

Adhyayana-vidhiḥ

A Manual of Sanskrit

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Chapter 1

Phonology

§1. Basic concepts

The speech-sounds of Sanskrit were called *varṇāḥ* (“colors”) or *akṣarāḥ* (“indestructible”). These words referred both to the distinct speech-sounds of Sanskrit (that is, roughly, its phonemes) and to its syllables. That is because, in the scripts in which Sanskrit has historically been written, each letter corresponds to a syllable.

Sanskrit is written in a wide variety of scripts. Nowadays it is generally written in the Devanagari script, although historically each region of South and Southeast Asia had a different script for writing Sanskrit. All of these regionally-distinct scripts derive from the ancient Brāhmī script, which was used in inscriptions — although not for Sanskrit — from around the fourth century BCE. The Brāhmī script, and its descendants, were specifically designed to capture the distinctions in the speech-sounds of Sanskrit and related languages. For that reason, Sanskrit has always been **written exactly as it is pronounced**.

NOTE: The circumstances in which writing arose and spread in South Asia are still somewhat unknown. It used to be thought that the edicts of Aśoka (third century BCE), which were written

in a Middle Indic language related to Sanskrit, were the earliest examples of the Brāhmī and Kharoṣṭhī scripts. The Kharoṣṭhī script, which was used in the northwest of the subcontinent, was based on the Aramaic script, which the Achaemenids had introduced in those regions in previous centuries. Evidence is accumulating, however, that Brāhmī was used before Aśoka, and surprisingly, in the far south of the subcontinent (Tamil Nadu and Sri Lanka).

Sanskrit is also sometimes written in a *transliteration* of these Indic scripts into Roman letters. The principle behind these transliterations is representing the same speech-sounds that are represented in Indic scripts. But because Sanskrit makes distinctions that European languages generally do not make, such as aspiration and retroflexion, the Roman letters have to be supplemented with diacritics. There are two prevalent systems of transliterating Indic scripts: the ISO-15919 system, which I prefer because of its compatibility with other South Asian languages, and the IAST (International Alphabet of Sanskrit Transliteration), which is specifically designed for Sanskrit. Sometimes Sanskrit is written “informally” in Roman letters, without diacritics, as in “Yudhishtira,” “Rama,” “Lakshmana,” and so on.

§1.1. Phonemes

Phonemes are the fundamental sounds out of which words in a language are constructed. They are discrete and contrastive units of speech. They are discrete in the sense that, within a given language, there are stable criteria that distinguish each phoneme from each of the others and therefore divide up the continuum of speech-sounds into a specified number of phonemes. They are contrastive in the sense that, within a given language, replacing one phoneme in a word with another at the same position will result in an altogether different word. In English, for example, we know that /b/ and /k/ are phonemes because “bar” [bar] and “car” [kar] form a “minimal pair.” By contrast, we can guess that /k^h/ is not an English phoneme because [k^har] and [kar] do not contrast with each other.

Phonemes are sometimes called **segments** to call attention to their linear sequence.

Sanskrit’s phonemes, like those of most other languages, are distinguished into vowels and consonants.

NOTE: Sanskrit has no unambiguous word for “phoneme.” The words *akṣaram* “indestructible” and *varṇaḥ* “color” are often used with reference to phonemes, but often, also, with reference to syllables, whether spoken or written.

NOTE: Linguists and philologists often distinguish between at least three kinds of representation. The phonemic representation of a word, contained between slashes, represents the phonemes that the word comprises, for example /kæt/. The phonetic representation of a word, contained between square brackets, represents the way it is pronounced, for example [kʰæt]. The latter is especially useful when orthography is not a reliable guide to pronunciation, as is usually the case in English. Both of these types of representation use the International Phonetic Alphabet. The graphemic representation of a word, contained between angle brackets, represents the way it is written, for example ⟨cat⟩. Sanskritists, however, rarely distinguish between these three kinds of representation, because Sanskrit is already written in a fashion that closely approximates its pronunciation. The choice, rather, is between representing Sanskrit in an Indian script, such as Devanagari, or *transliterating* it into Roman letters.

§1.2. Features

Features are what distinguish phonemes from each other. Linguists in ancient India discussed a number of distinctive features, and the phoneme inventory of Sanskrit is typically organized in terms of distinctive features (see alphabetical order and the *Śivasūtras* below). These include:

Sonority: the degree of openness of the stream of air exhaled through the lungs. Linguists recognize a hierarchy of sonority from highest (completely open) to lowest (completely closed), which groups the speech-sounds of any language into the following categories, which also represent distinctive **manners of articulation**:

- **vowels** (*svarāḥ*) (air flows out continuously, and the sound is made by the shape of

the tongue in the mouth);

- **approximants** (*antaḥsthāḥ*) (air flows out continuously, but the tongue nearly comes into contact with part of the mouth);
- **nasals** (air flows out continuously through the nose, the oral cavity being blocked by the tongue or lips);
- **fricatives** (*uṣmāṇaḥ*) (air flows out through a small aperture formed by the tongue within the mouth); and
- **stops** (*sparsāḥ*) (the tongue or lips completely blocks the flow of air).

Length: the relative duration with which a phoneme is pronounced. A phoneme is either **short** (*braṣvāḥ*) or **long** (*dīrghāḥ*). In Sanskrit this distinction applies, for most purposes, only to vowels.

Voicing (*ghōṣaḥ*): If the vocal cords vibrate when the phoneme is pronounced, it is **voiced** (*ghōṣavān*); otherwise it is **unvoiced** (*aghōṣaḥ*). All vowels are voiced. Voicing is thus contrastive only for consonants.

Aspiration (*prāṇāḥ*): This feature is only present in consonants. If a burst of air is released at the same time that the consonant is pronounced, then it is **aspirated** (*mahāprāṇaḥ*); otherwise it is **unaspirated** (*alpaprāṇaḥ*).

Place of articulation (*sthānam*): The place in the vocal apparatus where the phoneme is pronounced. Ancient Indian linguists recognized the following places:

- **velum** (*kaṇṭhāḥ*): the back of the throat, near the soft palate.
- **palate** (*tālū*): the hard palate, at the top of the mouth.
- **alveolar ridge** (*mūrdhā*): where the roots of the front teeth begin to descend from the hard palate (in fact this is slightly behind the alveolar ridge).

- **teeth** (*dāntāḥ*): behind the top front teeth.

- **lips** (*ōṣṭhau*): the lips.

Pitch (*svārah*): whether the phoneme is pronounced with a certain pitch. This only applies to vowels. Generally the options are high pitch (*udāttaḥ*) and non-high pitch (*anudāttaḥ*); see the discussion of accent below. In this textbook, a high pitch will generally be marked with an acute accent, but only in the transliterated version of the text.

§2. Vowels

Sanskrit has the following vowel sounds (note that the English equivalents are only loose approximations: please listen to examples of these sounds and try to reproduce them yourself):

Letter	IPA	English
<i>a</i>	[ɐ]	but
<i>ā</i>	[a:]	mom
<i>i</i>	[i]	beat
<i>ī</i>	[i:]	bean
<i>u</i>	[u]	boot
<i>ū</i>	[u:]	boon
<i>ṛ</i>	[ɹ]	teacher (American); see below
<i>ṝ</i>	[ɹ:]	—
<i>ḷ</i>	[l]	little
<i>ḹ</i>	[l:]	—
<i>ē</i>	[e:]	may
<i>ai</i>	[aɪ]	eye
<i>ō</i>	[o:]	go
<i>au</i>	[aʊ]	vowel

NOTE: The sound *ṛ/ṝ* is pronounced in different ways in different regions. In Central, North, and East India (Rajasthan, Punjab, Haryana, Madhya Pradesh, and points east), it is generally pronounced as [ri], while in West and South India (Gujarat, Maharashtra, Telangana, Andhra Pradesh, and points south) it is pronounced as [ru]. English speakers do not generally think of *r* as a vowel, but try extending the final syllable of the word *teacher* (in the General American pronunciation). In the ancient phonetics literature, the vowel is described as a combination of the neutral vowel [ə] and the consonant [r], followed again by the neutral vowel [ə] in quick succession. You should model your pronunciation of this vowel on that of a good Sanskrit speaker.

NOTE: The sound *ḷ/ḹ* is very marginal in Sanskrit, effectively occurring in only one verbal root ($\sqrt{k/p}$ “be fitting”). The same group of speakers who pronounce *ṛ* as [ri] generally pronounce *ḷ* as [lri] (yes, it is difficult), and the same group of speakers who pronounce *ṛ* as [ru] generally pronounce *ḷ* as [lru].

§2.1. Vowel gradation

There are many contexts in which vowels alternate with each other. Consider the following three words:

- *vís-* “settlement”
- *věśá-* “settler”
- *vaiśya-* “settler”

These words are related in meaning, and also in formation. We can arrange them in the following way, considering the vowels as “gradations” of each other:

word	gradation
<i>vís-</i>	“zero grade”
<i>věśá-</i>	<i>guṇáh</i> , “full grade”
<i>vaiśya-</i>	<i>vṛddhiḥ</i> , “lengthened grade”

The terms “zero grade,” “full grade,” and “lengthened grade” were invented by scholars of Indo-European to capture the alternation between various forms of the “same” vowel. We will return to these terms later on.

Indian grammarians used the terms *guṇáh* for “full grade” and *vṛddhiḥ* for “lengthened grade.” They did not have a term for the first in the series, “zero grade,” because they considered it the simple form from which the other two were derived. In terms of their segmental makeup, the *guṇáh* vowel is identical to the simple vowel, but with a short *a* preceding it. Similarly the *vṛddhiḥ* vowel is identical to the simple vowel, but with a long *ā* preceding it. Hence we arrive at the following series:

Simple vowel (zero grade)	<i>Guṇāḥ</i> (full grade)	<i>Vṛddhiḥ</i> (lengthened grade)
<i>a</i>	<i>a</i>	<i>ā</i>
<i>i</i>	$[a + i] = \bar{e}$	$[\bar{a} + i] = ai$
<i>ī</i>	$[a + \bar{i}] = \bar{e}$	$[\bar{a} + \bar{i}] = ai$
<i>u</i>	$[a + u] = \bar{o}$	$[\bar{a} + u] = au$
<i>ū</i>	$[a + \bar{u}] = \bar{o}$	$[\bar{a} + \bar{u}] = au$
<i>ṛ</i>	$[a + \text{ṛ}] = ar$	$[\bar{a} + \text{ṛ}] = \bar{a}r$
<i>ṝ</i>	$[a + \bar{\text{ṛ}}] = ar$	$[\bar{a} + \bar{\text{ṛ}}] = \bar{a}r$
<i>ḷ</i>	$[a + \text{ḷ}] = al$	$[\bar{a} + \text{ḷ}] = \bar{a}l$
<i>ḹ</i>	$[a + \bar{\text{ḷ}}] = al$	$[\bar{a} + \bar{\text{ḷ}}] = \bar{a}l$

NOTE: Do not worry too much about the fact that the *guṇāḥ* of the vowel *a* is *a*. This is an artefact of the way the vowel gradation system has been set up by the Indian grammarians. We will return to this topic from a historical perspective later on.

§2.2. Vowel length

Sanskrit vowels are either **long** (*dīrghāḥ*) or **short** (*brahāvāḥ*). Five vowels have both long and short variants:

Short (<i>brahāvāḥ</i>)	Long (<i>dīrghāḥ</i>)
<i>a</i>	<i>ā</i>
<i>i</i>	<i>ī</i>
<i>u</i>	<i>ū</i>
<i>ṛ</i>	<i>ṝ</i>
<i>ḷ</i>	<i>ḹ</i>

Generally speaking, the long version is pronounced the same as the short version, except for twice as long. There is one important exception: *a* is pronounced as more “closed” (*sām̐vṛtaḥ*) than *ā*, hence it is pronounced as [ɐ], while its long version is pronounced as [a:].

The following vowels are long, and have no corresponding short vowels, because they are analyzable into two vowel segments, as noted above.

Vowel	Segments
<i>ē</i>	<i>a + i/ī</i>
<i>ai</i>	<i>ā + i/ī</i>
<i>ō</i>	<i>a + u/ū</i>
<i>au</i>	<i>ā + u/ū</i>

There is a third category of length, used only in very specific contexts. This is traditionally called **prolation** (*plutīḥ*), and the vowels are called **prolated** (*plutāḥ*). They are simply “extra-long” vowels, and they are written with the numeral “3” after them: *ā*₃, *ī*₃, *ū*₃, *ī*₃, *ī*₃, *ē*₃, *ō*₃, *ai*₃, *au*₃.

§2.3. Vowel pitch

As noted above, vowels can either have a high pitch, a non-high pitch, or a falling pitch. See the section on accent below.

§3. Consonants

Consonants (*vyāñjanāni*) are those speech-sounds that cannot form a syllable on their own. They are phonetically distinguished by a relatively more restricted flow of air than

the vowels. The consonants of Sanskrit are traditionally divided up based on their **manner of articulation**, and within those broad categories, based on their **place** of articulation, and within those categories, based on other features, such as **voicing**, **aspiration**, and **nasality**.

§3.1. Occlusives (*sparsāḥ*)

These sounds are so called for their **occlusive** manner of articulation, wherein the flow of air through the oral cavity is completely occluded. (For some of these consonants, called **stop**, no air at all escapes, whereas for others, called **nasals**, it escapes through the nasal cavity rather than through the oral cavity.) They are traditionally arranged in a grid:

place of articulation (<i>sthānam</i>) unaspirated (<i>ālpaprāṇaḥ</i>)	voiceless (<i>āghōṣaḥ</i>)		voiced (<i>ghoṣaḥ</i>)
	aspirated (<i>mahāprāṇaḥ</i>)	unaspirated (<i>ālpaprāṇaḥ</i>)	
velar (<i>kaṇṭhyaḥ</i>)	<i>k</i> [k]	<i>kh</i> [k ^h]	<i>g</i> [g]
palatal (<i>tālavyaḥ</i>)	<i>c</i> [tʃ]	<i>ch</i> [tʃ ^h]	<i>j</i> [dʒ]
retroflex (<i>mūrdhanyaḥ</i>)	<i>ṭ</i> [ʈ]	<i>ṭh</i> [ʈ ^h]	<i>ḍ</i> [ɖ]
dental (<i>dāntyaḥ</i>)	<i>t</i> [t]	<i>th</i> [t ^h]	<i>d</i> [d]
labial (<i>ōṣṭhyaḥ</i>)	<i>p</i> [p]	<i>ph</i> [p ^h]	<i>b</i> [b]

Sanskrit thus has five series of occlusives, depending on whether their primary organ is the velum, the palate, the alveolar ridge, the teeth, or the lips. Each series is called a *vargaḥ*, and they are named in Sanskrit for the first sound in each series, hence *kavargaḥ*, *cavargaḥ*, *ṭavargaḥ*, *tavargaḥ*, and *pavargaḥ*, or alternatively for their place of articulation, hence *kaṇṭhyavargaḥ*, *tālavyavargaḥ*, *mūrdhanyavargaḥ*, *dāntyavargaḥ*, and *ōṣṭhyavargaḥ* respectively.

NOTE: The technical term that Pāṇini uses for these series in his *Aṣṭādhyāyī* is the first consonant of each series followed by the vowel *u*, hence *ku*, *cu*, etc.

The first two sounds in each series are voiceless (*āghōṣāḥ*) and the last three are voiced (*ghōṣavantaḥ*). Voicing is distinctive in English, too, so this distinction should be easy to grasp. The first and third in each series are unaspirated (*alpaprāṇau*), and the second and fourth in each series are aspirated (*mahāprāṇau*). Aspiration is not distinctive in English, so if you don't speak a language with distinctive aspiration, you will have to practice these sounds. English speakers will have a tendency to overdo the aspiration in sounds like *kh* and *gh*, but that is preferable to losing the distinction of aspiration altogether.

NOTE: Aspiration is not phonemically distinctive in English, but it is an important coarticulatory process. Most speakers aspirate voiceless stops at the beginning of a word. You can test this by saying the word “cat” [kʰæt] while holding the palm of your hand, or an index card, up to your mouth. You should feel a puff of air. You probably will not feel the same puff of air if you pronounce a word beginning with a voiceless stop, like “get,” or a sibilant, like “skate.” You can, however, consciously avoid aspirating initial voiceless stops like the one in “cat,” so that it is pronounced as [kæt]. Hence the first sound in each series, the voiceless unaspirated stop, takes some training for English speakers to pronounce: Sanskrit *kh* has slightly more aspiration than English /k/ when the latter comes at the beginning of a word (and is pronounced [kʰ]), and Sanskrit *k* has slightly less. [This advice does not hold for retroflex sounds, because the *ṭ* in words like “stop,” with an initial *s*, is dentalized.]

