *bheid*
→ lat. FW *fissure, fission*
～ e. *bite* ∼ nhg. *Biss*
～ e. *bitter* ∼ nhg. *bitter* (p. 66)

**bhī** 3. class: *bi-bhē-ti* (“to be afraid”)
← ie. *bheih₂*
→ nhg. *beben* (“to tremble”), *bibbern* (“to jitter”)

**bhū** 1. class: *bhavati* (“to be”)
*punar-bhū* (“remarried widow”)
*bhū* (“earth”)?

<table>
<thead>
<tr>
<th>bhū (“to be”)</th>
<th>bhav-a-ti (1)</th>
<th>bhav-a-n-ti (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td>bhav-i-tum (2)</td>
<td>bhav-i-ṣy-a-ti (2)</td>
</tr>
<tr>
<td>infinitive</td>
<td>bhū-ta (3)</td>
<td>a-bhav-a-t (1)</td>
</tr>
<tr>
<td>PPP</td>
<td>bhū-ta (3)</td>
<td>a-bhav-a-n (1)</td>
</tr>
<tr>
<td>future</td>
<td>ba-bhūv-a (5)</td>
<td>a-bhū-ṣ-a-ti (3, 4)</td>
</tr>
<tr>
<td>imperfect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>root aorist</td>
<td>a-bhū-t (3)</td>
<td></td>
</tr>
<tr>
<td>desiderative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. From ie. *bheuH*, *bhav-a-ti* is regular full grade (see LAR).
2. The infinitive *bhav-i-tum* (and similarly the future forms) is regular full grade where i originates from the laryngeal (LAR).
3. The laryngeal also shows in zero grade PPP *bud-dha*, the desiderative, and the root aorist.
4. DA
5. *ba-bhūv-a* is very 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.

← ie. *bheuH*
E.6. Labial stops and nasal

→ gr. FW physics

~ lat. FW future

~ e. be ~ nhg. (ich) bin, (du) bist

~ nhg. bauen (“to build), Bauer (“farmer)

bhr

1. class: bharati / 3. class: bibharti (“to carry”)

← ie. *bher

→ gr. FW

◇ periphery where first part is cognate with oi. pari

◇ meta-phor

◇ PN Christopher (lat. version Christophorus)

◇ phos-phor (“which carries light”, for first part see bhā)

◇ eu-phoric where ogr. eu ~ oi. su

~ lat. FW prefer, confer, differ, fertile, Lucifer (“carrier of light” → PN of angel, see ruc)

~ e. bear

~ nhg. gebären (“to give birth”), Bahre, Zu-ber, Gebärde

bhrātar m. (“brother”)

← ie. *bhratēr

→ lat. FW fraternize, fraternity

~ e. brother ~ nhg. Bruder

~ ??European Gypsy pal, English Gypsy pal with FW pal

E.6.5. m

man 4. class: manyatē (“to think”)

mati f. (“thought, mind”) (SY_N)

See amati, amnas, mnā

← ie. *men

→ lat. mēns, mentis with FW mental
E. Etymological dictionary

**madhu** n. “sweet drink, honey”

← ie. *medhu
→ gr. FW *methane
∼ e. mead ∼ nhg. *Met

**madhya** “middle”

← ie. *medhya
→ gr. FW *Mesopotamia (“between two rivers”)
∼ lat. FW medium, media
∼ e. mid, middle ∼ nhg. Mitte (but not: *mit)

**mahant** (“great”), pp. 200

← ie. *megh₂
→ gr. FW megafon, megawatt, megabyte and, in German, megageil (youth slang: “fantastic altogether”)
∼ lat. FW magnitude, magnate
∼ e. much

**mā** 3. class: **mimāli** (“measure”)

← ie. *meh₂
→ gr. FW meter (via French *mètre), geometry

**mālar** f. (“mother”)

← ie. *ie. *ma-ḥ₂ter
→ lat. FW maternity
∼ e. mother ∼ nhg. *Mutter

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As in *pitar*, the ie. accent follows the *t* so that **VER** applies.

*mitram* “contract → friendship → friend”

On neuter (!) *mitram* see [Thieme 1957].

*mih* 1. class: *mēhati* (“to urinate”)

*mih* f. (“mist, haze, fog”)

*mēgha* (“cloud”)

← ie. *megh*

*mīl* 6. class: *mīlati* (“to unite, to happen”)

*mēla* (“assembly, association”)

*mēłaka* (“assembly, association”)

*mēlanam* (“assembly, association”)

*mēlā* (“assembly, association”)

← ie. *meil??*

*mīḏham* (“wage, price”)

← ie. *mizdho*

→ e. *mee d ~ nhg. Miete* (“rent”)

*mīḏha* (and very similarly *nīḍa*) can be explained by a series of sound laws:

\[
\text{ie. *mizdho} \\
\rightarrow mīḏha (ĂĂ, RUKI) \\
\rightarrow mīḏha (CERD) \\
\rightarrow mūḏha (COMLz)
\]

*mṛd* 1. class: *mar dati* / 9. classs: *mṛdnāti* (“to press, to destroy”)

*mṛd* f. (“mud, clay”)

*mṛdu* (“soft, mild”)

*mṛad-īyans* (comparative, “softer”)