NOTE: You will sometimes read that the sound *th* (for example) is pronounced as in English “hot-house,” but this advice is misleading, because I, and many other English speakers, very often don't release the final stop consonant of a syllable, and hence my pronunciation of this phrase does not contain the sound [tʰ].

NOTE: Voiced stops are never aspirated in English, so the fourth member of each series will require practice to recognize and produce. These sounds are sometimes said to have “breathy voice.”

The **velar** (*kāṇṭhyāḥ*) occlusives are similar to corresponding sounds in English:

- *k* skate
- *kʰ* kate, with slightly more aspiration
- *g* gate
- *gʱ* [no English equivalent]
- *ŋ* sing

The **palatal** (*tālavyāḥ*) occlusives are similar to the English palatal affricates:

- *c* cheap
- *ch* [the same, but with more aspiration]
- *j* jeep
- *jʱ* [no English equivalent]
- *ɲ* canyon (cf. Spanish *ñ*)

The occlusives called *mūrdhanyāḥ* in Sanskrit are called **retroflex** in English, which refers to the “curling backward” of the tongue right behind the alveolar ridge. (This place of contact, slightly behind the alveolar ridge, is called *mūrdhā* in Sanskrit, which has led to the English calque “cerebrals” for *mūrdhanyāḥ* in older scholarship.) English does not distinguish between dental and retroflex consonants, and most English speakers pronounce the sounds *t*, *d* and *n* somewhere in between a retroflex and dental articulation. As a result, the English sounds *t* and *d* are generally borrowed into Indian languages as retroflex sounds (e.g., *ḍāktar* for *doctor*). Retroflexion does, however, occur in English as a coarticulatory process: the sounds *t*, *d*, and *n* are more retroflexed when they are preceded by the consonant *r*, in those varieties of English (like General American) that pronounce this syllable-final *r*.

- *ɻ* hurt

- *ṭh* [the same, but with more aspiration]
- *ḍ* yard
- *ḍh* [no English equivalent]
- *ṇ* varnish

The **dental** (*dāntyāḥ*) occlusives, as just noted, do not contrast with retroflex occlusives in English, and most English speakers will pronounce *t*, *d* and *n* somewhere between a retroflex and dental articulation. If you grew up in New York City, however, there is a good chance that you dentalize these sounds. For the English equivalents here, just imagine Christopher Walken saying them:

- *t* stop
- *th* top [with slightly more aspiration]
- *d* dog
- *dh* [no English equivalent]
- *n* nine

The **labial** (*ōṣṭhāḥ*) occlusives are basically the same as those in English:

- *p* spit
- *ph* pit [with slightly more aspiration]
- *b* bit
- *bh* [no English equivalent]
- *m* mine

§3.2. Approximants (*antaḥsthāḥ*)

The Sanskrit word for these sounds means “in-between,” because their sonority is midway between that of vowels and occlusives. They are essentially the consonantal versions of the vowel sounds *i*, *ṛ*, *ṡ* and *ḷ*, with which they alternative:

Approximant	Pronunciation	Corresponding vowel
<i>y</i>	[j] as in yet	<i>i/ī</i>
<i>r</i>	[ɻ] as in red	<i>ṛ/ṝ</i>
<i>l</i>	[l] as in let	<i>ḷ/ḹ</i>
<i>v</i>	[v] as in vote	<i>u/ū</i>

The place of articulation of these sounds is as follows: *y*, palatal (*tālavyaḥ*); *r*, retroflex (*mūrdhanyaḥ*); *l*, dental (*dāntyaḥ*); *v*, labial (*ōṣṭhyaḥ*).

The sound *r* is somewhere between the English *r*, i.e., an alveolar or retroflex approximant, [ɻ], and the Spanish or Italian trilled *r*, i.e., [r]. Some degree of friction or trill is implied by the common Sanskrit name for this sound (*rēphaḥ* “tearing sound”), although the phonetics literature warns against excessive trilling. It is not a uvular trill (as in French, German, Hebrew, etc.), or a tap (as in Spanish *pero*). Since the pronunciation of *r* varies widely in English (and since *r* has complex coarticulatory affects on neighboring vowel sounds in English) you should take care to pronounce Sanskrit *r* properly in all positions.

Note that the sound *v* is somewhere in between the English sounds *w* and *v*, which are, respectively, a labiovelar approximant and a labiodental fricative. In fact most English speakers pronounce it as *v* when it appears on its own (as in *vātaḥ* “wind”) and *w* when it appears after another consonant (as in *aśvaḥ* “horse”). You are safe pronouncing it as a less strongly articulated *v* (i.e., hold your mouth in the position of *v*, but pronounce it as

an approximant rather than a fricative, i.e., without buzzing between the teeth and the lips).

§3.3. Fricatives (*ūṣmāṇaḥ*)

Fricatives are sounds where air is passed through a relatively narrow passage in the articulatory organs, resulting in a turbulent airflow, which is probably the meaning of the Sanskrit term *ūṣmāṇaḥ* (literally “heat”). In principle, Sanskrit has the following fricative sounds:

Place of articulation (<i>sthānam</i>)	Sound	Pronunciation
Velum (<i>kāṇṭhaḥ</i>)	<i>x</i>	[x]
Palate (<i>tālu</i>)	<i>ś</i>	[ʃ] as in ship
Alveolar ridge (<i>mūrdha</i>)	<i>ṣ</i>	[ʂ]
Teeth (<i>dāntāḥ</i>)	<i>s</i>	[s] as in sip
Lips (<i>ōṣṭhau</i>)	<i>f</i>	[ɸ]

You will notice, however, that some of the sounds — represented as *x* and *f* are represented in gray. That is because they are not phonemes of the Sanskrit language, because they do not form minimal pairs with other speech-sounds. Rather, they are variants of the sound *s* in certain phonological contexts, just like the *visargāḥ* introduced below, where you will find further discussion of these sounds.

The three sibilants contrast with each other. While English also distinguishes *s* [s] from *sh* [ʃ], it does not distinguish a retroflex sibilant, [ʂ]. The same is true of most modern Indian languages. Hence many speakers pronounce *ś* and *ṣ* in very similar ways. However, the latter is retroflex, and the distinction can be heard if sufficient attention is paid to it.

Sanskrit also has one **pseudo-fricative** sound, namely *h*. This sound is very similar to the English *h* (e.g. *hat*), but with one major difference: it is *voiced* rather than *voiceless* (hence pronounced as [ɦ] rather than [h]). The closest way to approximate this sound, if you don't have it in your language, is to learn how to pronounce the voiced aspirated (*bh*, *dh*, etc.), and simply leave out the part where the flow of air is occluded in the oral cavity.

§3.4. Dependent sounds (*ayōgavāhāḥ*)

The final class of speech-sounds are “dependent” sounds, or *ayōgavāhāḥ* in ancient phonetics literature (the literal meaning of the word, “non-juncture-bearing,” has been interpreted in different ways). They are “dependent” because they never constitute a syllable — and hence, in the syllabic scripts in which Sanskrit was written, a letter — on their own. Rather, they always occur at the end of a syllable, and specifically, after the vowel that constitutes the nucleus of a syllable (see syllables below). There are two main types of dependent sounds: the *visargāḥ* and the *anusvārah*. Unlike most of the other consonants, they do not have place of articulation features of their own (there is a tendency cross-linguistically to eliminate place of articulation contrasts at the end of a syllable).

NOTE: Because the signs for these sounds are considered diacritical marks that cannot be written independently in the Unicode representation of Indic scripts, I will use the simple vowel sign *a* to “host” them here.

The *visargāḥ* (“letting loose,” also *visarjanīyaḥ*) is written as *aḥ*. It is a voiceless fricative without a specified place of articulation. It is an allophone, or positional variant, of the sounds *s* and *r*. It is pronounced as a slight puff of air, like the English *h* [h], although the latter never occurs at the end of a syllable, whereas *visargāḥ* always occurs in that position. It generally takes English speakers some practice to master this sound, although many simply pronounce it as *h* with a short echo of the preceding vowel (e.g., *rāmaḥ* as [ɾaː.mə.hə]).

The *visargāḥ* has two close relatives, which are very rarely written in printed Sanskrit books, but which used to be relatively common in Sanskrit inscriptions. They are the sounds called *upadhmānīyaḥ* and *jihvāmūliyaḥ* (meaning “puff of air” and “base of the tongue” respectively). The *upadhmānīyaḥ* was the allophone of *visargāḥ* before voiceless labial stops (i.e., before *p* and *ph*), and it was pronounced as [ɸ], i.e., a voiceless labial fricative. The *jihvāmūliyaḥ* was the allophone of *visargāḥ* before voiceless velar stops (i.e., before *k* and *kh*), and it was pronounced as [x], i.e., a voiceless velar fricative. These pronunciations of the *visargāḥ* are still in common use among Sanskrit speakers, especially in South India, although specific letters for the *upadhmānīyaḥ* and *jihvāmūliyaḥ* are no longer commonly used.

The *anusvāraḥ* (“after-sound”) is written as *am̐*. It represents a nasal phoneme without a specified place of articulation. While its original position is before fricatives (*ś*, *ṣ*, *s*, and *h*), it came to be used before approximants as well (*y*, *r*, *l*, *v*), and it has gained ground as a way of writing (and perhaps of pronouncing) a nasal consonant before any occlusive. Hence *anusvāraḥ* is pronounced in two distinct ways:

- as a nasalization of the preceding vowel (which also makes the vowel **long**), when it comes before fricatives and approximants (e.g., *saṃskṛtam* [sẽ:skṛtẽm]);
- as the nasal corresponding the the place of articulation of a following occlusive (e.g., *saṃkṛtam* [sẽṅkṛtẽm]).

§4. Phonemes

The phonemes of Sanskrit are therefore usually arranged as follows:

		samānāḥ					sandhyakṣarāṇi			
kṛasāḥ		a	i	u	ṛ	ḷ				
dīrghāḥ		ā	ī	ū	ṝ		ē	ō	ai	au

		sparśāḥ					antaḥsthāḥ		ūṣmānāḥ	
aghōṣāḥ		ghōṣavantāḥ								
kaṇṭhyāḥ		k	kh	g	gh	ṇ	h			
tālavyāṇi		c	ch	j	jh	ñ	y	ś		
mūrdhanyāḥ		ṭ	ṭh	ḍ	ḍh	ṇ	r	ṣ		
dantyāḥ		t	th	d	dh	n	l	s		
ōṣṭhyāḥ		p	ph	b	bh	m	v			

NOTE: Among the nasals, only *n* and *m* are “true” phonemes, in the sense that they contrast with each other in every position in which they occur. The sounds *ṇ* and *ñ* only occur at the end of a syllable, where they are positional variants for either *n* or *m*. The sound *ṇ* is also generally a variant of *n*, although due to longer-range phonological processes, but it occurs in many words without any phonological conditioning, and therefore has more of a claim to being a phoneme than either *ṇ* or *ñ*.

§4.1. The *Śivasūtras*

The traditional list of Sanskrit phonemes is presented in the *Śivasūtras*, a short text which accompanies Pāṇini’s grammar. (A recording is available [here](#).)

- a i u Ṇ
- ṛ ḷ K
- ē ō Ṇ
- ai au C

- ha ya va ra Ṭ
- la Ṇ
- ña ma ña ṇa na M
- jha bha Ñ
- gha ḍha dha Ṣ
- ja ba ga ḍa da Ś
- kha pha cha ṭha tha ca ṭa ta V
- ka pa Y
- śa ṣa sa R
- ha L

In this list, the letters on the left represent distinct phonemes. (The vowel *a* has been added to each of the consonant phonemes to facilitate pronunciation.) The final letter of each line, by contrast, does not represent a phoneme, but an “index” letter (*anubandhaḥ*) that is used to form abbreviations (*pratyāhāraḥ*). Abbreviations are formed with one letter and one “index” letter, and represent all of the letters in between. Pāṇini uses this system to refer to different classes of phonemes:

- *aC* vowels;
- *haL* consonants;
- *yaN* semivowels;
- *ñaṆ* nasals;
- *śaL* sibilants;
- *ñaY* stops.

Pāṇini also uses a different type of abbreviation for letters belonging to the same place of articulation or “class” (*vargaḥ*). Hence *ku* refers to velar consonants, *cu* refers to palatal consonants, *ṭu* refers to retroflex consonants, and so on.

§5. Syllables (*akṣaram*)

A **syllable** (*akṣaram*) is a unit of speech that contains the following elements:

1. an optional **onset**, which consists of one or more consonants;
2. an obligatory **rime**, which consists of:
 - an obligatory **nucleus**, which consists of a vowel; and
 - an optional **coda**, which consists of one or more consonants.

A syllable therefore has the pattern C*VC* (where C means “consonant,” V means “vowel,” and * means “zero or more”). A syllable can be thought of as a vowel and the consonants that are “attracted” to it. A word will always have as many syllables as it has vowels. To parse a word, or a larger phrase, into syllables, one must decide whether a given consonant goes with the preceding vowel (as a coda) or with the following vowel (as an onset); the general principle is to associate a consonant with the vowel that immediately follows it, if possible, and otherwise to associate it with the vowel that precedes it.

NOTE: The parsing of speech-sounds into syllables is actually a function of their sonority, and hence the nucleus of a syllable represents a local “sonority peak” relative to the onset and coda. Generally, then, consonants closer to the nucleus will have a higher sonority than more marginal consonants. This accounts for the fact that *pra* is a well-formed syllable, whereas **rpa* is not: semivowels like *r* are more sonorous than stops like *p*.

§5.1. Weight

Sanskrit distinguishes syllables according to their **weight**.

A **light** (*laghu*) syllable contains a short vowel (*a*, *i*, *u*, *ṛ*, or *ḷ*) that is not followed by any consonants. In metrical notation, a light syllable is represented by the symbol ˘ (breve) in transliteration and ॡ (*rjuḥ*) in Indian scripts.

All other syllables are **heavy** (*gur-u*), i.e., those that contain a long vowel (*ā*, *ī*, *ū*, *ṝ*, *ḹ*, *ō*, *ai*, or *au*), as well as those that contain a short vowel followed by one or more consonants. In metrical notation, a heavy syllable is represented by the symbol ˉ (longum) in transliteration and ॢ (*vakrah*) in Indian scripts.

Onset consonants do not count towards the weight of a syllable. Light syllables are said to contain one mora (*mātrā*), and heavy syllables are said to contain two. Thus the weight of a syllable is a function of both the length of its vowel and the number of coda consonants it has.

§6. Words (*padāni*)

The *word* (*padam*) can be considered from the perspective of syntax, morphology, and phonology.

In **syntactic** terms, a word is a form that enters into a specified relationship with other forms. In traditional grammar, one often speaks about a verbal form (*kriyāpadam*) and the forms expressing the participants in the verbal action (*kāraṇapadāni*); alternatively, one speaks about a head (*pradhānam*) and its dependents (*upasarjanāni*).

In the **morphological** terms that are favored by Pāṇini, a word is that which has a nominal or verbal ending (*Aṣṭādhyāyī* 1.4.14 *suPtiṅantaṃ padam*). This understanding reflects the division of Sanskrit words in general into a base (*prakṛtiḥ*) and a suffix (*pratyayaḥ*).

Sanskrit, being a heavily inflectional language, makes use of many suffixes in order to convey information about a word, including (for a nominal form) its gender, number, and case, and (for a verbal form) its person, number, mood, tense, and “voice” (*paras-maipadām* or *ātmanēpadām*). The base to which the suffixes are added is generally called a “stem” (*aṅgam*), and in the case of nominal forms, the most basic form of the stem is called a nominal base or *prātipadikam*, while in the case of verbal forms, the most basic form of the stem is a verbal root or *dhātuḥ*.

Phonologically, a word is a unit that meets two requirements: one of *length*—it is at least as long as the “minimal phonological word”—and one of *prominence*—it contains no more than one accented syllable. Together, these requirements distinguish between full-fledged words, on the one hand, and forms that do not count as phonological words on their own, on the other. Closely related to the phenomenon of accentual prominence is the phenomenon of vowel gradation; both are discussed below.

§6.1. Accent (*svārah*)

One and only one syllable of a Sanskrit word can have an accent. The accent is called *udāttaḥ* or “elevated” Sanskrit, which refers to the syllable’s greater prominence relative to the other syllables in the word. This syllable will generally be written in this textbook with an acute accent in transliteration. (For technical reasons they will not be displayed in *Dēvanāgarī*.) The unaccented syllables are called *ānudāttaḥ* “unelevated.” They will not be marked in this textbook. The accented is realized differently in different traditions of recitation. In the tradition of the *R̥gvēda*, there is a slight drop in pitch just before the *udāttaḥ*, and a sharp rise and fall immediately after the *udāttaḥ*. Outside of Vedic recitation, however, the accents are almost never pronounced. The accents are, moreover, only written in manuscripts of Vedic texts, and the way in which they are written in these manuscripts differs according to the recitation tradition.