*mṛad-īṣṭha* (superlative, “softest”)

← ie. *mldu*

→ lat. FW in German

◇ *a-Moll* (“A minor”)
E. Etymological dictionary

◇ mollig (“chubby”)

mr 1. class: marati / 4. class: mri-ya-tē (“to die”)
← ie. *mer
→ gr. FW a-mбросia with ogr. alpha privativum a (see a ~ e. un) (b has been introduced in order to facilitate pronunciation)

∼ lat. FW mortal, morbid, to amortize (“to make dead → to redeem a loan”)

∼ e. murder ~ nhg. Mord

∼ nhg. mürbe, morsch

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”), with laryngeal??
Consequential of man, see pp. 73

mlā(i) 2. class: mlāti (“to run”)
← ie. *mleH1
Related to ie. *melH? (“zermalmen, mahlen”)

E.7. Half vowels

E.7.1. y

yaj 1. class: yajati (“to sacrifice”)
PPP ishlist
ištī f. (“offering”)
← ie. *yejį

yā 2. class: yā-ṭi (“to go”)

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E.7. Half vowels

← ie. *yeh₂

Consequential of i, see pp. 73

**yu** 3. class: **yu-yô-ti** (“to keep apart, to separate”)
**yava** (“barley”)
**ava-yava** (“part”)

**yu**j 7. class: **yu-na-k-ti** (“to yoke”)
**yugam** (“yoke”)
**yôga** (“yoking”)

← ie. *yuğ

→ lat. FW *junction, conjugation*, Spanish and Portuguese *junta* (“council, meeting”)

~ e. *yoke* ~ nhg. *Joch*

**yudh** 4. class: **yudh-ya-tê** (“to fight”)
**yudh** f. (“fight, battle”)
**yudhisthira** PN
ctp7 (Pā: aluk), vigraha: *yudhi śthiraḥ* (“firm in battle”)

**yuv-an** m. (“youngster”), see p. 207
**yuwat** (“young”)

*yav-ñyans* (comparative, “younger”)
*yav-istha* (superlative, “youngest”)

**yuvaśa** (“young”)

← ie. *yuv

→ e. *young* ~ nhg. *junq*

~ Irish *Tír na nÓg* (“land of (eternal) youth”) where *Tír* is cognate with lat. *terra* (see *tres*)

E.7.2. **r**

**raks** 1. class: **raksatì** (“to guard, to protect”)
**rakṣas** (“demon”) or **ṛkṣa** (“bear” Schädiger??)

**raghu** (“light”) by subsection B.3.6 (p. 42) and zero grade from

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E. Etymological dictionary

← ie. *le(n)gʷh
→ lat. FW levity
~ e. light ~ nhg. leicht
~ nhg. f.g. gelingen ("to succeed") and o-grade gelangen ("to arrive, to reach")

raj (“to get red”)
rajaka ("washerman")
rakta ("coloured, red")
dūrakta ← *dur-rakta ("badly coloured") (COMLr)

ratha ("charriot")
← ie. *roth
→ lat. FW rotate
~ nhg. Rad ("wheel")

raji f. ("line, direction")
rājan m. ("king"), see p. 206
rāṣṭam ("kingdom")
← ie. *reǵ ("to extend in a straight line, to direct")
→ lat. regere ("to direct, to guide") and rēgula ("line, rule") with FW
   ◦ in English
      • with g: region, regime
      • with c before voiceless t: di-rect, correct
      • without g: rule, rail-road (compare nail, p. 67)
   ◦ in German regieren, Regel, Regisseur

~ nhg. richtig, recht
~ in German, but of celtic origin, reich, Reich, PNs Heinrich, Richard

rasa ("juice")
← ie. *r..s??
→ lat. rōs, rōris("dew")

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**E.7. Half vowels**

*rātri f.* ("night")
← ie. *rāti?
→ lat. ??

*rudhira* ("red")
← ie. *rūdhro*
→ lat. *ruber* (with *b* after *u*) with FW
   ◦ English *ruby* and German *Rubin*
   ◦ English *rubric* and German *Rubrik*

~ e. *red* ~ nhg. *rot*

*ruc* 1. class: *rōcalē* ("to shine, to please"), see subsection B.3.6 p. 42
← ie. *leuk*
→ gr. FW *lynx*, *leuk-emia*
~ lat. FW *Lucifer* ("carrier of light" → PN of angel, see *bhr*)
~ e. *light* ~ nhg. *Licht*
~ nhg. *Luchs* ("*lynx*"), *erlaucht*, twice in *lichterloh*

See *lōka*.

*rudh* 7. class: *ru-pa-ddhi* ("to detain, to check")
*rōdha* ("holding back")

*rudh* 1. class: *rōdhāti* ("to climb, to grow")
Pp. 106
*rōha* ("growing, sprout") with *h* instead of *dh* (pp. 47)
← ie. *r₁leudh*

*rūh* 1. class: *rōhati* ("to climb, to grow")
Variant of *rudh* ("to climb, to grow") due to pp. 47 see *rudh*

*rēkh-a* ("line, strip, picture"), see p. 310
E. Etymological dictionary

E.7.3. I

\textit{likh} 6. class: \textit{likhati} (“to write”)
\textit{lēkha} (“line, letter”) versus \textit{rēkh-ā} (“line, strip, picture”) (see subsection B.3.6, p. 42)
← ie. *\textit{likh}??

\textit{laghu} (“small”)
\textit{lagh-īyans} (comparative, “smaller”)
\textit{lagh-īṣṭha} (superlative, “smallest”)

\textit{lih} 2. class: \textit{lēdhī} (“to lick”)

\begin{center}
\begin{tabular}{|l|l|}
\hline
   & \textit{lih} (“to lick”) \\
\hline
present tense & \textit{lē-dhi} (1) & \textit{lih-an-ti} (3) \\
infinitive & \textit{lē-dhum} (1) \\
PPP & \textit{li-dha} (1, 2) \\
future & \textit{lēk-sy-a-ti} (4) & \textit{lēk-sy-a-n-ti} (4) \\
imperfect & \textit{a-lēṭ} (5) & \textit{a-lih-an} (3) \\
perfect & \textit{li-lēh-a} (6) & \textit{li-lih-us} (6) \\
redup. aorist & \textit{a-lih-a-t} & \\
desiderative & \textit{li-hik-s-a-ti} (7) & \\
\hline
\end{tabular}
\end{center}

1. \textit{lē-dhi} is to be explained by

\begin{itemize}
\item ie. *\textit{leīgh-ti} (full grade)
\item \textit{leīgh-ti}
\item \textit{lēj-dhā} (\textit{ASH})
\item \textit{lēz-dhī} (\textit{SZ} before voiced cons.)
\item \textit{lēz-dhī} (\textit{RUKI})
\item \textit{lēz-dhī} (\textit{CERD})
\item \textit{le-dhī} (\textit{COMLz}, but ē already long)
\end{itemize}

The infinitive follows a similar development.

2. Along very similar lines, we find the PPP

\begin{itemize}
\item ie. *\textit{lih-to} (zero grade and to PPP marker)
\item \textit{li-g-dha} (\textit{ASH})
\item \textit{li-z-dha} (\textit{SZ} before voiced cons.)
\item \textit{li-z-dha} (\textit{RUKI})
\item \textit{li-z-dha} (\textit{CERD})
\item \textit{li-dha} (\textit{COMLz})
\end{itemize}
3. Although athematic, 3. pers. PRII exhibits an. This holds for all verbs in the 2. class (except sās, see 149), but the 3. class shows just n (which would then turn into a).

4. The future form lēk-sy-a-ti is clear from
   a) “failed” aspiration shift together with
   b) BA

5. Parasmāipada imperfect sg. has a-lē† in both the 2. and 3. pers.. For the 3. pers., we have

   ie. *e-lei̱gh-t (full grade with ie. imperfect marker e)
   → a-lēg-dh (ASH)
   → a-lēz-dh (SZ before voiced cons.)
   → a-lēz-dh (RUKI)
   → a-lēz-dh (CERD)
   → a-lē-ðh (COMLz, but ð already long)
   → a-lē-t (AFP, p. 42)

6. li-lēh-a is par. and hence regularly strong (pp. 171). li-lēh-us is ātm. and weak.

7. li-lik-s-a-ti is expected desiderative in zero grade.

← ie. *(s)lei̱gh

→ e. lick (in contrast to GER kk rather than g)

∼ nhg. lecken and also schlecken with s-mobile

**lubh** 4. class: lubhyati (“to desire”)

← ie. *leubh

→ lat. quod libet (“what pleases”)

∼ e. to love ∼ nhg. lieben

**lōka** (“space, earth”) (see ruc) from o-grade

← ie. *loukos

∼ PN Waterloo
E. Etymological dictionary

E.7.4. v

vac 2. class: vakti (“to speak”)
PPP ukta
suktam (“well said, hymn”) ← su (“good”) + ukta
vāc (“word, voice”)
← ie. *vekw
→ gr. FW epic (twice OGR)
~ lat. FW advocate, to provoke, vocative, vowel, voice and German Vogt ← middle Latin vocātus

vad 1. class: vadati (“to talk”)

vadh 1. class: vadhāti (“to hit, to kill”) related to ??
vadhū (“bride, daughter in law”)
← ie. *vedh
→ e. to wed

van 8. class: vanōti (“to win”)
← ie. *venH (“to like, to get used to”)
→ lat. goddess of love Venus
~ e. to win, names like Winfred, Erwin ~ nhg. gewinnen, Wonne, wohnen
See vāṁch

vāṁch 1. class: vāṁchati (“to wish”) with

◊ ie. iterative suffix skē → ocha as in gacchati (see gam)
◊ analogic insertion of n (otherwise *vāccḥ)
← ie. *véH H-skē (“to like, to get used to”)
→ e. wish ~ nhg. wünschen

vanam (“forest”)
van consonantal, n.? (“tree, wood”), hence with genitive vanas
vanas-pati m. (“lord of the forest, tree”)

vam 1. class: vamiti (“to vomit”)
E.7. Half vowels

← ie. *vem

→ lat. FW to vomit

**vaś** 2. class: **vaśti** (“to wish”)

*a-vaśyam* adv. (“not to be wished → necessarily, indeed”)