Sanskrit's accent is morphological, in the sense that the individual morphemes that constitute a word are either accented or unaccented, and the word-level accent is generally a function of these morpheme-level accent. Thus Pāṇini encodes into the *anubandhas* or “diacritics” of each affix he teaches information about the accentual properties of that affix, and specifically, whether the affix is accented and thus “erases” the accent of the stem, or whether it is unaccented and thus “preserves” the accent of the stem. The following are examples of accented and unaccented affixes in the verbal system (note that verbs are generally unaccented: these remarks apply to accented verbs, which occur in subordinate clauses):

- $\sqrt{kṛ} + u + tiP$ (third person singular *parasmaipadām*) $\rightarrow karōti$ “he does”
the suffix is unaccented, as indicated by the *anubandha* P, and hence the accent appears on the verbal stem, and specifically on the *vikaraṇa* *u*, which takes the full-grade or *guṇa* form.
- $\sqrt{kṛ} + u + mas$ (first person plural *parasmaipadām*) $\rightarrow kurmāḥ$ “we do”
the suffix is accented, and hence no accent appears on the verbal stem, which additionally appears in the short form *kur-*.

Another piece of evidence for the morphological nature of the Sanskrit accent is that its appearance, or lack thereof, is conditioned by morphological and syntactic categories. Finite verbs outside of subordinate clauses are unaccented in Sanskrit, which is to say that the “underlying” accent of a finite verb is suppressed, and only surfaces when the verb stands in a subordinate clause.

- *āgnē yám yajñám adhvaram̐ viśvátaḥ paribhūr ási sá id dēvēṣu gacchati .*
“Agni, the worship and sacrifice that you surround on all sides goes to the gods”
(*R̥gveda* I.I.4)
ási is accented because it is in a subordinate clause, but *gacchati* is not.

Most students ignore the accent in Sanskrit. You are free to do so, although if you are interested in Vedic Sanskrit, you would do well to learn the accents along with the words.

Conventionally Sanskrit is now spoken with a stress-based accent, almost the same as Latin stress. The stressed syllable is:

- the *penultimate* (second from last), if it is *heavy*; or
- the *antepenultimate* (third from last), if the penultimate is *light*.

(See weight above.) Hence *rā-mā-ya-ṇam*, *ma-hā-bhā-ra-taḥ*, but *ku-mā-raḥ* and *a-nu-ṣak-taḥ*.

§6.2. Vowel gradation

This term refers to the phenomenon in Sanskrit wherein related forms of a word will show different forms of the “same” vowel sound. Vowel gradation, or *ablaut*, is important to the distinctions of nominal and verbal morphology, as well as the process of nominal derivation. Sanskrit grammar thus includes several processes of moving “backwards” and “forwards” along a continuum of vowel gradation. The traditional categories of the “standard” type of vowel gradation in Sanskrit are as follows:

Basic vowel	<i>Guṇāḥ</i>	<i>Vṛddhiḥ</i>
<i>a</i>	<i>a</i>	<i>ā</i>
<i>i, ī</i>	<i>ē</i>	<i>ai</i>
<i>u, ū</i>	<i>ō</i>	<i>au</i>
<i>ṛ, ṝ</i>	<i>ar</i>	<i>ār</i>

In this system, the *guṇāḥ* version of the vowel is the basic vowel prefixed with a short *a*, and the *vṛddhiḥ* version of the vowel is the basic vowel prefixed with a long *ā*. (The *guṇa*

vowel *a* constitutes an exception to this pattern, since normally *a* followed by *a* would result in *ā*, but as we will see, the generalization that *guṇa* is meant to capture is the addition of the vowel *a* to a form *that does not already have this vowel*.)

This set of distinctions more or less maps onto the way that vowel gradation worked in Indo-European, where the vowel **e* (which generally corresponds with Sanskrit *a*) would either appear in a syllable, or not, based on morphological alternations that can ultimately be traced to accentual features (since the presence of the vowel **e* generally corresponds with an accented syllable). The tripartite system can thus be described in terms of an “ablauting” vowel which appears in three graded forms: \emptyset (zero grade), **e* (full grade), **ē* (lengthened grade). In the following table, the reconstructed Indo-European forms are marked with an asterisk, and the Sanskrit forms follow them on the right-hand side. (Note that \emptyset refers to *zero* or *nothing*.)

Zero grade		Full grade		Lengthened grade	
PIE	Sanskrit	PIE	Sanskrit	PIE	Sanskrit
<i>*\emptyset</i>	\emptyset	<i>*e\emptyset</i>	<i>a</i>	<i>*ē\emptyset</i>	<i>ā</i>
<i>*$\emptyset i$</i>	<i>i</i>	<i>*ei</i>	<i>ē</i>	<i>*ēi</i>	<i>ai</i>
<i>*$\emptyset u$</i>	<i>u</i>	<i>*eu</i>	<i>ō</i>	<i>*ēu</i>	<i>au</i>
<i>*\emptyset_r</i>	<i>r̥</i>	<i>*er</i>	<i>ar</i>	<i>*ēr</i>	<i>ār</i>

Here are a few examples of the standard series of vowel gradation:

- *imāḥ* “we go” :: *ēti* “he goes”

Contrast zero-grade *i* and full-grade *ē* of the root syllable, both from \sqrt{i} .

- *jinaḥ* “victorious” :: *jēman* “victorious” (also a proper name) :: *jaitraḥ* “victorious”

Contrast zero-grade *ji*, full-grade *jē*, and lengthened-grade *jai*, all from the root \sqrt{ji} .

- *butiḥ* “offering” :: *juhōti* “he offers”

Contrast zero-grade *hu* and full-grade *hō* of the root syllable, both from \sqrt{hu} .

- *kṣubdham* “shaken” :: *kṣōbhatē* “he shakes”

Contrast zero-grade *kṣubh* and full-grade *kṣōbh* of the root syllable, both from $\sqrt{kṣubh}$.

- *ṛk* “a verse of worship” :: *arcanam* “the act of worship”

Contrast zero-grade *ṛc* and full-grade *arc* of the root syllable, both from $\sqrt{ṛc}$.

Note that the vowels of “superheavy” roots, that is, roots ending either in a long vowel and a consonant, or any vowel followed by two consonants, are generally **not** subject to *guṇāḥ*. Thus the vowel in the roots $\sqrt{jīṽ}$ “live,” \sqrt{nind} “blame,” and \sqrt{cint} “think” is not strengthened to *guṇāḥ*.

§6.3. Vowel gradation with nasals

A historical perspective also allows us to include several additional cases of vowel gradation under the same system, beginning with nasals, which Indian grammarians did not consider to have *guṇāḥ* and *vṛddhiḥ* forms:

Zero grade		Full grade		Lengthened grade	
PIE	Sanskrit	PIE	Sanskrit	PIE	Sanskrit
* \emptyset_{η}	<i>a</i>	* <i>en</i>	<i>an</i>	* <i>ēn</i>	<i>ān</i>
* \emptyset_{η}	<i>a</i>	* <i>em</i>	<i>am</i>	* <i>ēm</i>	<i>ām</i>

A few examples:

- *matam* “thought” :: *manaḥ* “mind”

Contrast zero-grade *ma* and full-grade *man*, both from the root \sqrt{man} .

- *gatam* “gone” :: *gamanam* “going”

contrast zero-grade *ga* and full-grade *gam*, both from the root \sqrt{gam} .

§6.4. Vowel gradation with laryngeals

Sanskrit presents an abnormal kind of vowel gradation in which the forms where we would expect a “basic” or “zero-grade” vowel have *i* or *ī*, and the forms where we expect a “full-grade” vowel generally have the long vowel *ā*. From a historical perspective, however, this is precisely the same kind of vowel gradation that we have encountered already. The difference is simply that the “basic” vowel of these forms in the zero grade was not a semivowel or a nasal, but a laryngeal, a sound which has disappeared as such in all of the daughter languages of Indo-European except Hittite. A laryngeal usually became *i* or *ī* in Sanskrit when it appeared between consonants, and it usually lengthened a preceding vowel.

Zero grade		Full grade		Lengthened grade	
PIE	Sanskrit	PIE	Sanskrit	PIE	Sanskrit
*ØH	<i>i</i> or <i>ī</i>	*eH	<i>ā</i>	*ēH	<i>ā</i>

Here are a few examples:

- *gī-tam* “sung” :: *gā-yati* “sings”
Contrast the root syllables *gī* and *gā*.
- *hi-tam* “placed” :: *da-dhā-ti* “places”
Contrast the root syllables *hi*, from *dhi*, and *dhā*.
- *krī-ṇī-tē* “buys” [*ātmanēpadām*] :: *krī-ṇā-ti* “buys” [*parasmaipadām*]
contrast the syllables of the present-tense formant, or *vikaraṇaḥ*, *ṇī* and *nā*.

The traces left by laryngeal consonants account for a few more types of vowel gradation which otherwise appear to be irregular or exceptional. As noted above, the regular alternation between zero- and full-grade forms for roots with a nasal consonant (such as

√*man* “think”) involves the patterns *a* :: *am* and *a* :: *an*. When the root ended in a laryngeal consonant after the nasal, however, the alternation is as follows:

context PIE	Zero grade		Full grade		Lengthened grade	
	Sanskrit	PIE	Sanskrit	PIE	Sanskrit	
before consonants: *Ø _n H.	*Ø _m H.	<i>ām.</i>	* <i>em</i> H.	<i>a.mi</i>	* <i>ēm</i> H.	<i>ā.mi</i>
	<i>ā.</i>	* <i>en</i> H.	<i>a.ni</i>	* <i>ēn</i> H.	<i>ā.ni</i>	
before vowels: *Ø _n .H	*Ø _m .H	<i>a.m</i>	* <i>em</i> .H	<i>a.m</i>	* <i>ēm</i> .H	<i>ā.m</i>
	<i>a.n</i>	* <i>en</i> .H	<i>a.n</i>	* <i>ēn</i> .H	<i>ā.n</i>	

(The period here indicates the boundary between syllables.)

The reason for this pattern is the sound change according to which a syllabic nasal, like **m̥* or **n̥*, when followed by a laryngeal in the same syllable, became lengthened to **m̄* or **n̄*. (Syllable boundaries are marked in the above table by a period, where they are relevant.) This is a special case of the general rule according to which vowels followed by a laryngeal in the same syllable are lengthened. The long syllabic nasals **m̄* and **n̄* then became *ām* and *ān* in Sanskrit. Hence we have examples like the following alternations:

- *krāntam* “bestriden” :: *kramaḥ* “stride”

Contrast the root syllables *krām-* and *kram-*, in the zero and full grade, respectively.

- *śāntiḥ* “tranquility” :: *śamanam* “tranquilizing”

Contrast the root syllables *śām-* and *śam-*, in the zero and full grade.

- *kāntaḥ* “beloved” :: *kamiṣyati* “will desire”

Contrast the root syllables *kām-* and *kam-*, in the zero and full grade.

- *jātiḥ* “birth” :: *janitṛ-* “begetter”

Contrast the root syllables *jā-* and *jan*, in the zero and full grade.

NOTE: The root \sqrt{jan} derives from Indo-European $*ǵenh_1$: compare Greek $\gamma\acute{\iota}\gamma\nu\omicron\mu\alpha\iota$ and Latin $gignō$. Hence the formation $jātiḥ$ is parallel to that of $\gammaένε\omicron\varsigma$, and $janitr-$ is parallel to that of $genitor$.

§6.5. *Samprasāraṇam*

So far we have considered cases in which we “augment” a sound by prefixing a vowel segment a or \bar{a} before it. But there are cases where the ablauting vowel segment ($*e$ in Indo-European, and a in Sanskrit) *follows* rather than *precedes* the other sound. In these cases, the Indian grammarians generally teach the full grade form, rather than the zero grade form, as the citation form. Thus they teach the root \sqrt{vac} “speak” in this form, which historically corresponds to a full-grade form $*wek\bar{h}$ -. The corresponding zero-grade form would be $uc-$ ($*uk\bar{h}$ -). Indian grammarians have called this kind of variation *saṃprasāraṇam* or “extension,” namely, the extension of a semivowel such as y , r , or v into the corresponding vowel i , \bar{i} , or u , with a corresponding loss of the full-grade vowel a . The following gradational patterns hold for roots of certain phonological shapes:

Zero grade (<i>Samprasāraṇam</i>)	Full grade	Lengthened grade
$\emptyset + i = i$	$i + a = ya$	$i + \bar{a} = y\bar{a}$
$\emptyset + u = u$	$u + a = va$	$u + \bar{a} = v\bar{a}$
$\emptyset + \bar{r} = \bar{r}$	$\bar{r} + a = ar$	$\bar{r} + \bar{a} = \bar{a}r$

Here are some examples:

- $iṣṭam$ “offered” :: $yajatē$ “he sacrifices”
- $uktam$ “spoken” :: $vakti$ “he speaks”
- $prṣṭam$ “asked” :: $papraccha$ “he asked”

§6.6. *N-vṛddhiḥ*

It is important to mention one more type of vowel gradation here, which I will call *N-vṛddhi*, since it is triggered by suffixes that Pāṇini teaches with the marker (*anubandha*) *N*. It has the following properties:

- If the root ends in a vowel, it takes the *vṛddhiḥ*;
 - *bhū + NiC → bhāvāya-*
 - *ji + ṢṭraN → jaitrá-*
- If the root ends in a consonant:
 - it takes *vṛddhiḥ* if the vowel preceding that consonant is *a*;
 - *pac + NiC → pācāya-*
 - it takes *guṇāḥ* otherwise;
 - *cur + NiC → cōrāya-*
 - if the final consonant is a nasal, then *guṇāḥ* is prescribed for a series of roots that are taught with an acute accent in the *dhātupāṭhaḥ*, as well as \sqrt{vadh} and \sqrt{jan} , while *vṛddhiḥ* is prescribed for all other roots.
 - *gam + NiC → gamāya-*

This seemingly-arbitrary collection of rules reflects a historical development that is known as **Brugmann's Law**: between Indo-European and Indo-Iranian, the vowel **o* was lengthened to **ō* in an open syllable. This development thus has two conditioning factors, one morphological, and one phonological:

- i. the vowel must be **o*, which in Indo-European occurred only in certain morphological contexts;

2. the vowel must be followed by *one and only one* consonant, for otherwise the syllable in which **o* occurs would be *closed*, and Brugmann's Law would be blocked.

The second condition is where the complications arise, for Indo-European had consonants that Sanskrit does not have, namely, the laryngeal consonants, which we can represent with **H*. Thus roots that seem to end in a single consonant in Sanskrit might have ended in a double consonant in Indo-European, which explains why Pāṇini needs to make exceptions for certain roots, which historically ended in a laryngeal:

- $man + \check{N}iC \rightarrow m\check{a}n\acute{a}ya-$ (theoretically from **moneye-*)
 $\sqrt{man} \leftarrow *men$ did *not* end in a laryngeal.
- $\acute{s}am + \check{N}vuL \rightarrow \acute{s}amaka-$ (theoretically from **komb₂eko-*)
- $\acute{s}am + \check{N}iC \rightarrow \acute{s}amaya-$ (theoretically from **komb₂eye-*)
 Both are from $\sqrt{\acute{s}am} \leftarrow *kemb_2$.
- $jan + \check{N}iC \rightarrow janaya-$ (theoretically from **ǵonh₁aya-*)
 From $\sqrt{jan} \leftarrow *ǵenb_1$.

However, a few roots that did not historically end in laryngeals, like $\sqrt{gam} \leftarrow *ǵem$, became analogically included in the set of roots that take *gunāḥ* rather than *vṛddhiḥ* before the *Ṇit* suffixes.

§6.7. Independent words, enclitics, and proclitics

The minimal word in Sanskrit is a bimoraic trochee, that is, a sequence of two moras or *mātrās*, whether represented as two light syllable or a single heavy syllable. This “minimum weight” requirement is enforced in morphology, for instance, when an augment (*āgamaḥ*) is added to a light stem in order to make it into a moraic trochee (examples include *sí-t*, *kṛ́-t*, etc.).

Sanskrit also has a number of **clitic** words. These are not fully-fledged phonological words, but attach onto one end of another word, which we can call their “host.” **Enclitics** follow their host, and **proclitics** precede their host. We can furthermore distinguish between “true clitics,” which are unaccented, and “quasi-clitics,” which have an accent but otherwise behave syntactically as clitics. The true enclitics of Sanskrit include the following:

- *ca* (indecl.) “and”;
- *vā* (indecl.) “or”;
- *iva* (indecl.) “as”;
- *hi* (indecl.) “for”;
- *u* (indecl.) [indicating an alternative];
- *sma* (indecl.) [indicating past reference];
- the enclitic forms of the personal pronouns: *mā*, *mē*, *tvā*, *tē*, *nau*, *vām*, *naḥ* and *vaḥ*;
- the forms of the pronominal stem *ēna-*: *ēnam*, *ēnat*, *ēnēna*, *ēnau*, *ēnē*, *ēnayōḥ*, *ēnān*, *ēnāni*, *ēnām*, *ēnayā*, and *ēnāḥ*.