← ie. *vek

*vaś* is not cognate with *wish*, but *vāṃch* is

**vas**¹ 2. class: **vastē** (“to clothe”)

← ie. *ves

→ lat. FW to *invest*, *investiture* and in German *Weste*

~ e. *wear

**vas**² (“to shine”)

*uṣas* f. (“dawn”)

**vas**³ 1. class: **vasati** (“to live, to be”)

PPP *uṣita/uṣṭa/vasīta*

future *vaḥ-ṣy-a-ti* by DIS

← ie. *hves

→ e. *was

~ nhg. ge-wes-en

**vah** 1. class: **vaḥati** (“to drive, to bring”)

| vah (“to drive”) |
|-----------------|----------------|
| present tense   | vah-a-ti       | vah-a-n-ti    |
| infinitive      | vādhūm (2)     |               |
| PPP             | ā-dhā (1)      |               |
| future          | vaḥ-ṣy-a-ti (3) | vaḥ-ṣy-a-n-ti (3) |
| imperfect       | a-vah-a-t      | a-vah-a-n     |
| perfect         | u-vah-a (4)    | āh-us (5)     |
| s-aorist        | a-vāk-ṣt-t     | a-vāk-ṣ-us    |
| desiderative    | vi-vak-ṣ-a-ti (3) |               |
E. Etymological dictionary

1. The ie. root of vah is *vegh. ū-dha is regular by
   ie. *uēgh-to (zero grade and to PPP marker)
   → uē-dha (ASH)
   → uz-dha (SZ before voiced cons.)
   → uz-dha (RUKI)
   → uz-dha (CERN)
   → ū-dha (COMLz)

2. The infinitive vōdhum is not quite regular. One should have obtained
   ie. *vegh-tum (full grade and tum-marker for infinitive)
   → vaj-dhum (ASH)
   → vaz-dhum (SZ before voiced consonant)
   → vē-dhum (COMLz, pp. 16)

Here, leveling from regularly formed PPP ū-dha is responsible for vōdhum, with cerebral dh.

3. The future form vak-sy-a-ti is clear from “failed” ASH together with BA. Similarly the desiderative.

4. Lo

5. Samprastārana: By MVS, the reduplicative vowel u combines with the same vowel from the zero-grade root to produce ū.

← ie. *vegh
→ lat. FW vehicle, vector
~ e. away ← Old English onweg
~ nhg. bewegen, Weg, weg, Wiege, Woge, wägen, wiegen

vā 2. class: vāli (“to blow”)
vāla (“wind”), see vālāyanam under i (“to go”)
vāyu m. (“wind”)

*vaj (“to get strong”)
vaj-ra (“the hard or might one”)
ōjas (“power”)
ōjman m. (“strength, power”)
vāja (“fight, strength”)
← ie. *vej
→ lat. FW vigorous, vegetation
E.7. Half vowels

∼ e. to wake ~ nhg. wachen and causative wecken, wacker

\textit{vid} 2. class: \textit{vētti} (“to know”) \\
\textit{vēdānta} (“end of Vedic literature”), see \textit{anta}

← ie. *\textit{veid}

→ gr. FW \textit{idea}, ideology by \textbf{OGR}

∼ lat. FW \textit{video}

∼ Swedish \textit{vetenskap} ~ nhg. \textit{Wissenschaft}

∼ e. \textit{wise} ~ nhg. \textit{weise}

∼ nhg. \textit{gewiss}, \textit{bewusst}

\textit{vidhavā} (“widow”)

← ie. *\textit{vidhevā}

→ e. \textit{widow} ~ nhg. \textit{Witwe}

\textit{vip} 1. class: \textit{vēpatē} (“to tremble, to be excited”) \\
\textit{vip-\textit{ra}} (“excited, wise”) with

◇ \textit{vipra} (“poet, learned brahmin”) \\
◇ \textit{vipra-rājāyam} (“Brahmin government”) \\
◇ \textit{vipra-vīra} (“Helden begeistert”) \\
\textit{vēpatē-\textit{anam}} (“trembling”)

\textit{viś} 6. class: \textit{viṣāti} (“to enter”) \\
\textit{viś} f. (“house, people”), see pp. 99

← ie. *\textit{vei̯}

→ gr. FW \textit{economics} (\textbf{OGR})

∼ lat. \textit{vīcus} (“village”) and hence English \textit{vicinity} and French \textit{voisin} (“neighbor”)

\textit{vīra} “man”

← ie. *\textit{vī-\textit{ro}}
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→ lat. FW *virile, triumvirate (for first part see *trayas)
~ e. *werewolf ~ nhg. Werwolf (also: Wergeld, “expiation money” in Germanic law)

vrka ("wolf") by p. 12
← ie. *wolkien
→ lat. (dialectal) *lupus in “homo homini lupus est”, also “a skin disease”
~ e. wolf ~ nhg. Wolf

vrš 1. class: varotā (“to turn, to roll, to be”)
← ie. *vert
→ lat. FW vertical, versus, verse
~ nhg. werden, Wurm and perhaps Wurst

vyadh 4. class: vidhyati (“to pierce, to drill through”)
vyādha ("hunter")
vyādhī m. ("illness")
vyādhatia ("ill")
vid-dha ("pierced, perforated")
aber nicht vi-dha (see dhā)

E.8. Sibilants

E.8.1. ś

śatām ("hundred")
← ie. *śktom
→ lat. FW centipede (for second part see pad), centimeter (for second part see mā), percent
~ e. hund-red
~ German hundert from Old Saxon

śap 1. class: śapati (“to vow, to curse”)
← ie. *śkap
E.S. Sibilants

→ lat. FW capture

~ lat. capsula with English capsule

~ e. to heave ~ nhg. heben

~ nhg. Haft (“imprisonment”), also sündhaft (“sinful”) wahrhaftig (“truthful”)

śarānam (“protection”)
śarman n. (“shelter”)

← ie. “kel (to cover, to hide)”

→ gr. FW calyx, eucalyptus (“well-hidden calyx” → name of a tree) (first part see su)

gr. FW apocalypsis (“uncovering, revelation, end of the world”, part of the bible) (first part see apa)

~ lat. cella with FW in English cell and FW 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)

lat. FW occult

~ e. helm-et ~ nhg. hehlen (in ver-hehlen), Hehler, verhüllen, Helm, Hülle, Halle, Wilhelm, Helmut

śaśa (“hare”) (with oi. forward assimilation š..s → š..ʃ) → pa. sasa

← ie. “kasó (“grey”)

→ e. hare ~ nhg. Hase (where e. r can be explained by VER, but nhg. s cannot)

śas 2. class: śasti (“to cut, to slaughter”)
śastram (“knife, weapon”)

← ie. “kes??

śī 2. class: śelē / 1. class: šayatē (“to lie, to sleep”)
śāya (“lying, sleeping”)
śavya (“lying, taking a rest”)
śayā (“bed”)
śayyā (“bed”) with second y as a reflex of the laryngeal?
śayyā-gřham (“bedroom”)
ā-śaya (“stay, sojourn”)
jalā-śaya (“stay of water → lake”) ← jala (“water”) + ā-śaya

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← ie. *keiH??

śās 2. class: śāsti (“to teach, to rule”)  
śāstram (“rule, manual, teaching”)  
← ie. *keHs??

śuc 1. class: śōcate (“to shine, to grieve”)  
← ie. keuk

śūnya (“empty”)  
← ie. k??  
→ nhg. hohl??

śṛṇgam (“peak, horn”)  
← ie. *kṛno  
→ lat. FW corner  
∼ e. horn ∼ nhg. Horn

śrad kr (“to guarantee, to promise”)  
śrad dhā (“to believe, to trust”)  
← ie. *kred  
→ lat. FW credit, credible, credo (literally 1. pers. sg.: “I believe”)  
See also ḫṛd and dhā

śram 4. class: śrāmyati (“to tire”), compare the unrelated klām under kram PPP śrānta  
← ie. *kremH

śru 5. class: śṛṇōti (“to hear”) (see pp. 83)  
śloka (“verse, praise”)  
śrṇvas (“fame”)  
← ie. *kleu

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śrī ("fortune, success, beauty, fame")
śrēyans (comparative, “more beautiful, more exquisite”)
lagh-īṣṭha (superlative, “most beautiful, most exquisite”)

śvaśura ("father in law") with oi. backward assimilation s..ś → ś..ś
← ie. svekuro
→ nhg. Schwäher (unusual, “father in law”) and Schwager ("son of the father in law") by VER

śvaśrū ("mother in law")

śvan, m. ("dog"), see p. 206
śvāna ("dog")
← ie. kvón
→ gr. FW cynic
~ lat. canis in “cave canem”
~ e. hound ~ nhg. Hund

śvēt ("white")
← ie. kv??
~ e. white ~ nhg. weiß

E.8.2. s

sa ("with, provided with"), used on compounds for saha such as sa-dhana ("rich"), for second part see dhanam ("wealth") under dhā ("to set, to put")
sac 1. class: sacalē ("to follow")
← ie. sekʷ
→ lat. sequi with FW sequence, second (i.e., "the following one"), German Sekunde
~ e. see ~ nhg. sehen

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saj 1. class: *sajati* (“to adhere, to stick”)
pa. *bodhisatta* (“a Buddha saint”) may go back to oi. *bodhisattva* (often written *bodhisatava*) (“an enlightened being”) or to *bodhisakta* (“who clings to enlightenment”), see Hinüber [2007, pp. 387-390]

sad 1. class: *siddati* (“to sit”) (see p. 74 and n. 1)
*upanisad* f. (“what is taught when sitting down and close to”, indische Geheimlehre, see upa)
*viśāda* (“sorrow”)
← ie. *sed*
→ gr. FW via lat. *cat-hedra* (OGR), German *Kat-heder* (“lectern”), *cathedral* (i.e., “a bishop’s seat”) and French *chaire*

san (“to obtain, to possess”)
PPP *sā-ta*
??consequential *sūtā* (“to swim”), see pp. 73

sana (“old”)
← ie. *seno*
→ lat. FW *senate*, *senator*

sapta (“seven”)
← ie. *septm*
→ ogr. *hepta* (as in *heptagon*)
∼ lat. *septem*
∼ e. *seven* ∼ nhg. *sieben*

sam (“together”)
← ie. *sem* (“one”)
→ gr. FW *homosexual*
∼ lat. *semper* (“always”) with FW *sempiternal* ← *semper* + *eternal*
   lat. FW *similar*, *simple*
∼ 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

sārva ("all, every, whole") by p. 42 from
← ie. solHvo
→ gr. FW holocaust, hologram
∼ lat. salūs, salūtis ("health, well-being") with FW to salute (i.e., "to wish health"),
   safe

sarp 1. class: sarpati ("to crawl, to creep")
← ie. serp
→ gr. FW herpes ("spreading skin condition")
∼ lat. FW serpent

sādh 1. class: sādhati ("to be successful, to lead to one’s goal")
sādhu ("able, noble, obedient")
← ie. ??
→ ??
∼ ??