In addition, the accented words which function syntactically as enclitics include:

- almost all of the other particles, including *ēva*, *āpi*, *khālu*, and so on;

There are no “true proclitics” in Sanskrit, but the **negative particle** *nā*, as well as all of the **preverbs** (*upasargāḥ*), precede their host and can be considered “quasi-proclitics.”

The **host** of a clitic is often but not necessarily the word with which it construes syntactically. For instance, in the following example, the word *ca* “and” construes syntactically with the word it follows in each case:

- *tayā sa pūtaś ca vibhūṣitaś ca* .

“he was **both** purified **and** adorned by it” (*Kumārasambhavaḥ* 1.28)

But when enclitics construe with the entire *phrase* or *sentence*, rather than just a single *word*, there is a strong tendency for them to appear **after the first phonological word in the sentence**. This is called **Wackernagel’s position**, after Jacob Wackernagel, who described the phenomenon at length. For example:

- *mō śú naḥ sōma mṛtyávē pára dāḥ* .

“do not hand us over to death, O Sōma” (*R̥g̥v̥ēdaḥ* 10.59.4a, from Lowe 2011)

§7. Phonotactics (*sandhíḥ*)

Sanskrit, like almost every other language, has phonological rules that govern the way that sounds interact with other sounds in connected speech. The term for “connected speech” is *samhitā*, and the complex of phonological processes that pertain to the modification of sounds due to their contact with other sounds is called “connection” or “junction” (*sandhíḥ*).

Unlike most other languages, Sanskrit is typically written in such a way that these modifications are explicitly represented. We might say that Sanskrit is written *phonetically* rather than *phonemically*. If an underlying sound is reflected as a different surface sound in diverse phonological contexts, we write the surface sound.

§7.1. Internal and external *sandhi*

It is important to distinguish the constraints that apply to sounds in combination *within a single word*, and those that apply to sounds in combination *within an utterance as a whole*. The former is called **internal sandhi** and the latter is called **external sandhi**. Internal *sandhi*

thus refers primarily to the juncture of *morphemes* at the word level, while external *sandhi* refers to the juncture of *words* at the sentence level.

NOTE: There is some flexibility regarding what counts as “word” for the purposes of *sandhi*. Between a preverb (*upasargāḥ*) and a verbal form, generally the internal *sandhi* rules apply, although not consistently across the lexicon. Between two constituents of a nominal compound (*samāsaḥ*), the rules of external *sandhi* generally apply.

To large extent, internal and external *sandhi* overlap. There are, however, a number of conceptual and practical differences. (If you have a linguistics background, you will probably recognize in external *sandhi* the characteristics of *postlexical phonology*.)

1. **Category-sensitivity.** Internal *sandhi* is often sensitive to whether a sound belongs to a particular morphological category (e.g., whether it belongs to a verbal root, a stem-forming suffix, a derivational suffix, or an inflectional ending). By contrast, external *sandhi* applies irrespective of morphology.
2. **Structure-preservation.** Internal *sandhi* can only produce sounds that are already represented in the lexicon. By contrast, external *sandhi* can produce new sounds, for instance *visargāḥ*, which are not part of the lexical representation of any word.
3. **Exceptions.** Internal *sandhi* often has exceptions in its application, whereas external *sandhi* applies across-the-board.
4. **Scope.** Because phonological words form the input to external *sandhi*, and phonological words can only end in a small set of permitted final sounds, there is a smaller range of combinations to which external *sandhi* can apply, relative to internal *sandhi*. For example, a *palatal*, *voiced*, or *aspirate* consonant will never stand in the left-hand context of an external *sandhi* process.

5. **Voice assimilation.** While the assimilation of voice features between adjacent *stops* is found in both internal and external *sandhi*, the voicing of voiceless sounds before *all voiced sounds* is a distinctive feature of external *sandhi*, as explained below.

§7.2. Word-final sounds

In Sanskrit, as in many other languages, there are **positional** restrictions on the occurrence of speech-sounds. In particular, not all sounds can occur at the **end** of a word. The sounds that can occur at the end of a word are called “permitted finals.”

NOTE: Similar positional restrictions are found in English, for instance: /ŋ/ can occur at the end of a word (e.g., “sing”) but not the beginning, and /h/ can occur at the beginning of a word (e.g., “hat”) but not the end.

NOTE: The sounds that can occur at the end of a phonological word are **almost** identical to the sounds that can occur at the end of an utterance (the so-called *pausa* form: see below). Nevertheless there is a conceptual and practical distinction. The conceptual distinction is that word-final sounds are constrained by word-level phonology, whereas utterance-final sounds are constrained by utterance-level (or postlexical) phonology. Essentially this means that the output of word-level phonology can serve as input to utterance-level phonology, and in particular, word-final sounds may be further modified based on the sounds that follow them within an utterance. This is the domain of external *sandhi*. The practical distinction is that the contrast between a final *s* and *r* is preserved at the word level, but not at the utterance level. Hence external *sandhi* is sensitive to whether a final *visargāḥ* represents an underlying *s* or *r*. By contrast, external *sandhi* does not care whether a final *ṭ* (for example) represents an underlying *j*, *ś*, *ṣ* or *h*.

The following constraints operate on speech-sounds at the end of a word:

- **No complex consonants.** A word may not end in more than one consonant. Any consonants that would have been added after the first final consonant are dropped. Thus the following combinations of stem and ending (W§150) result in the following forms:

- *tudánt-s* → *tudán* “striking”
- *údañc-s* → *údañk-s* → *udañ* “upwards”
- *áchānts-t* → *áchān* “concealed”

NOTE: Very occasionally complex consonants involving -rC are retained: *úrj-s* → *úrk*, *ámārj-t* → *ámārt*.

- **No aspirate consonants.** Aspirate consonants, which are only marginally permitted in syllable-final position to begin with, are not allowed in word-final position. Thus:

- *virúdh* → *virút* f. “herb”
- *anuṣṭúbh* → *anuṣṭúp* f. “anuṣṭubh verse”

- **No palatal obstruents.** Palatal obstruents, including all palatal stops (*c*, *ch*, *j*, and *jh*) and the palatal sibilant (*ś*) may not occur at the end of a word. In many cases, they are replaced by a velar stop (*k*), but in some cases, they are replaced by a retroflex stop (*ṭ*). The different outcomes depend largely on whether the palatal represents an etymological velar or labiovelar stop that has been palatalized in Proto-Indo-Iranian (e.g., *-pac-* from **-kwekw-*, Latin *coquere*), in which case it reverts to a velar, or an etymological palatovelar (e.g. *-viś-* from **-weik-*), in which case it becomes a retroflex.

- *srāj* → *srák* f. “garland” (१ एक०)
- *virāj* → *viráṭ* “ruler” (१ एक०)
- *śvapac* → *śvapak* “dog-eater” (१ एक०)

- **No voiced obstruents.** The devoicing of word-final consonants is a relatively widespread phenomenon; it occurs, for example, in German. The sound *b* counts as a voiced obstruent for the purposes of this constraint: it becomes *k*, *ṭ*, or *t*, depending on its etymological source:

- *udbhíd-s* → *udbhít* f. “herb” (१ ए०)
- *kāmaduh-s* → *kāma-dhuk* “wish-granting”
- *prarub-s* → *praruṭ* “rising forth”
- **No ś.** Palatal ś is already disallowed by the above rule, but retroflex ṣ becomes the corresponding stop (ṭ).
- *prāvṛṣ-s* → *prāvṛṭ* “monsoon”

The foregoing constraints mean that only **vowels**, **voiceless unaspirated stops**, **nasals**, and **semivowels** can appear at the end of a word. However:

- Of the **vowels**, *ṛ*, *ḷ*, and *Ṛ* do not actually occur.
- Of the **nasals**, *ṇ* never occurs, and *ṇ* is rare.
- Of the **semivowels**, *y* and *v* cannot occur as word-final sounds, except as the final segment of the diphthongs *ē*, *ai*, *ō*, and *au*; *l* occurs very rarely; and *r* appears as *visargāḥ* (but see below).

The inventory of **permitted finals** is therefore: *m*, *n*, *t*, *k*, *p*, *ṭ*, and *ṇ*, as well as all the vowels (*a*, *ā*, *i*, *ī*, *u*, *ū*, *ṛ*, *ē*, *ō*, *ai*, *au*). The sounds *s* and *r* are also permitted at the end of a word, but in *pausa* they are always represented by the *visargāḥ* (*ḥ*). (See the above note for why it is necessary to represent these sounds differently at the word level.)

§7.3. Utterance-final sounds

Just as only certain sounds can appear at the end of a phonological word, so too only certain sounds can appear at the end of an **utterance**. The form that a word takes when it appears at the end of an utterance is called its *pausa* form (because it is followed by a pause in the utterance).

The only difference between the word-level and utterance-level constraints on final sounds is that the contrast between *s* and *r* is neutralized at the utterance level. Both of these sounds become *visargāḥ*:

- *púnar* → *púnāḥ*
- *mānas* → *mānāḥ*

I often use the *pausa* form to represent the form of a word prior to the application of external *sandhi*, although strictly speaking the rule that converts final *s* and *r* to *visargāḥ* is postlexical and thus a rule of external *sandhi*.

§7.4. External consonant *sandhiḥ*

To “external consonant *sandhiḥ*” belongs all of those phonotactic processes whereby the *final consonant* of a word is changed due to the character of the following sound. Most of these processes can thus be thought of as *regressive assimilation*, i.e., a process whereby a sound on the left edge of the juncture comes to take on some of the features of a sound on the right edge of the juncture.

Assimilation of place. The only instance of assimilation to *place of articulation* involves a set of sounds, called *coronals*, that comprise *palatal*, *retroflex*, and *dental* sounds. Dental sounds are typically assimilated to the place of articulation of a following coronal sound, whether it is palatal or retroflex. We will first discuss the dental stop *t*, and then the dental nasal *n*.

Assimilation of *t* to a following palatal:

- *tat ca* → *tac ca* “and that”
- *tat + chaṇviḥ* → *tacchaṇviḥ* “his beauty”
- *tat jāyatē* → *taj jāyatē* “that is born”

- *tat + jharaḥ → tajjharah* “its waterfall”

The case of the palatal sibilant *ś* is a little different, since the final coronal—usually the dental stop *t*—becomes the palatal stop *ç*, and then the palatal sibilant that induced the change is also turned into the palatal aspirate stop *ch*. The *sibilant*, in other words, disappears, but there is a “trace” of it in the aspiration of the resulting palatal stop.

- *tat śṛṇu → tac chṛṇu* “listen to that”
- *virāṭ śṛṇu → virāc chṛṇu* “listen, king”

Assimilation to a following retroflex stop (note that there is no assimilation before a following retroflex sibilant):

- *tat + ṭikā → tatṭikā* “that commentary”
- *tat + ṭhakkurāḥ → tatṭhakkurāḥ* “that chief”
- *tat + ṣaṇḍaḥ → tatṣaṇḍaḥ* “that eunuch”

Since *t* is already dental, the assimilation rules apply vacuously when the following sound is a dental stop or sibilant. When, however, the following sound is the dental *semivowel* *l*, it is replaced entirely by the semivowel:

- *tat + lōkāḥ → tallōkāḥ* “those worlds”

As far as the *dental nasal* *n* is concerned, it is also generally assimilated to the place of articulation of a following coronal consonant, but with a few differences from the treatment of *t*. When it is followed by a coronal stop, it becomes the class nasal of that stop. When the following sound is *voiced*, that is the final result:

- *tān jayati → tāñ jayati* “he conquers them”
- *mahān ḍāmarāḥ → mahāṇḍāmarāḥ* “a great noise”

When the following sound is *voiceless*, however, a *sibilant* appears between the final *n* and the coronal stop that stands at the beginning of the next word. The sibilant corresponds to the place of the coronal stop, and the final *n* is now written as *anusvāraḥ*. Note that the insertion of a sibilant takes place also when the following sound is a dental stop.

- *tān calayati* → *tāmś calayati* “he makes them go”
- *tān chagān* → *tāmś chagān* “those goats”
- *mahān ṭikākāraḥ* → *mahāmś ṭikākāraḥ* “the great commentator”
- *mahān ṭhakkuraḥ* → *mahāmś ṭhakkuraḥ* “the great chief”
- *mahān taruḥ* → *mahāmś taruḥ* “a great tree”

One further case is *n* followed by the dental semivowel *l*. The final nasal is replaced by *l*, as in the case of a final *t* (see above), but with the difference that the resulting *l* is nasalized and is therefore written with an *ardhacandraḥ* in Indic scripts. I represent this nasalization with an *anusvāraḥ*:

- *tān lōkān* → *tāml lōkān* “those worlds”

Assimilation of voice. This is one of the distinctive processes of external consonant *sandhiḥ*, as it does not occur in internal consonant *sandhiḥ*. It is a *regressive* process: a final consonant will take on the *voice* features of the following sound. Because final consonants are treated as *voiceless*, this process basically requires final consonants to be voiced before voiced sounds.

- *ētat atra* → *ētad atra* “this here”
- *tat + gajāḥ* → *tadgajāḥ* “his elephant”
- *prāk uktam* → *prāg uktam* “previous stated”
- *dik + gajāḥ* → *diggajāḥ* “sky-elephant”

Assimilation of nasality. When the following sound is a nasal, a final stop becomes the nasal of whatever class it belongs to:

- *tat + mātram* → *tanmātram* “element”
- *dik + nāgaḥ* → *diñnāgaḥ* “sky-elephant”

Final *m*. Before any consonant, the labial nasal *m* is replaced by *anusvāraḥ*.

- *tam jayati* → *taṁ jayati* “he conquers him”
- *tam śāsti* → *taṁ śāsti* “he disciplines him”
- *tam rōhati* → *taṁ rōhati* “he ascends that”

Finally, there is relatively minor *weight-preservation* phenonemon that applies to a final *n* and *ñ*. When this sound is preceded by a short vowel, and when the following word begins with a voice, the nasal is *doubled*, so as to ensure that the first word—which ended in a heavy syllable—also ends in a heavy syllable in connected or *saṁhitā* speech:

- *pratyañ āste* → *pratyann āste* “he sits facing this direction”
- *pacan āste* → *pacann āste* “he sits cooking”

§7.5. *Visargasandhiḥ*

The *sandhi*-behavior of *visargāḥ*, also called *visarjanīyaḥ*, merits a separate treatment. First, it is one of the few sets of phonotactic rules that refers to both left-hand context (what comes *before* the *visargāḥ*) and right-hand context (what comes *after* it). Second, *visargāḥ* is not itself a phoneme of the Sanskrit language, but merely a positional variant of the phonemes /s/ and /r/, and as a result, the rules regarding the treatment of *visargāḥ* in combination refer to several distinct levels of representation. For the same reason, it is important to distinguish whether a *visargāḥ* represents an underlying *s* or an underlying *r*.

The treatment of *visargāḥ* can be phrased in the following rules:

- i. Before a voiceless stop, *visargāḥ* becomes the sibilant corresponding in place of articulation to that stop:

a) $-ḥ \rightarrow -ś / _ [c\ ch]$

- *brāhmaṇāḥ calanti* → *brāhmaṇāś calanti* “the Brāhmaṇas walk”
- *rāmaḥ ca* → *rāmaś ca* “and Rāma”
- *induḥ chādayati* → *indus chādayati* “the moon covers”

b) $-ḥ \rightarrow -ṣ / _ [t\ th]$

- *paṇḍitaḥ ṭikām karōti* → *paṇḍitaṣ ṭikām karōti* “The scholar composes a commentary”

c) $-ḥ \rightarrow -s / _ [t\ th]$

- *sūryaḥ tapati* → *sūryas tapati* “The sun is hot”
- *siddhāḥ tṛpyanti* → *siddhās tṛpyanti* “The *siddhas* are satisfied”

- d) Since there is no sibilant with a velar or labial place of articulation, the *visargāḥ* remains before velar and labial voiceless stops. In some orthographic traditions, however, it is written with a distinct sign called *jibvāmūliyaḥ* before a velar voiceless stop (and pronounced as [x]); before a labial voiceless stop it is written with another sign, called *upadhmānīyaḥ* (and pronounced [f]).

- *vṛkāḥ khādanti* “the wolves eat” (optionally *vṛkāx khādanti*)
- *indraḥ pibati* “Indra drinks” (optionally *indraf pibati*)

2. Before a sibilant—and all Sanskrit sibilants are voiceless—*visargāḥ* remains. In some orthographic traditions, mainly those of South India, the *visargāḥ* is replaced by the following sibilant.