su ("good")
sūktam ("well said, hymn") ← su + ukta (PPP of vac, "to say")
su-annam ("good food", for second part see ad)
su-kham ("happiness, pleasure")
su-śthu adverb ("well")
su-carīta ("well-done"), ctp gati, vigraha: suśthu carītah ("well done")
su-nadara ("beautiful", for second part see ??)??
su-gandhi ("fragrant", for second part see gandha, "smell, odor")
← ie. *h₁su
→ ogr. eu ← *eu₁u in FW
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- *ev-angelic*, German *Evangelium* (lat. ending, “gospel”)
- *eu-phemism*, see *bhan*
- *hygiene* (similar to oi. *su-jīvita* (“living happily”), see *īv*

May well be related to ie. *h₁es* (see as)

**suci** (“pure”), **← ie. su??**

**su** 5. class: **sunūti** (“to press”)

PPP **suta** (“squeezed”)

**sav-anam** (“pressing Soma, childbirth”) or below at **sū** (“to beget”)

**ut-sav-a** (“(drinking) festival”)

**sōma** (“Soma plant/ juice”)

**sū** 2. class: **sūlé** (“to beget”)

PPP **sūla** (“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”)

**sav-īlar** m. (“activator, father”)

← ie. *seuH*

**sura** (“god”), back-formation (see p. 6) 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></td>
<td></td>
</tr>
<tr>
<td>a-sura (“demon”), falsely</td>
<td>with negating a from:</td>
<td>sura (“god”)</td>
</tr>
</tbody>
</table>

**sūnu** m. (“son”)

← ie. *sūnū*

~ e. *son ~ nhg. *Sohn*

**stan** 1. class: **stanati** (“to thunder, to hum”)

← ie. *s/ten*

→ with s-mobile: nhg. *stöhnen* (“to groan”)

~ without s-mobile: e. *thunder ~ nhg. *donnern*
**stigh** 5. class: *stighnōti* (“to step, to mount”)
← ie. *steigh*
→ nhg. steigen, Steg, Steigeisen

**str** 5. class: *strnōti* / 9. class: *strnāti*, (“to spread”)
PPP *stīnja*
*vi-stara* (“extension, detail”)
*vi-starēṇa* (“at length”)
← ie. *ster*
→ gr. FW *a-stro-logy, a-stro-nomy, aster, desaster*
~ lat. *stella* ← *ster-la* with FW *con-stella-tion*
~ nhg. Stern

**sthag** 10. class: *sthagayati* (“to hide”)
← ie. *stHeg*
→ lat. *tēgula* (“tile”) → FW German *Ziegel*, (lat.) *toga*
~ nhg. *thatcher*
~ nhg. *Dach* (“roof”)

**sthā** 1. class: *tiṣṭhati* (“to stand”)
**sthāman** n. (“station, position, strength”)
**stāman** (meaning unknown) (see 2. below)
*ul-thāya* gerund “standing up” (DzD)
**sthāra** (“steady, durable”), see pp. 110
*yudhi-sthira* PN
crp (Pā: aluk), *vigraha: yudhi sthirah* (“firm in battle”)
**su-ṣṭhu** adverb (“well”), see *su*
**stiṣā** (“standing water”) (see 3. below)

<table>
<thead>
<tr>
<th><strong>sthā (“to stand”)</strong></th>
<th><strong>present tense</strong></th>
<th><strong>infinitive</strong></th>
<th><strong>PPP</strong></th>
<th><strong>future</strong></th>
<th><strong>imperfect</strong></th>
<th><strong>perfect</strong></th>
<th><strong>root aorist</strong></th>
<th><strong>desiderative</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>tiṣṭha-ti</em> (1)</td>
<td><em>tiṣṭha-n-ti</em> (1)</td>
<td></td>
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<td></td>
<td><em>stī-ta</em> (3)</td>
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<tr>
<td></td>
<td><em>stĪ-sā-ti</em> (2)</td>
<td><em>stĪ-sā-n-ti</em> (2)</td>
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<tr>
<td></td>
<td><em>a-tī-ṣṭha-t</em> (1)</td>
<td><em>a-tī-ṣṭha-n</em> (1)</td>
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<tr>
<td></td>
<td><em>ta-ṣṭh-āu</em> (4)</td>
<td><em>ta-ṣṭh-us</em></td>
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<tr>
<td></td>
<td><em>a-ṣṭhā-t</em></td>
<td><em>a-ṣṭh-us</em></td>
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</tr>
<tr>
<td></td>
<td><em>tiṣṭhā-s-a-ti</em> (2, 5)</td>
<td><em>tiṣṭhā-s-u</em> (2, 5)</td>
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</tr>
</tbody>
</table>