- *nṛpaḥ śāsti* “the king governs” (optionally *nṛpaś śāsti*)
 - *sarpaḥ sarpati* “the snake slithers” (optionally *sarpas sarpati*)
3. Before any **voiced** sound, including vowels, what happens to the *visargāḥ* will depend on the preceding vowel, *provided that the visargāḥ represents an underlying phoneme /s/*.
- a) In case the preceding vowel is *a*:
- i. If the following sound is also the short vowel *a*, then the final sequence *-aḥ* becomes *-ō*, and the following *a* is elided. Its absence is usually marked with an *avagrahaḥ*:
 - *-aḥ a- → -ō ’*
 - ii. If the following sound is any other vowel, the *visargāḥ* is simply dropped:
 - *-aḥ → -a / ___ [ā ī ū ṛ ṝ ḷ ē ō ai au]*
 - *pārthaḥ ēva → pārtha ēva*
 - *mahārājaḥ āstē → mahārāja āstē*
 - iii. If the following sound is a voiced consonant, the final sequence becomes *-ō*.
 - *-aḥ → -ō / ___ [g gh j jh ḍ ḍh d dh b bh ñ ñ̄ ṇ ṇ̄ m y r v l h]*
 - *saṁtuṣṭaḥ bhavati → saṁtuṣṭō bhavati*
 - *indraḥ hanti → indrō hanti*
- b) In case the preceding vowel is *ā*:
- i. The *visargāḥ* is simply dropped (before any voiced sound, vowel or consonant).
- c) In case the preceding vowel is *anything else*:
- i. Generally, the *visargāḥ* is replaced by *r*.

- $-ḥ \rightarrow -r / [i \bar{i} u \bar{u} ṛ ṝ ē \bar{o} ai au] \text{ --- } [a \bar{a} i \bar{i} u \bar{u} ṛ ṝ l̄ ē \bar{o} ai au g gh j jh ḍ ḍh d dh b bh ñ \bar{n} ṇ n m y v l h]$
- $agniḥ iva \rightarrow agnir iva$
- $vadhūḥ bhavati \rightarrow vadhūr bhavati$

ii. However, when the following sound is *r*, the *visargāḥ* is dropped, with compensatory lengthening (if applicable) of the preceding vowel.

- $agnír rōcatē \rightarrow agnī rōcatē$

4. If, however, the *visargāḥ* represents an underlying /r/, then the *r* simply remains, except when it is followed by *r*. In that case, the outcome is exactly the same as an underlying *s* followed by *r*: the first *r* is dropped, with compensatory lengthening of the preceding vowel.

- $punar asti \rightarrow punar asti$
- $punar rōcatē \rightarrow punā rōcatē$

However, I find it easier to understand *visargasandhiḥ* by bearing in mind that the *visargāḥ* itself is the outcome of a series of phonotactic processes, and hence what *visargasandhiḥ* really represents is the interaction of three relatively straightforward sets of rules:

1. The first is a set of *assimilation* rules.

- **Voice assimilation:** A word-final *s* or *r* will take on the voicing features of the sound that follows.
 - If the following sound is *voiceless*, then the *s* or *r* will also become voiceless. We can represent it already at this stage with *visargāḥ*, which is a voiceless sound without any distinctive place features.

-
- If the following sound is *voiced*, then the *s* or *r* will also be voiced. Since *r* is already voiced, it stays the same at this stage. An underlying *s*, however, is changed to a voiced sibilant *Z*. As a result of voice assimilation, we end up with three possible representations:
 - a) *ḥ* before a voiceless sound, standing for an underlying *r* or *s*.
 - b) *r* before a voiced sound, standing for an underlying *r*;
 - c) *Z* before a voiced sound, standing for an underlying *s*.
 - **Place assimilation:** This process only applies to the voiceless sound *ḥ*, which arises in connection with voice assimilation. The *visargāḥ* is assimilated to the place of articulation of the following stop. The following outcomes are possible:
 - *x* (a voiceless velar sibilant) before any voiceless velar stop (*k* or *kh*)
 - *ɕ* (a voiceless palatal sibilant) before any voiceless palatal stop (*c* or *ch*)
 - *ʂ* (a voiceless retroflex sibilant) before any voiceless retroflex stop (*ṭ* or *ṭh*)
 - *s* (a voiceless dental sibilant) before any voiceless dental stop (*t* or *th*)
 - *f* (a voiceless labial sibilant) before any voiceless labial stop (*p* or *ph*)
 - Since place assimilation only applies to *stop* consonants, *visargāḥ* remains before sibilants.
2. The second is a set of rules that “resolves” all of the sounds generated above, either back into *visargāḥ*, or otherwise into other sounds of the Sanskrit language.
- The voiceless sibilants *x* and *f* are generally replaced with *visargāḥ*.
 - The voiced sibilant *Z*—which is simply the voiced counterpart to the voiceless *visargāḥ*—is resolved in a number of ways:
 - Generally, *aZ* will turn into *ō* before a voiced consonant.
 - *aZ* “swallows up” a following *a*-vowel, resulting in expressions like *sō 'bravīt*.

- Before a vowel, *aZ* generally becomes *a*, and a hiatus remains.
 - *āZ* will generally just become *ā*, and a hiatus remains.
 - In all other cases, *Z* becomes *r*.
3. Finally, Sanskrit has a constraint on two *r* sounds occurring in a row, so if the above rules produce any such cases, they need to be resolved by deleting the first *r* and lengthening the previous vowel.

§7.6. Internal consonant *sandhi*: Voice

Voice assimilation is when one sound takes on the voicing features of another sound, which is usually directly adjacent to it. *In internal sandhi, voice assimilation is only triggered by obstruents*: that is, when a consonant is followed by a *stop* or *sibilant*, voice features are either spread leftwards or rightwards across the entire conjunct; when a consonant is followed by a *vowel*, *semivowel*, or *nasal*, which are always voiced, no voice assimilation takes place. This is in contrast to external sandhi, where the final consonant of one word is *always* assimilated to the voice features of the following sound, regardless of what the following sound is.

Voice assimilation proceeds differently depending on the other features of the consonants involved. The main forms of voice assimilation in internal sandhi are:

- **Regressive voice assimilation.** This occurs between two obstruents, of which the first is *unaspirated*. Most often, the first sound is voiced and the second sound is voiceless, and hence the entire conjunct ends up being voiceless, but in a few instances the reverse is the case: the first sound is voiceless, and the second sound is voiced, and the entire conjunct ends up being voiced.

- *ád-ti* → *átti* “he eats”
- *véd-ti* → *vétti* “he knows”

- *yuk-tá-m* → *yuktám* (voiceless spreads left)
 - *bhuj-tá-m* → *bhuktám* “enjoyed” (voiceless spreads left; for depalatalization, see below)
 - *bubhuj-sā* → *bubhukṣā* “hunger, desire to eat” (voiceless spreads left; for depalatalization, see below)
 - *upa-pad-ti-ḥ* → *upapattiḥ* “making sense” (voiceless spreads left)
 - *upá-p-Ø-d-am* → *upábdam* (voiced spreads left)
 - *bhuk-dhvē* → *bhukḍhvē* “you enjoy” (voiced spreads left)
 - *śak-dhí* → *śagdhí* “help” (voiced spreads left)
- **Progressive voice assimilation.** This occurs between two obstruents, of which the first is *aspirated*. It is also called **Bartholomae’s Law**. When the first sound is aspirated, it passes its voice features to the following sound, rather than the reverse (as observed above). Generally, it is only *voiced aspirates* that form a context for this rule, since voiceless aspirates will not generally come into contact with another obstruent to their right. Hence Bartholomae’s Law can be thought of as progressive assimilation of voicing under the condition of an initial voiced aspirated.
- *budh-tá-ḥ* → *buddháḥ* “awoken”
 - *lubh-tá-ḥ* → *lubdháḥ* “greedy”
 - *labh-tá-ḥ* → *labdháḥ* “obtained”

The sound *s* behaves regularly when it forms the *right-hand context*: it devoices a preceding voiced obstruent. In addition, however, it also removes any aspiration from the preceding obstruent:

- *labh-sya-ti* → *lasyati* “he will obtain”

When it forms the *left-hand context*, however, the outcomes call for some comment, be-

cause Sanskrit does not have any voiced sibilants. Generally *s* is retained before voiceless obstruents, including *s*; one exception is the form *asi* “you are” (*as-si*). Before voiced obstruents, it disappears, with compensatory lengthening of the previous vowel:

- *ās-dhvē* → *ādhvē* “you sit”
- *śās-dhi* → *śāddhi* “punish”

The sound *h*, which is voiced and aspirated, partly behaves as any other voiced aspirate—but only partly. When it forms the *right-hand context*, which only happens in external sandhi, it spreads its voice features leftwards, and receives its place features from the preceding stop:

- *tāt hí* → *tāddhí*
- *anuṣṭúb hí* → *anuṣṭúbbhí*

When it forms the *left-hand context*, when generally happens when *h* stands at the end of a verbal root, the outcome depends on whether the *h* represents an earlier velar or palatal:

- When a final *h* represents an earlier *velar*, which is most often the case in *roots beginning with a dental stop* such as √*dah* “burn” and √*dub* “milk,” it is treated as if it were *gh*:
 - *dah-tá-h* → *dagdháh* “burned”
 - *dub-tá-h* → *dugdháh* “milked”
- When a final *h* represents an earlier *palatal*, the outcomes are peculiar: it is as if the underlying palatal aspirate (**ḥ*) spread its aspiration to the following stop, as usual, and then developed into a voiced palatal sibilant (**ž*). This voiced palatal sibilant turns a following dental sound into a retroflex sound, just as the voiceless palatal sibilant (*ś*) does. But because there is no voiced palatal sibilant in the phonemic

inventory of Sanskrit, this sound disappears. If the vowel preceding *h* is *a*, then it becomes *ō*; otherwise, the vowel is simply lengthened.

- *rub-tá-h* → **ruž-dhá-h* → *rūḍháh* “ascended”
- *muh-tá-h* → **muž-dhá-h* → *mūḍháh* “bewildered”
- *lēh-ti* → **lēž-dhi* → *lēḍhi* “he licks”
- *lih-dhvám* → **liž-dhvám* → *liḍhvám* “lick”
- *sáh-tum* → **sáž-dhum* → *sóḍhum* “to bear”
- *váh-tum* → **važ-dhum* → *vóḍhum* “to carry”

§7.7. Internal consonant *sandhiḥ*: Aspiration

Many cases of changes involving aspiration have been discussed above, including the *progressive assimilation of aspiration* from a voiced aspirated in the left-hand context, and the *deaspiration* of a consonant due to a following sibilant. Here we may mention one more phenomenon connected with aspiration: **Grassman’s Law**, the “throwing backwards” of aspiration that is conditioned by *deaspiration*. If a root ends in an aspirated consonant, and also begins with a stop consonant, then when the root-final consonant is deaspirated under the influence of a following sibilant, its aspiration is “thrown back” onto the root-initial stop. Here are some examples:

- *dōh-sya-ti* → *dbōkṣyati* “he will milk”
- *dah-sya-ti* → *dbakṣyati* “he will burn”

NOTE: There is some debate about the motivation of this rule: while it is clearly a synchronic rule of Sanskrit phonology—indeed earlier stages of the language apply the rule only sporadically—it has been adduced in support of a theory that Indo-European roots were actually “biaspirate,” that is, that aspiration was a feature of the entire root, rather than one or another of its consonants.

§7.8. Internal consonant *sandhi*: Retroflexion

Retroflexion is a phonological process whereby a dental sound (i.e., *t*, *th*, *d*, *dh*, *n*, or *s*) becomes a retroflex sound (i.e., *ṭ*, *ṭh*, *ḍ*, *ḍh*, *ṇ*, or *ṣ*) due to the influence of a preceding sound. One of the special features of retroflexion is that, under certain circumstances, it can operate at a distance: the “target” sound does not need to immediately follow the “trigger” sound.

Retroflexion of stops. The dental stops *t*, *th*, *d*, and *dh* immediately following the retroflex sibilant *ṣ* and the palatal sibilant *ś* become their retroflex equivalents; in the latter case, the palatal sibilant is changed to the retroflex sibilant *ṣ*. Some cases of a final *j* behave similarly to a final *ś*, in that a following dental becomes retroflex, and the triggering palatal becomes retroflex in turn, although other cases of a final *j* behave similarly to a final *c* (see below) and do not cause retroflexion.

- *ti-stha-ti* → *tīṣṭhati* “he stands” (परस्मै. प्र. एक०)
- *dus-taram* → *duṣ-taram* → *duṣṭaram* “difficult to overcome” (१ एक०)
- *dṛś-tā-m* → *dṛṣṭām* “seen”
- *viś-tā-m* → *viṣṭām* “entered”
- *parā-mṛj-ta-m* → *parāmṛṣṭam* “referred to”

Retroflexion of sibilants. A dental *s* immediately following one of the RUKI sounds becomes a retroflex *ṣ*. RUKI is an acronym for the sounds that trigger retroflexion of a sibilant: R (*r*, *ṛ*, and *ṝ*), U (*u*, *ū*, *ō* and *au*), K (*k*), and I (*i*, *ī*, *ē*, and *ai*). These sounds share the phonological feature HIGH, i.e., they are all articulated with the tongue raised high in the mouth. This process only occurs when the *s* is followed by a vowel or the sounds *t*, *th*, *n*, *m*, *y* or *v*.

- *gurú-sú* → *gurúṣu* “teachers” (loc.pl./*saptamibahu*.)

- *giri-sú* → *giríṣu* “mountains” (loc.pl./*saptamībahu*.)
- *pit-r̥-sú* → *pitṛṣú* “fathers” (loc.pl./*saptamībahu*.)
- *diś-sú* → *dik-sú* (see depalatalization below) → *dikṣú* “directions” (loc.pl./*saptamībahu*.)
- *bi-bhar-si* → *bībharṣi* “you carry” (2nd.sg.parasmai./*parasmai.madhyama.ēka*.)

Note, in particular, that RUKI does not apply when *s* is followed by *r* (the so-called *tisra*-rule):

- *tisráḥ* → *tisráḥ* “three”
- *usrá* → *usrá* “daybreak”

RUKI applies even when an *anusvārah* separates the trigger from the target, although generally only in the nominative-accusative plural of neuter stems:

- *sārpīm-si* → *sārpīmṣi* “butters”
- *jyótīm-si* → *jyótīmṣi* “celestial lights”

Note that the operation of RUKI between a triggering preverb (e.g., *abhí*, *ní*, *anú*, *nír*, *parí*) and the initial *s* of a verbal form is **lexically** specified, that is, some verbal roots allow the initial *s* to be retroflex, while others do not. Those that admit of initial retroflexion are taught in the *dhātupāṭha* with a retroflex *ṣ*, and are therefore called *ṣōpadēśaḥ* (“taught with *ṣ*”), while those that do not are taught with *s* and called *sōpadēśaḥ*:

- *ni-snātaḥ* → *niṣṇātaḥ* “skilled” (*ṣōpadēśaḥ*)
- *vi-sarati* → *visarati* “spreads” (*sōpadēśaḥ*)

Retroflexion of nasals. The dental nasal *n*, when it follows the retroflex sounds *r*, *ṛ*, *ṝ* and *ṣ* within the same word, becomes the retroflex nasal *ṇ*. This assimilation, which is called NATI, can happen *even at a distance*, that is, even if there are sounds between the trigger

sound and the target sound. The triggering of retroflexion is blocked, however, by *coronal stops*, which includes palatal, retroflex, and dental stops.

- *rāmāyanam* → *rāmāyaṇam*, where *n* is retroflexed by *r* despite the intervention of *-āmāya-*.
- *arkēna* → *arkēṇa*, where *n* is retroflexed by *r* despite the intervention of *-kē-*.
- *ikṣamānam* → *ikṣamāṇam*, where *n* is retroflexed by *ṣ* despite the intervention of *-amā-*.

Contrast the case of *arcanam*, where the retroflexion of *n* by *r* is blocked by the palatal stop *c*.

§7.9. Internal consonant *sandhiḥ*: Depalatalization

Palatal consonants are uniquely liable to changes in place of articulation. This is because palatal consonants come from two sources in Sanskrit: Indo-European palatovelars (**k̑*, **g̑*, and **g̑h*), which became *ś*, *j*, and *h* respectively, and Indo-European velars and labiovelars (**k*, **g*, and **gh*), which were palatalized in certain contexts in the history of Indo-Iranian, and became the sounds *c*, *j*, and *jh*, respectively. In both cases, palatals are generally replaced with either velar or retroflex sounds in combination, but for the sound *j*, the outcome will depend on whether it represents an earlier palatovelar or an earlier velar. (Compare the different developments of *h* noted above, in which the outcome depends on whether *h* represents an earlier palatovelar or an earlier velar.)

The “erstwhile velars” (*c* and *j* in some contexts) revert to velars before obstruents, and regular assimilation of voice follows:

- *vác-ti* → *vákti* “he speaks”
- *vac-dhí* → *vagdhí* “speak!”

- *vác-si* → *vákṣi* “you speak”
- *yuñj-tē* → *yuñktē* “he joins”
- *yuñj-dhí* → *yuñgdhí* “join!”

The “erstwhile palatovelars” (*ś* and *j* in some contexts) have a variety of outcomes: *ṭ* when final; *k* before *s* in verbal forms (with retroflexion of the following sibilant), *ṭ* before *s* in nominal forms; *ḍ* before voiced stops (with retroflexion of the following stop if it is a dental); *ṣ* before *t* and *th* (with retroflexion of the following stop).

- *vás-ti* → *váṣṭi* “he wishes”
- *viś-su* → *viṭsu* “among the tribes”
- *viś-bhiḥ* → *viḍbhiḥ* “with the tribes”
- *māṛj-ti* → *māṛṣṭi* “he brushes”
- *śṛj-ti-ḥ* → *śṛṣṭiḥ* “creation”
- *rāj-tra-ḥ* → *rāṣṭraḥ* “polity”
- *mṛj-dhí* → *mṛḍdhí* “brush!”

One exception to the above rule about “erstwhile palatovelars” is furnished by the roots *dṛś* “see,” *spṛś* “touch,” *diś* “point out” and optionally *naś* “be destroyed” and *viś* “enter.” Instead of turning the final palatal into *ṭ* before zero and *ḍ* before voiced stops in nominal forms, they turn the final palatal into *k* or *g*:

- *dīś-su* → *dīkṣu* “among the directions”
- *dīś-bhiḥ* → *dīgbbhiḥ* “with the directions”
- *dīś-s* → *dīk-s* → *dik* “direction” (nom.sg.)

§7.10. Internal consonant *sandhi*: Assimilation of nasals

Nasal consonants are generally assimilated to the place of articulation of a following sound in internal *sandhi*. In case the following sound is a sibilant, the nasal becomes *anusvāraḥ*.

- *man-sya-tē* → *maṁsyatē* “he will think”
- *han-sya-ti* → *haṁsyati* “he will kill”
- *bhu-n-k-tē* → *bhuṅktē* “he eats”
- *bhu-n-j-ānaḥ* → *bhuñjānaḥ* “eating”

A dental *n* is palatalized after palatal stops:

- *yaj-na-m* → *yajñam* “sacrifice”
- *yāc-nā* → *yācñā* “request”

§7.11. Combinations of vowels

One of the basic principles of Sanskrit phonotactics is that *vowels do not directly adjoin other vowels*. The juncture between a vowel and another vowel is called a *hiatus*, a Latin word literally meaning a “yawn,” and *within a word*, it only occurs in a small number of words, where it is conventionally marked by a diaeresis on the second (e.g., *titaū-*). *Between words*, hiatus sometimes occurs as a secondary outcome of some phonotactic processes, but the general tendency is to avoid hiatus whenever possible. Hence the overarching principle of “vowel *sandhi*” could be described as *hiatus avoidance*.

The following processes account for the vast majority of cases where one vowel would directly adjoin another:

- synhaeresis;
- diphthongization;

- glide formation.

§7.12. Combinations of vowels: synhaeresis

Synaeresis refers to the process by which two *homorganic* (*savarṇaḥ*) vowels are combined into a single long vowel (*Aṣṭādhyāyī* 6.1.101). This only applies to simple vowels (*aK*), since only simple vowels can be *homorganic* with each other (since complex vowels such as *ē*, *ō*, *ai*, and *au* each have multiple places of articulation). In the following rules, the vowels are marked with both a *brevi*s and a *longum* to show that the length of the vowel does not matter.

- $\check{a} + \check{a} \rightarrow \bar{a}$
 - $upa + arjitam \rightarrow up\bar{a}rjitam$ “acquired”
- $\check{i} + \check{i} \rightarrow \bar{i}$
 - $abhi + itam \rightarrow abh\bar{i}tam$ “gone over”
- $\check{u} + \check{u} \rightarrow \bar{u}$
 - $su + uktam \rightarrow s\bar{u}ktam$ “well-said”

§7.13. Combinations of vowels: diphthongization

Diphthongization. When two vowels that are not *homorganic* come into contact, the outcome depends on their sequence, and in particular, on whether the *higher* vowel comes first or last. Height is a feature of Sanskrit phonemes corresponding to whether the tongue is raised when pronouncing them; /i/ and /u/ are high, but /a/ is not. When the vowel sequence consists of a low vowel followed by a high vowel, the result is what is called a “rising diphthong,” a single vowel that starts low but ends high, such as /ai/ (*ē*) and /au/ (*ō*).

- $\check{a} + \check{i} \rightarrow \bar{e}$

- $pra + itaḥ \rightarrow prētaḥ$ “gone forth,” a ghost
- $\check{a} + \check{u} \rightarrow \bar{o}$
 - $upa + udghātaḥ \rightarrow upōdghātaḥ$ “preface”
 - $na + u \rightarrow nō$ “not”
- $\check{a} + r̥ \text{ or } \check{r} \rightarrow ar$
 - $mahā + ṛṣiḥ \rightarrow maharṣiḥ$ “great sage”

§7.14. Combinations of vowels: glide formation

Glide formation is similar to diphthongization, except that the first vowel is high, and the second vowel may be either low or high. When the second vowel is low, this process results in what are sometimes called “falling diphthongs.” The name of this process reflects the fact that the high vowel becomes a *glide*, that is, a non-syllabic segment with the same features. Pāṇini phrased the glide-formation rule as $iKō yaN aCi$ (*Aṣṭādhyāyī* 6.1.77), literally “a high vowel [$iK = i, \bar{i}, u, \bar{u}, r̥, \check{r}, \bar{l}$] becomes the corresponding semivowel [$yaN = y, v, r, l$] before a vowel [$aC = a, \bar{a}, i, \bar{i}, u, \bar{u}, r̥, \check{r}, \bar{l}, \bar{e}, \bar{o}, ai, au$].” (In fact glide formation does not happen before *any* vowel, but in Pāṇini’s grammar, this rule is bled by the synhaeresis rule, discussed above: hence the vowel in the right-hand context will never be identical to the vowel that is replaced with a semivowel.)

The general rule of glide formation is that the first vowel simply becomes the corresponding semivowel. Here are some examples from *internal sandhi*:

- $nadī + \bar{a} \rightarrow nadyā$ (“river,” fem.sg.instr.)
- $vadhū + \bar{a} \rightarrow vadhvā$ (“river,” fem.sg.instr.)
- $bhō + a + ti \rightarrow bhāvati$ (“becomes,” 3rd.sg.*parasmai.* present indic.)

And here are some examples from *external sandhi*:

- *dadhi* # *atra* → *dadhy atra* “curd here”
- *madhu* # *atra* → *madhv atra* “honey here”
- *ati* + *ābitam* → *atyābitam* “great calamity”
- *pitr* + *artham* → *pitrrartham* “for the sake of the ancestors”

However, there are a number of cases in which a high vowel does not simply become the corresponding semivowel, but rather becomes a vowel-semivowel (or semivowel-vowel-semivowel) sequence. We can call this a **syllabic glide**. This only ever happens in *internal sandhi*, and only ever at the end of a morpheme. It generally serves to keep the morpheme (in many cases a verbal root) in its own syllable, thus preventing it from syllabifying with the following vowel.

An *i*-vowel is replaced by the syllabic glide *iy*, and an *u*-vowel is replaced by the syllabic glide *uv*, before an ending beginning with a vowel, in these circumstances:

- at the end of a verbal root (*Aṣṭādhyāyī* 6.4.77);
 - *kṣi* + *a* + *nti* → *kṣiyanti* “they reside”
- at the end of the present stem forming suffix *śnu* (i.e., *nu*) (*Aṣṭādhyāyī* 6.4.77);
 - *āp* + *nu* + *anti* → *āpnuvanti* “they obtain”
- at the end of a reduplicate, before a non-homorganic vowel (*Aṣṭādhyāyī* 6.4.78);
 - *i* + *ēṣ* + *a* → *iyēṣa* “he wanted” (3rd.sg.*parasmai.* perfect)
- at the end of the nominal stem *bhrú* f. “eyebrow” (*Aṣṭādhyāyī* 6.4.77);
 - *bhrú* + *aḥ* → *bhrúvaḥ* “eyebrows”
- at the end of the nominal stem *strī* f. “woman” (*Aṣṭādhyāyī* 6.4.79), although optionally in the accusative singular and plural;

- $stri + aḥ \rightarrow stríyaḥ$ “women”

NOTE: Pāṇini calls these syllabic glides $iya\dot{N}$ and $uva\dot{N}$.

An r at the end of a verbal root is replaced by ri before the present stem forming suffix $\acute{S}a$ (\acute{a}) of sixth-class roots, before the present stem forming suffix yaK ($y\acute{a}$) of the passive, and before the optative endings. This ri , standing at the end of a verbal root, then takes the syllabic glide iy (*Aṣṭādhyāyī* 7.4.28):

- $\bar{a} + dr + a + tē \rightarrow \bar{a}driyātē$ “he honors”
- $kṛ + ya + tē \rightarrow kriyātē$ “it is being done”

An \bar{r} at the end of a verbal root is replaced by ir (*Aṣṭādhyāyī* 7.1.100):

- $k\bar{r} + a + ti \rightarrow kirāti$ “he sprinkles”

Chapter 2

Nominal Morphology

§8. Nominals

Indian grammarians generally considered most forms that were not verbs to be nouns. Yāska thus recognizes four categories of words: nominals (*nāma*), verbs (*ākhyātam*), preverbs (*upasargāḥ*), and indeclinables (*nīpātāḥ*). Thus what we call nouns, pronouns, adjectives (including participles) and most adverbs were grouped under the class of “nominals.” And for good reason: they all take certain types of suffixes, which we will “nominal suffixes,” that express relations particular to this class of words.

Semantically, nominals tend to refer to what Indian grammarians have called “existing things” (*sattvam*) in contrast to verbs, which refer to “processes” (*bhāvaḥ*). The distinction is very weak; generally, whatever can be said with nominals, can also be said with verbs, and *vice versa*.

In morphological terms, there is no distinction between adjectives and nouns in Sanskrit. Semantically, of course, adjectives qualify a noun, or as some authors say, express a quality. And syntactically, adjectives agree with their head noun in gender, number, and case. This

typically means that adjectives are formed in all three genders, whereas nouns are limited to a single gender. The categories they reflect, however, and the morphemes by which those categories are expressed, are exactly the same as for nouns. Thus there is no formal difference between adjectives used *attributively*, that is, to qualify another noun (e.g., *prasannaḥ puruṣaḥ*, “a calm man”) and adjectives used substantively (e.g., *prasannaḥ*, “the calm [one]”).

§8.1. Stems and ending

Every nominal consists of two parts. The first is a *stem* or *prātipadikam*. This was defined by Pāṇini as “something that has meaning that is not a verbal root or an affix” (*arthavad adbhātur apratyayaḥ prātipadikam*, *Aṣṭādhyāyī* 1.2.45). The second, called *pratyayaḥ* in Sanskrit, can be called an *affix* (the most general term for a morpheme added to another), a *suffix* (a term for a morpheme added after another), or an *ending* (since these affixes always come at the end of a word). Sanskrit stems are usually classified according to their final sound, since the precise form of the suffix that follows will generally depend on the final sound of the stem. Hence we talk about stems that end in *vowels*, including *stems in -a* (*ākārāntāni* or *adantāni*), *stems in -ā* (*ākārāntāni* or *ādanāni*) and so on, and those that end in *consonants*, including *stems in -n* (*nakārāntāni* or *nantāni*), *stems in -t* (*takārāntāni* or *tantāni*), and so on.

Sanskrit stems are classified as *changeable* or *unchangeable* by European grammars. Changeable stems are those that change when certain suffixes are added; unchangeable stems remain the same throughout their paradigm. Indian grammars made no such distinction, since they were not based on the concept of a “paradigm.”

Note that the stem and the ending often coalesce into a single form, especially in those cases when the stem ends in a vowel and the ending begins with a vowel.

Since Sanskrit is an inflectional language, a single ending will express a number of differ-

ent grammatical categories. In the case of nominals, an ending expresses three principal categories: **gender**, **number**, and **case**.

§8.2. Gender (*liṅgam*)

All Sanskrit nouns are either *masculine* (*pumliṅgam*), *feminine* (*strīliṅgam*) or *neuter* (*na-pumsakaliṅgam*). These grammatical genders usually correspond to the conventionally-accepted gender of the objects referred to, provided that they have such a gender. Thus men are typically referred to in the masculine, and women in the feminine. A great deal of gender assignment, however, is based on conventions that have little to no basis in biology. *A noun's gender cannot be predicted from its meaning.* Thus the gender of every noun must be learned as part of the word itself.

NOTE: The nouns of certain semantic classes do, however, tend to agree in their gender.

Class	Gender	Example
Rivers	Feminine	Gaṅgā, Śatadru, Vipāt
Mountains	Masculine	Himālaya, Malaya
Trees	Masculine	Aśoka, Saptacchada, Palāśa

In addition, the conventional gender of several inanimate objects is reaffirmed constantly through poetry. Thus no reader of Sanskrit poetry can forget that the sun and the moon are masculine, or that the night and the earth are feminine.

A particularity of the *neuter* gender, in Sanskrit and other Indo-European languages, is that neuter words never make a distinction between the nominative and accusative. Thus the form is identical regardless of whether the word is used as the subject or object of a verb.

NOTE: This is probably an effect of *ergative* alignment in Indo-European syntax, where neuter nouns could serve as the subject of an intransitive verb and the object of a transitive verb, but probably not as the subject of a transitive verb.

§8.3. Number (*saṃkhyā*)

Sanskrit distinguishes between the *singular* (*ēkavacanam*), *dual* (*dvivacanam*), and *plural* (*bahuvacanam*) in both nominal and verbal forms. These categories almost always correspond to the “real” number of the objects referred to, although there are a few cases of the number being specified lexically (i.e. *singulare tantum* or *plurale tantum* nouns).

NOTE: Sanskrit uses the dual consistently whenever two people, or two objects, are under discussion, whereas all European languages use the plural. Hence one should get used to seeing forms such as *akṣī* “two eyes,” *nāṣē* “two nostrils,” *hastau* “two hands,” *pāḍau* “two feet,” and so on.

§8.4. Case (*vibhaktiḥ*)

Case refers to the relation of a noun to other forms in a sentence. Sanskrit, as an Indo-European language, uses case to express both core *grammatical* relations, such as whether a noun is the subject, object, or indirect object of a verb, as well as a variety of other relations involving time, space, or appurtenance. In Sanskrit, the cases are referred to by number, from one to seven. Here I give only the **basic** uses of each case. For further case usages, see the section on case usage in the syntax chapter.

Number	Sanskrit	English	Functions
1	<i>prathamā</i>	Nominative	Agrees with the <i>subject</i> argument of a verb and the subject and predicate of a
2	<i>dvitīyā</i>	Accusative	Agrees with the <i>direct object</i> of the verb; also used for duration of time and ex
3	<i>tr̥tīyā</i>	Instrumental	Expresses instrumentality, agency, and accompaniment, either on its own or
4	<i>caturthī</i>	Dative	Agrees with the <i>indirect object</i> of the verb; also used to express purpose.
5	<i>pañcamī</i>	Ablative	Expresses a cause, or movement away from. Also used as the complement of
6	<i>ṣaṣṭhī</i>	Genitive	This is an <i>adnominal</i> case, and hence expresses some relation between nomin
7	<i>saptamī</i>	Locative	Expresses presence or location in a place, occasions (including time), as well

In addition, Sanskrit has a *vocative* (*sambōdhanam*), which is used for direct address, but this form is identical to the nominative, except *the singular of stems ending in vowels*.

NOTE: Technically, *vibhaktiḥ* refers not to case on its own, but the declensional ending as a whole, which expresses case in addition to gender and number.

§9. Endings

Pāṇini teaches the following endings in *Aṣṭādhyāyī* 4.1.2. These are not all of the forms of the nominal endings, but rather the “basic” forms from which Pāṇini derives all of the others. It is, however, useful to present them here, since these forms occur (sometimes with additional augments) in most of the remaining nominal endings, and since they coincide with the system of nominal endings that can be reconstructed for Indo-European.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>sU</i>	<i>au</i>	<i>Jas</i>
<i>dvitīyā</i>	<i>am</i>	<i>auṬ</i>	<i>Śas</i>
<i>trītiyā</i>	<i>Ṭā</i>	<i>bhyām</i>	<i>bhis</i>
<i>caturthī</i>	<i>Ñē</i>	<i>bhyām</i>	<i>bhyas</i>
<i>pañcamī</i>	<i>ÑasI</i>	<i>bhyām</i>	<i>bhyas</i>
<i>ṣaṣṭhī</i>	<i>Ñas</i>	<i>ōs</i>	<i>ām</i>
<i>saptamī</i>	<i>Ñi</i>	<i>ōs</i>	<i>suP</i>

The capitalized letters in this chart are not actually part of the endings, but *anubandhas* or “diacritics” that convey information about further changes that these endings are either subject to, or induce in the stem to which they are added.