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1. The ie. root is *ste₇₂. DA is not involved, but one obtains tiṣṭatī from

   *ti-sth₂-e-ti (reduplication with i, z.g. root, thematic vowel)
   → *ti-sth-eti (LAR: h₂ aspirates t)
   → ti-ṣṭh-ati (RUKI)
   → ti-ṣṭh-ati (CERD)

2. The aspirated oi. root sthā is in full grade, as in the infinitive sthā-tum and the future forms. The laryngeal seems to have caused both aspiration and lengthening of the vowel. However, ie. *ste₇₂sy-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>ti-ṣṭha-ti</td>
<td>sthā-sy-a-ti</td>
</tr>
</tbody>
</table>

   It may well be that stūman is a regular form without levelling while sthāman shows similar levelling as in the future forms.

3. Similar to the future form, sthī-ta also shows double reflex of the laryngeal (LAR). Without aspiration, we have stiyā (“standing water”).

4. The perfect ta-sth-aū is similar to da-d-aū from dā (“to give”). See p. 175

5. The desiderative is irregular in using the strong form.

← ie. *ste₇₂

→ lat. FW status

∼ e. stand ∼ nhg. stehen

sthūla (“big, fat”)

sthav-ījans (comparative, “bigger”)

sthav-iṣṭha (superlative, “biggest”)

snā 1. class: snāi (“to take a bath, to purify oneself”), ??consequential of san

PPP snā-la

ni-ṣnāla, ni-ṣṇa (“having plunged into → experienced”)

← ie. *sne₇₂

snih 4. class: snihyati (“to stick, to adhere, to like”)

PPP snih-dha

← ie. *sne₇₂h
→ e. snow ~ nhg. Schnee

**smr** 1. class: **smarati** ("to remember")
← ie. *(s)mer

**sprh** 10. class: **sprhayati** ("to long for, desire intensely")
← ie. *spergh
→ with nasal infix e. to spring ~ nhg. springen

**sva** ("own")
← ie. *svo
→ lat. suus in
  ◊ "Iustitia suam 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")
~ Old Irish féin ← *sve-(de)sin ("own, self"). Sinn Féin ("we ourselves") is a political party in Ireland, active in both parts. See also Modern Irish mo theanga féin ("my own language")

~ nhg. sich

See **svadhā**

**svadhā** ("custom, home") ← sva + ?
← ie. *(s)vēdhus
→ ogr. ēthos in FW ethics (OGR_DA twice, OGR_DA)
~ nhg. Sitte

**svan** 1. class: **svanati** ("to sound")
← ie. *svēn
→ lat. sonare (by svel → svelo → so as in sorēr, see svasar) with FW sonata, sonic

**svap** 2. class: **svapiti** ("to sleep")
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← ie. *svep

→ gr. FW hypnosis (OGR)

∼ lat. somnus (by p → m before nasal) with FW somnambulant, somniferous (for second part see bhr)

svar 1. class: svarati ("to sound")

svara ("sound, voice, vowel")

su-svar-am adv. ("very sweetly")

← ie. *sver

→ e. an-swar ← Old English and-swaru ("to sound against") ~ nhg. Antwort, e. swear

∼ nhg. schwören

svasar f. ("sister")

← ie. *svesör

→ lat. sorör (by sve → swo → so as in sonare, see svar) with FW sorority

∼ e. sister ~ nhg. Schwester

svādu ("sweet")

← ie. *sveh₂du

→ lat. FW suave

∼ e. sweet ~ nhg. süß

svāmin m. ("master, owner") ← sva + (perhaps, somewhat unlikely) amā + in

svid 1. class: svēdatē ("to sweat")

← ie. svid

∼ e. sweat ~ nhg. Schweiß
E.9. Aspirant \( h \)

**ha** (enclitic emphasizing particle meaning “indeed”), see *iti*

**han** 2. class: *han-ti* / 10. class: *pra-ghnālayāti* (“to hit, to kill”)

**ghna** (“killing”) as in *śatrughna* (“killing the enemies”, one of Rāma’s brothers), see compound-final zero grades (p. 120)

**a-ghnyā** gerundive: pp. 128 (“not to be killed → cow”)

**hāṁsā** (“violence”, see pp. 114)

### Table: Present Tense

<table>
<thead>
<tr>
<th>Present Tense</th>
<th><em>han-ti</em> (1)</th>
<th><em>ghn-an-ti</em> (3)</th>
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</thead>
<tbody>
<tr>
<td>Infinitive</td>
<td><em>han-tum</em> (1)</td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td><em>ha-ta</em> (4)</td>
<td></td>
</tr>
</tbody>
</table>

### Remarks:

1. *han-ti* is regularly produced from ie. *\( gw\)hen-ti* (SPAL). The strong form *han* is also seen in the infinitive.

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-s-y-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 *gha-ta*, without SPAL. Analogy with forms like *na-ta* (see p. 102) may be responsible.