§9.1. Accent; “strong” and “weak” cases

For reasons that are not quite clear, some of the nominal endings were accented in Indo-European, and others were not. This has produced a pattern of “accent mobility” in Sanskrit and other Indo-European languages, where the accent—and with it, the form of the stem—varies with the ending.

In Sanskrit, this pattern is manifested in the distinction between “strong” and “weak” cases. “Strong” cases are the nominative and accusative singular, the nominative and accusative dual, and the nominative plural (the Sanskrit term for these cases is *sarvanāmas-thānam*). All others are weak. Cases in which the ending begins with a consonant—the instrumental, dative, and ablative of the dual and plural, which are collectively referred to as *pada*-endings—are sometimes called “middle” cases, but they pattern with weak cases. These cases are so called because when the grade of the vowel alternates throughout the paradigm, the “strong” cases assign a full-grade vowel to the stem, and the “weak” cases

assign it to an affix (either a stem-forming suffix or the declensional ending). (See the discussion of vowel gradation above.)

§9.2. First or nominative case (*prathamā vibhaktiḥ*)

The ending of the nominative was never accented. In masculine nouns, and in feminine nouns that end in either a consonant or a short vowel, the ending of the singular was **-s* in Indo-European, and that of the plural was **-es*. Most feminine nouns that end in a long vowel (*-ā*, *-ī*, and *-ū*) do not add an ending in the nominative singular, since they are formed with a suffix that does not take this ending; feminine nouns like *śrī-* and *lakṣmī-* which are not formed with a suffix, however, take the ending *-s*. In the plural, the endings that can be added are *-s*, *-as*, and *-ās*. As noted above, neuter nouns do not have a distinctive nominative ending. Most neuters use the bare stem for the nominative and accusative; those ending in *-a* use the accusative ending *-m*. The nominative-accusative plural of neuters has been reshaped, but it generally ends in *-i* (deriving from **h₂*).

§9.3. Second or accusative case (*dvitīyā vibhaktiḥ*)

The inherited ending of the accusative singular was **-m*, which was realized as *-m* after vowels and *-am* after consonants. The accusative plural ending was **-ns* (probably from **-m-s*, i.e., the addition of the pluralizer **-s* onto the accusative ending **-m*) in Indo-European, which resulted in **-ns* after vowels and **-as* after consonants. In the ending **-ns*, in turn, the *-n-* was generally lost and resulted in compensatory lengthening of the previous vowel.

§9.4. Third or instrumental case (*tr̥tīyā vibhaktiḥ*)

In Indo-European this was **-eh₁* in the singular, which resulted in Sanskrit *-ā*. The ending is accented and hence the instrumental singular is a “weak” case. The ending often combined with other forms to produce the variety of instrumental endings we observe.

In the plural, the most common ending is *-bhis*, which is likely an Indo-European inheritance (cf. Greek *-φι*).

§9.5. Fourth or dative case (*caturthī vibhāktiḥ*)

In the singular, this case ended in **-éi* in Indo-European, which became *-ē* in Sanskrit. For the plural form *-bhyah*, compare Latin *-bus*, probably from **-bhos*.

§9.6. Fifth or ablative case (*pañcamī vibhāktiḥ*)

The ablative and genitive endings of the singular are identical, both being *-ah*, which derives historically from both **-és* and **-os*. The genitive ending *-s*, accompanied by *guṇāḥ* of the suffix, is simply another form of the same ending, but one in which the accent was on the suffix (which typically stands in the *guṇāḥ* grade, as in *mātēḥ* from **mṇ-tēi-s*), rather than on the ending (as was the case with, e.g., *dhīyāḥ* from **dhiH-és*) or on the root (as was the case with *nāmnaḥ* from **h₃nómh₁-n-os*). For the ablative plural, which is always identical to the dative plural, see above.

§9.7. Sixth or genitive case (*ṣaṣṭhī vibhāktiḥ*)

For the singular, see above. The plural is *-ām*, which is sometimes scanned as two syllables in the Avesta and the *R̥gveda*, and therefore points to an original ending **-oHom*.

§9.8. Seventh or locative case (*saptamī vibhāktiḥ*)

The general ending of the locative in the singular is *-i*, which is usually accented, but the locative in *-i* probably developed out of an older form—which still survives in a few Sanskrit words—wherein the locative case has no ending at all, but is rather represented by a full grade of the nominal suffix (cf. *akṣān*), or in the case of *i*- and *u*-stem nouns, the lengthened grade (*vṛddhiḥ*). To the unaccented locative, a deictic particle *-i* was added,

which then “stole” the accent from the suffix and resulted in zero grade, rather than full grade, of the suffix (cf. *rājñi*). In the plural, the ending is *-su*, with which Greek *-σι* may be compared.

§9.9. The vocative (*sambóddhanam*)

The vocative is only distinct from the nominative in the singular. In the singular, the accent is always on the first syllable. In the case of stems ending in a vowel, the stem is used on its own, without an ending. Stems ending in *i* and *u* (*ghi*) have *gunáh* of the final vowel. Stems ending in *ā* have a vocative ending *-ē*. Stems ending in other long vowels (*ī* and *ū*) shorten it in the vocative.

§9.10. The suffix *tasI*

In addition to the above cases, there is another form (called *tasI* or *tasIL* by Pāṇini) that consists of the ending *-tas* added onto a nominal stem. In many cases, these forms have the sense of the *ablative*, that is, they are used in expressions of comparison (e.g., *vr̥kṣata unnatatarah* ‘taller than a tree’), but they may also be used in a locative sense (e.g., *āditaḥ* ‘at the beginning,’) or in an instrumental/predicative sense.

§10. Root nouns

In these nouns, the stem (*prātipadikam*) is identical to a root; there are no additional suffixes that intervene between the root and the endings.

	<i>ēkavacanē</i>		<i>dviivacanē</i>		<i>bahuvacanē</i>	
<i>prathamā</i>	<i>dhī-s</i>	<i>dhīḥ</i>	<i>dhī-au</i>	<i>dhīyau</i>	<i>dhī-aḥ</i>	<i>dhīyaḥ</i>
<i>dṛvitiyā</i>	<i>dhī-am</i>	<i>dhīyam</i>	<i>dhī-au</i>	<i>dhīyau</i>	<i>dhī-aḥ</i>	<i>dhīyaḥ</i>
<i>tr̥tiyā</i>	<i>dhī-ā</i>	<i>dhīyā</i>	<i>dhī-bhyām</i>	<i>dhībhyām</i>	<i>dhī-bhiḥ</i>	<i>dhībhiḥ</i>
<i>caturthī</i>	<i>dhī-ē</i>	<i>dhīyē</i>	<i>dhī-bhyām</i>	<i>dhībhyām</i>	<i>dhī-bhyaḥ</i>	<i>dhībhyaḥ</i>
<i>pañcamī</i>	<i>dhī-aḥ</i>	<i>dhīyāḥ</i>	<i>dhī-bhyām</i>	<i>dhībhyām</i>	<i>dhī-bhyaḥ</i>	<i>dhībhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>dhī-aḥ</i>	<i>dhīyāḥ</i>	<i>dhī-ōḥ</i>	<i>dhīyōḥ</i>	<i>dhī-ām</i>	<i>dhīyām</i>
<i>saptamī</i>	<i>dhī-i</i>	<i>dhīyī</i>	<i>dhī-ōḥ</i>	<i>dhīyōḥ</i>	<i>dhī-su</i>	<i>dhīṣu</i>

In the following example, the stem is *dis-* f. “direction,” formed from the verbal root $\sqrt{\text{dis}}$ “direct” without any suffix.

	<i>ēkavacanē</i>		<i>dviivacanē</i>		<i>bahuvacanē</i>	
<i>prathamā</i>	<i>dis-s</i>	<i>dik</i>	<i>dis-au</i>	<i>disau</i>	<i>dis-aḥ</i>	<i>disaḥ</i>
<i>dṛvitiyā</i>	<i>dis-am</i>	<i>disām</i>	<i>dis-au</i>	<i>disau</i>	<i>dis-aḥ</i>	<i>disaḥ</i>
<i>tr̥tiyā</i>	<i>dis-ā</i>	<i>disā</i>	<i>dis-bhyām</i>	<i>digbhyām</i>	<i>dis-bhiḥ</i>	<i>digbhiḥ</i>
<i>caturthī</i>	<i>dis-ē</i>	<i>disē</i>	<i>dis-bhyām</i>	<i>digbhyām</i>	<i>dis-bhyaḥ</i>	<i>digbhyaḥ</i>
<i>pañcamī</i>	<i>dis-aḥ</i>	<i>disaḥ</i>	<i>dis-bhyām</i>	<i>digbhyām</i>	<i>dis-bhyaḥ</i>	<i>digbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>dis-aḥ</i>	<i>disaḥ</i>	<i>dis-ōḥ</i>	<i>disōḥ</i>	<i>dis-ām</i>	<i>disām</i>
<i>saptamī</i>	<i>dis-i</i>	<i>disī</i>	<i>dis-ōḥ</i>	<i>disōḥ</i>	<i>dis-su</i>	<i>dikṣu</i>

§II. Stems ending in vowels

Stems ending in vowels, while they mostly do not exhibit gradation between different cases, have peculiarities of their own. In some cases, they take special endings, some of which include a recurring augment (*āgamaḥ*).

§II.1. Stems ending in *-a* (*akārāntāni*)

Stems ending in *-a* are the most numerous class of nominal stems in the Sanskrit language.

	<i>ekaṣvacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dēvāḥ</i>	<i>dēvau</i>	<i>dēvāḥ</i>
<i>dvitīyā</i>	<i>dēvām</i>	<i>dēvau</i>	<i>dēvān</i>
<i>tr̥tīyā</i>	<i>dēvēna</i>	<i>dēvābhyām</i>	<i>dēvaiḥ</i>
<i>caturthī</i>	<i>dēvāya</i>	<i>dēvābhyām</i>	<i>dēvābhyāḥ</i>
<i>pañcamī</i>	<i>dēvāt</i>	<i>dēvābhyām</i>	<i>dēvābhyāḥ</i>
<i>ṣaṣṭhī</i>	<i>dēvāsyā</i>	<i>dēvāyōḥ</i>	<i>dēvānām</i>
<i>saptamī</i>	<i>dēvē</i>	<i>dēvāyōḥ</i>	<i>dēvēṣu</i>
<i>sambóddhanam</i>	<i>dēva</i>	<i>dēvau</i>	<i>dēvāḥ</i>

There is no pattern of vowel gradation in this declension: the stem maintains its form throughout the paradigm. It has a number of features that distinguish it from the common set of endings introduced above. One of them is the extension of the stem from *-a* into *-ē-* by means of the addition of an augment *-i-* in certain cases.

- *dēvēna* (inst.sg./tr̥tīyāika.): The regular instrumental singular ending *ṭā* is replaced by *na* after the modified stem in *-ē-*. Note that the *n* of this ending is subject to retroflexion by the RUKI rule.
- *dēvāya* (dat.sg./caturthyēka.): The regular dative singular ending *-ē* (*Ñē*) is added to the stem and suffixed with an augment *a*:

1. *dēvā-* + *ē* → *dēvāi-*
2. *dēvāi-* + *a* → *dēvāya*

- *dēvāt* (abl.sg./*pañcamyēka*.): The regular ablative singular ending *-as* (*ÑasI*) is replaced by *āt*. This is an old feature of Indo-European thematic (*e/o*-stem) nouns; compare Old Latin *camp-ōd*.
- *dēvāsyā* (gen.sg./*ṣaṣṭhyēka*.): The genitive singular ending *-as* (*Ñas*) is replaced by *syā*, which again is an old feature of Indo-European thematic nouns; compare Homeric Greek *πολέμ-οιο* ← **-ohyo* ← **-osyo*.
- *dēvē* (loc.sg./*saptamyēka*.): The locative singular ending *-i* (*Ñi*) is simply added to the stem, and the combination *a-i* results in the vowel *ē*. (Compare, e.g., *οἶκος*.)
- *dēva* (voc.sg./*sambōdhanaika*.): The vocative is merely the stem, with the accent retracted to the first syllable.
- *dēvābhyām*, *dēvēbhyah*, *dēvēṣu* (inst.-dat.-abl.du./*tr̥tīyācaturthipañcamīdvi*., dat.-abl.pl./*caturthipañcamibahu* loc.pl./*saptamibahu*.): The so-called *pada*-endings, which begin with a consonant, are added to the extended stem in *ē*. This includes the dative-ablative ending of the plural, and the locative ending of the plural. The instrumental-dative-ablative of the dual uses a stem in long *ā* rather than *ē*. Note that the ending *-su* of the locative plural is always retroflexed as a result of the preceding vowel *ē* due to the RUKI rule.
- *dēvāḥ* (nom.pl./*prathamābahu*.): Historically, this ending can be analyzed simply as *-as* (*Jas*, **-es*) added onto the stem in *-a-* (**-e-*). Pāṇini has a rule that lengthens the stem vowel before the ending *-as* (*Jas*) (*Aṣṭādhyāyī* 6.1.102):

1. *dēvā-* + *-as* → *dēvā-s*

- *dēvān* (acc.pl./*dvitīyābahu*.): The accusative plural ending *-as* (*Śas*) historically represents **-ns*, probably a combination of the accusative suffix **-m* and the plural suffix **-s*. When this ending followed a consonant, the **n* was pronounced as a vowel, and developed into *a* in Sanskrit. When it followed a vowel, it was pronounced as

a consonant, yielding the ending *-ns. Subsequently the *s was lost, with compensatory lengthening of the previous vowel, resulting in the accusative plural ending that is common to vowel-stem nouns in Sanskrit: -s with a lengthening of the vowel of the stem, as taught by Pāṇini (*Aṣṭādhyāyī* 6.1.103):

1. *dēvā-* + *-as* → *dēvān*

- *dēvāiḥ* (instr.pl./*tr̥tīyābahu.*): The ending is not *bhiḥ* but *-aiḥ*.

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>yajñám</i>	<i>yajñé</i>	<i>yajñáni</i>
<i>dvitīyā</i>			
<i>tr̥tīyā</i>	<i>yajñēna</i>	<i>yajñābhyām</i>	<i>yajñaiḥ</i>
<i>caturthī</i>	<i>yajñāya</i>	<i>yajñābhyām</i>	<i>yajñēbhyah</i>
<i>pañcamī</i>	<i>yajñāt</i>	<i>yajñābhyām</i>	<i>yajñēbhyah</i>
<i>ṣaṣṭhī</i>	<i>yajñāsyā</i>	<i>yajñāyōḥ</i>	<i>yajñānām</i>
<i>saptamī</i>	<i>yajñé</i>	<i>yajñāyōḥ</i>	<i>yajñēṣu</i>

The neuter of the *a*-stem declension is almost identical to that of the masculine, with one signal difference: as with all neuters, there is no distinction between the nominative and accusative.

- *yajñám* (nom.-acc.sg./*prathamādvitīyaika.*): The accusative ending *-am* is used for the nominative and accusative singular.
- *yajñé* (nom.-acc.du./*prathamādvitīyādvī.*): The ending *-i* is added to the stem, resulting in the ending *-ē*, which is not subject to *sandhi* (*Aṣṭādhyāyī* 1.1.11). The reason is perhaps that this *i* historically derives from a laryngeal, namely **h₁*.

- *yajñāni* (nom.-acc.pl./*prathamādvitīyābahu.*): The original ending of the neuter plural was *h_2 , which either lengthened a preceding vowel or, if it came after a consonant, developed into $-i$ ($\acute{S}i$). Thus the more common ending of the a -stem neuter nominative-accusative plural in the Vedas is $-\bar{a}$. Already in the Vedic period, however, this ending started to be replaced by an ending in $-\bar{a}ni$, which shows the influence of the declensional pattern of stems in $-n$.

§11.2. Stems ending in $-i$ (*ikārāntāni*)

Stems ending in the short vowels i and u behave similarly, in terms of the changes that the stem undergoes before the endings. All masculine and neuter stems in $-i$ and $-u$ belong to a class of stems that Pāṇini calls *ghi* (*Aṣṭādhyāyī* 1.4.7), which triggers some special rules. In addition, feminine stems in $-i$ can be considered to belong to the *ghi* class, or alternatively they can be considered to belong to a larger class of feminine stems called *nadī*, which includes most feminine stems in \bar{i} and \bar{u} (the so-called “derivative” stems).

For the declension of the words *pāti-* and *sákhi-*, see below.