5. Identical parasmāipada imperfect 2. and 3. pers. sg. are common in athematic verbs. Due to CCL, the endings *s* (2. pers.) and *t* (3. pers.) are lost:
   - *a-han* ← *a-han-s*
   - *a-han* ← *a-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”) ← ie. *\( gw\)hen*, depending on the suffix. On the one hand, we have the *Hs* desiderative shown in the table above:
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\[*g^w hi\overset{\text{g}}{\overset{\text{w}}{h}}n-Hs-\]
\[\rightarrow g^w hi\overset{\text{g}}{\overset{\text{w}}{h}}a-s-\quad (\text{laryngeal after syllabic } \overset{\text{n}}{\text{o}})\]
\[\rightarrow g^w i-g^w h\overset{\text{a}}{\overset{\text{s}}{h}}s-\quad (\text{DA})\]
\[\rightarrow ji-g\overset{\text{h}}{\text{a}}s-\quad (\text{SPAL})\]
\[\rightarrow ji-g\overset{\text{h}}{\text{a}}m-s-\quad (\text{lev. from } ham-sy-ti?)\]
\[\rightarrow ji-g\overset{\text{h}}{\text{a}}m-s-a-ti\quad \text{he wishes to kill}\]
\[\rightarrow ji-g\overset{\text{h}}{\text{a}}m-s-u\quad \text{revengeful}\]
\[\rightarrow ji-g\overset{\text{h}}{\text{a}}m-s-\overset{\text{a}}{\text{i}}\quad \text{revenge}\]

On the other hand, the \(s\) suffix yields:

\[*g^w hi\overset{\text{g}}{\overset{\text{w}}{h}}n-s-\]
\[\rightarrow hi\overset{\text{g}}{\overset{\text{w}}{h}}n-s-\quad (\text{SPAL})\]
\[\rightarrow hi-n-s-\quad (\text{CCL})\]
\[\rightarrow hi-m-s-\quad \rightarrow him-s-a-ti\quad \text{he injures}\]
\[\rightarrow him-s-\overset{\text{a}}{\text{i}}\quad \text{injury}\]

← "ie. \(g^w\)hen

→ gr. FW thanatology

~ lat. (FW) to de-fen-d

ha\(\text{nsa}\) ("goose")

← ie. *\(\text{ghans}\)

→ e. goose ~ nhg. Gans (NHG\_E)

~ e. yawn ~ nhg. gähnen (i.e. the goose is the yawner) (compare e. yellow ~ gelb)

hanu ("chin") versus lat. gena ~ nhg. Kinn

hi 5. class: hin\(\text{öti}\) ("to push, to move, to promote")

h\(\text{e}\)-tu ("reason, argument")

hima ("winter, snow") with FW Himalaya (PPAL)

← ie. *\(\text{gheim}\)

hu 3. class: juh\(\text{öti}\) ("to sacrifice")

juh-\(\text{a}\) ("ladle")
E.9. Aspirant h

<table>
<thead>
<tr>
<th></th>
<th>ju-hô-ti (3)</th>
<th>ju-hv-a-ti (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>present tense</td>
<td>hô-tum (1)</td>
<td></td>
</tr>
<tr>
<td>infinitive</td>
<td>hô-tum (1)</td>
<td></td>
</tr>
<tr>
<td>PPP</td>
<td>hû-ta (5)</td>
<td></td>
</tr>
<tr>
<td>future</td>
<td>hô-şy-a-ti (2)</td>
<td>hô-şy-a-n-ti (2)</td>
</tr>
<tr>
<td>imperfect</td>
<td>a-ju-hô-t (3)</td>
<td>a-ju-hav-us (6)</td>
</tr>
<tr>
<td>perfect</td>
<td>ju-hâv-a (7)</td>
<td>ju-huv-us (7)</td>
</tr>
<tr>
<td>s-aorist</td>
<td>a-hâu-ši-t</td>
<td>a-hâu-š-us</td>
</tr>
<tr>
<td>desiderative</td>
<td>ju-hû-š-a-ti (8)</td>
<td>ju-hû-š-a-ti (8)</td>
</tr>
</tbody>
</table>

1. From IE. “gʰeu,” we regularly obtain the full-grade infinitive hô-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. ju-hô-ti is, of course, in full grade:

   IE. “gʰeu”
   → gʰ-hô-ti (DA)
   → ju-hô-ti (PPAL)

   Similarly, impf. sg.

4. ju-hv-a-ti (and, similarly, bi-bhy-a-ti) regularly reflect SY_N and hV.

5. The expected zero grade is present in the PPP hû-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-hâv-a is regular:

   IE. “gʰeu” (reduplication, o-grade)
   → gʰ-hô-e (DA)
   → ju-hov-e (PPAL, hV)
   → ju-hâv-a (Lo, AἈ)

   By V+hV, perfect pl. ju-huv-us is regular.

8. ju-hû-š-a-ti shows irregular (but not isolated) long ū where the zero grade would be expected.

← IE. “gʰeu” and IE. “gʰeu”

→ lat. FW fondue, con-fus-ion, in-fus-ion (LAT_F)
E. Etymological dictionary

∼ nhg. gießen

hṛd n. (“heart”) with mysterious oi. h from
← ie. *kerd
→ gr. FW cardiology
∼ lat. cor, cordis with French cordialement
∼ e. heart ∼ nhg. Herz
See also śnād
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