	<i>ekavacanē</i>	<i>divivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>agníḥ</i>	<i>agní</i>	<i>agnáyaḥ</i>
<i>dvitīyā</i>	<i>agním</i>	<i>agní</i>	<i>agnín</i>
<i>trītiyā</i>	<i>agnínā</i>	<i>agníbhyām</i>	<i>agníbhiḥ</i>
<i>caturthī</i>	<i>agnáyē</i>	<i>agníbhyām</i>	<i>agníbhyaḥ</i>
<i>pañcamī</i>	<i>agnéḥ</i>	<i>agníbhyām</i>	<i>agníbhyaḥ</i>
<i>ṣaṣthī</i>	<i>agnéḥ</i>	<i>agnyóḥ</i>	<i>agnínām</i>
<i>saptamī</i>	<i>agnau</i>	<i>agnyóḥ</i>	<i>agníṣu</i>
<i>sambōdhanē</i>	<i>ágnē</i>	<i>agní</i>	<i>agnáyaḥ</i>

One particularity of the nouns ending in *-i* and *-u* is the alternation between the grades of the final vowel of the stem and the ending, evident in the following forms:

- *agnéḥ* (पञ्चमीषष्ठ्यौ एक०): The regular ablative and genitive singular endings *ŃasI* and *Ńas* trigger guṇa of the final vowel of the stem. The “full-grade” form of the stem vowel, *-ē*, is then followed by the “zero-grade” form of the case suffix, *-s*.
- *agnauḥ* (सप्तमी एक०): The regular locative singular ending *Ńi* is replaced by *vṛddhiḥ* of the stem vowel in stems ending in *-i* and *-u* (7.3.119).
- *ágnē* (संबोधनम् एक०): The vocative ends in guṇa of the stem vowel (7.3.108).
- *agnáyaḥ* (प्रथमा बहु०): The nominative plural ending *Jas* triggers guṇa of the final vowel of the stem:
 - *agní + Jas → agné + Jas → agné + as → agnáyaḥ*
- *agnín* (द्वितीया बहु०): The accusative plural ending *Śas* does not trigger guṇa of the final stem (because of the marker *Ś*). Rather, it triggers the long form of the stem vowel, in this case *-ī*, after which the ending is not *-as* but *-n* (6.1.103). As noted above, *-as* and *-n* are historically equivalent: the accusative plural ending was **-ns*, where the *n* was pronounced as a vowel (conventionally written **-ṇ* among Indo-Europeanists) after a stem-final consonant and as a consonant after a stem-final vowel. The ending **-ins* was then changed to *-in* by a process of “compensatory lengthening.”

There is also some influence from the declension of *n*-stem nouns. This arises from the fact that the *n* could function as a “hiatus-breaker” between a stem that ended in a vowel and a case suffix that began with a vowel. This influence is limited to the instrumental singular ending in the masculine declension, but in the neuter declension (see below) it is more widespread.

- *agnínā* (तृतीया एक०): The regular instrumental singular ending *Tā* is replaced by *āN*.

Finally, of course, all stems that end in *ruki* sounds—including *-i*, *-ī*, *-u*, and *-ū*—trigger retroflexion of a following *s*, which occurs in the locative plural ending:

- *agnīṣu* (सप्तमी बहु०) = *agnī* + *suP*.

	<i>eka</i> <i>vacanē</i>	<i>dvi</i> <i>vacanē</i>	<i>bahu</i> <i>vacanē</i>
<i>prathamā</i>	<i>vāri</i>	<i>vāriṇī</i>	<i>vāriṇi</i>
<i>dvitīyā</i>			
<i>tr̥tīyā</i>	<i>vāriṇā</i>	<i>vāribhyām</i>	<i>vāribhiḥ</i>
<i>caturthī</i>	<i>vāriṇē</i>	<i>vāribhyām</i>	<i>vāribhyaḥ</i>
<i>pañcamī</i>	<i>vāriṇaḥ</i>	<i>vāribhyām</i>	<i>vāribhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>vāriṇaḥ</i>	<i>vāriṇōḥ</i>	<i>vāriṇām</i>
<i>saptamī</i>	<i>vāriṇi</i>	<i>vāriṇōḥ</i>	<i>vāriṣu</i>

Neuter stems ending in *i* characteristically exhibit the consonant *n* between the stem and endings beginning with a vowel. Thus, before these endings, they behave as if their stem does not end in *-i* but in *-in*.

However, neuter *adjectives* ending in *i* may optionally take endings identical to masculine adjectives ending in *i* in all of the above forms, apart from those of nominative-accusative (*Aṣṭādhyāyī* 7.1.74). Thus we have:

- *śucayē* and *śucinē* (४० एक०)
- *śucēḥ* and *śucinaḥ* (५-६० एक०)
- *śucau* and *śucini* (७० एक०)
- *śucyōḥ* and *śucinōḥ* (६-७० द्वि०)

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>gātiḥ</i>	<i>gātī</i>	<i>gātayaḥ</i>
<i>dvitīyā</i>	<i>gātim</i>	<i>gātī</i>	<i>gātīḥ</i>
<i>tr̥tīyā</i>	<i>gātyā</i>	<i>gātibhyām</i>	<i>gātibhiḥ</i>
<i>caturthī</i>	<i>gātayē, gātyai</i>	<i>gātibhyām</i>	<i>gātibhyaḥ</i>
<i>pañcamī</i>	<i>gātēḥ, gātyāḥ</i>	<i>gātibhyām</i>	<i>gātibhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>gātēḥ, gātyāḥ</i>	<i>gātyōḥ</i>	<i>gātīnām</i>
<i>saptamī</i>	<i>gātau, gātyām</i>	<i>gātyōḥ</i>	<i>gātīṣu</i>

Because the feminine stems in *-i* optionally belong to the *nadī* class of stems, they are subject to a number of special rules. In particular, in the dative, ablative–genitive, and locative cases of the singular, they can take either the same endings as masculine and neuter stems in *-i*, that is, the endings triggered by membership in the class *ghi* (listed first in the table above), or the “augmented” endings of feminine stems (*-ai*, *-āḥ*, *-ām*) triggered by membership in the class *nadī*; see the section on *i*-stem nouns below.

The inflection of a few words with a stem in *i* is somewhat irregular. Notes on the inflection of *pāti*- and *sākhi*- follow.

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>pātiḥ</i>	<i>pátyau</i>	<i>pátayaḥ</i>
<i>dviṭīyā</i>	<i>pátim</i>	<i>pátyau</i>	<i>pátin</i>
<i>tr̥tīyā</i>	<i>pátyā</i>	<i>pátibhyām</i>	<i>pátibbiḥ</i>
<i>caturthī</i>	<i>pátyē</i>	<i>pátibhyām</i>	<i>pátibhyaḥ</i>
<i>pañcamī</i>	<i>pátyuḥ</i>	<i>pátibhyām</i>	<i>pátibhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>pátyuḥ</i>	<i>pátyōḥ</i>	<i>pátinām</i>
<i>saptamī</i>	<i>pátyau</i>	<i>pátyōḥ</i>	<i>pátīsu</i>
<i>sambódhanam</i>	<i>pátē</i>	<i>pátyau</i>	<i>pátayaḥ</i>

The stem *pāti-* differs from most of the other nominal stems in *i* in that the endings of the “weak” cases are generally added directly onto the stem, with the vowel in its “basic” or zero-grade form. Contrast:

- *agní-n-ā* with *pāti-ā* → *pátyā* (३० एक०)
- *agnáy-ē* with *pāti-ē* → *pátyē* (४० एक०)
- *agné-ḥ* with *pāti-uḥ* → *pátyuḥ* (५-६० एक०)

- Note that this form takes an irregular ending, identical with the ablative-genitive ending of stems ending in *r̥*. That ending is underlyingly *-r̥-s*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>sākhā</i>	<i>sākhāyau</i>	<i>sākhāyaḥ</i>
<i>dvitīyā</i>	<i>sākhāyam</i>	<i>sākhāyau</i>	<i>sākhīn</i>
<i>tr̥tīyā</i>	<i>sākhyā</i>	<i>sākhībhyām</i>	<i>sākhībhiḥ</i>
<i>caturthī</i>	<i>sākhyē</i>	<i>sākhībhyām</i>	<i>sākhībhyāḥ</i>
<i>pañcamī</i>	<i>sākhyuḥ</i>	<i>sākhībhyām</i>	<i>sākhībhyāḥ</i>
<i>ṣaṣṭhī</i>	<i>sākhyuḥ</i>	<i>sākhyōḥ</i>	<i>sākhīnām</i>
<i>saptamī</i>	<i>sākhē</i>	<i>sākhyōḥ</i>	<i>sākhiṣu</i>
<i>sambódhanam</i>	<i>sākhē</i>	<i>sākhyau</i>	<i>sākhāyaḥ</i>

The stem *sākhi-* is similar to *pāti-* in that the endings of most of the “weak” cases are added directly to the stem in its “basic” (i.e., zero-grade) form (with the exception of the locative singular, which is exactly the same as the *ghi* declension). It differs from *pāti-*, however, in that the endings of the “strong” cases induce a lengthened grade (*vṛddhiḥ*) of the stem-final vowel.

§II.3. Stems ending in *-u* (*ukārāntāni*)

The stems ending in *-u* belong to the *ghi* class, together with those ending in *-i*, and hence they share many features of their declension. One again, the neuters show relatively more influence from the declension of *n*-stem nouns, while feminines have the option of being declined according to the *ghi* rules or according to the *nadī* rules.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>gurúḥ</i>	<i>gurú</i>	<i>gurávaḥ</i>
<i>dvitīyā</i>	<i>gurúm</i>	<i>gurú</i>	<i>gurún</i>
<i>tr̥tīyā</i>	<i>gurúnā</i>	<i>gurúbhyām</i>	<i>gurúbhiḥ</i>
<i>caturthī</i>	<i>gurávē</i>	<i>gurúbhyām</i>	<i>gurúbhyaḥ</i>
<i>pañcamī</i>	<i>guróḥ</i>	<i>gurúbhyām</i>	<i>gurúbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>guróḥ</i>	<i>gurvōḥ</i>	<i>gurúnām</i>
<i>saptamī</i>	<i>guraú</i>	<i>gurvōḥ</i>	<i>gurúṣu</i>
<i>sambódhanam</i>	<i>gúrō</i>	<i>gurvau</i>	<i>gurávaḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>			
<i>dvitīyā</i>	<i>mádhv</i>	<i>mádhvni</i>	<i>mádhvni</i>
<i>tr̥tīyā</i>	<i>mádhvna</i>	<i>mádhvbhyām</i>	<i>mádhvbhiḥ</i>
<i>caturthī</i>	<i>mádhvne</i>	<i>mádhvbhyām</i>	<i>mádhvbhyaḥ</i>
<i>pañcamī</i>	<i>mádhvnaḥ</i>	<i>mádhvbhyām</i>	<i>mádhvbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>mádhvnaḥ</i>	<i>mádhvnōḥ</i>	<i>mádhvnām</i>
<i>saptamī</i>	<i>mádhvni</i>	<i>mádhvnōḥ</i>	<i>mádhvṣu</i>

The principal difference between the neuters and the masculines in the *u*-stem declension, exactly as in the *i*-stem declension, is that the neuters exhibit more of an influence from the declension of *n*-stem nouns. That is to say, before all of the case suffixes that begin with a vowel, these forms are declined as if their stem is not *-u* but *-un*.

However, as with neuter adjectives in *i*, neuter adjectives in *u* can take endings identical to masculine adjectives ending in *u* in all of the above forms, apart from those of nominative-accusative:

- *mṛdavē* and *mṛdunē* (४०. एक०)
- *mṛdōḥ* and *mṛdunaḥ* (५-६०. एक०)
- *mṛdau* and *mṛduni* (७०. एक०)
- *mṛdvōḥ* and *mṛdunōḥ* (६-७०. द्वि०)

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dhēnúḥ</i>	<i>dhēnú</i>	<i>dhēnávaḥ</i>
<i>dvitīyā</i>	<i>dhēnúṃ</i>	<i>dhēnú</i>	<i>dhēnún</i>
<i>tr̥tīyā</i>	<i>dhēnvá</i>	<i>dhēnúbhyām</i>	<i>dhēnúbbhiḥ</i>
<i>caturthī</i>	<i>dhēnáṃvē, dhēnvai</i>	<i>dhēnúbhyām</i>	<i>dhēnúbbhyaḥ</i>
<i>pañcamī</i>	<i>dhēnóḥ, dhēnváḥ</i>	<i>dhēnúbhyām</i>	<i>dhēnúbbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>dhēnóḥ, dhēnváḥ</i>	<i>dhēnvóḥ</i>	<i>dhēnúnām</i>
<i>saptamī</i>	<i>dhēnaú, dhēnvám</i>	<i>dhēnvóḥ</i>	<i>dhēnúṣu</i>
<i>sambódhanam</i>	<i>dhénō</i>	<i>dhēnú</i>	<i>dhēnávaḥ</i>

§II.4. Stems ending in *-ā* (*ākārāntāni*)

All stems ending in *ā* are feminine. This class includes all of the words formed with the feminine stem forming suffix *ā*, and hence it includes many nominal stems that correspond to a masculine/neuter stem ending in *a*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>sénā</i>	<i>sénē</i>	<i>sénāḥ</i>
<i>dvitīyā</i>	<i>sénām</i>	<i>sénē</i>	<i>sénāḥ</i>
<i>tr̥tīyā</i>	<i>sénayā</i>	<i>sénābhyām</i>	<i>sénābhiḥ</i>
<i>caturthī</i>	<i>sénāyai</i>	<i>sénābhyām</i>	<i>sénābhyaḥ</i>
<i>pañcamī</i>	<i>sénāyāḥ</i>	<i>sénābhyām</i>	<i>sénābhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>sénāyāḥ</i>	<i>sénayōḥ</i>	<i>sénānām</i>
<i>saptamī</i>	<i>sénāyām</i>	<i>sénayōḥ</i>	<i>sénāsu</i>
<i>sambódhanam</i>	<i>sénē</i>	<i>sénē</i>	<i>sénāḥ</i>

One particularity of the *ā*-stem declension is the appearance of an augment *yā* (technically called *yāT* by Pāṇini) between the stem and some endings, namely those of the dative, ablative, genitive, and locative singular (i.e., those endings that Pāṇini teaches with the *anubandha* *Ñ*, viz. *Ñē*, *ÑasI*, *Ñas* and *Ñi*). See *Aṣṭādhyāyī* 7.1.113

NOTE: This declension corresponds closely to Latin nouns like *mensa* and Greek nouns like *χώρα*. Historically, the augment *yā* appears to be due to the influence of feminine nominals ending in *-ī*, where *yā* (*-ye_{h2}) is one possible form the stem-forming suffix *-ī* (*-i_{h2}-).

§11.5. Stems ending in *-ī* (*īkārāntāni*)

All of these stems are feminine, and many are formed with a suffix *ÑiP* that produces feminine adjectives.

There is an important distinction between one class of feminine stems in *-ī*, mostly un-derived stems, and another that is mostly made of derived nominal stems (see feminine stem forming suffixes), which Pāṇini calls *nadī*. The underived class takes the default nominal endings, and has been exemplified above with the noun *dhī-*. The derived class is inflected as follows:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>nadī</i>	<i>nadyau</i>	<i>nadyāḥ</i>
<i>dvitīyā</i>	<i>nadīm</i>	<i>nadyau</i>	<i>nadīḥ</i>
<i>tr̥tīyā</i>	<i>nadyā</i>	<i>nadībhyām</i>	<i>nadībhiḥ</i>
<i>caturthī</i>	<i>nadyai</i>	<i>nadībhyām</i>	<i>nadībhyaḥ</i>
<i>pañcamī</i>	<i>nadyāḥ</i>	<i>nadībhyām</i>	<i>nadībhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>nadyāḥ</i>	<i>nadyōḥ</i>	<i>nadīnām</i>
<i>saptamī</i>	<i>nadyām</i>	<i>nadyōḥ</i>	<i>nadīṣu</i>
<i>sambódhanam</i>	<i>nādi</i>	<i>nadyau</i>	<i>nadyāḥ</i>

One particularity of the declension of nouns of the *nadī* class is that they take the augment $\bar{a}T$ between the stem (*prātipadikam*) and certain declensional endings, namely, those that Pāṇini teaches with the *anubandha* \dot{N} ($\dot{N}\bar{e}$, $\dot{N}asI$, $\dot{N}as$, and $\dot{N}i$); see *Aṣṭādhyāyī* 7.3.112.

Here we may also refer to the declension of the word *strī*- “woman,” but which has aspects of the declension of both underived and derived stems: like radical stems in \bar{i} , its stem becomes *iy-* before endings that begin with a vowel (optionally so in the accusative singular and plural), but like derivative stems in \bar{i} , it takes the augment $\bar{a}T$ before case-suffixes marked with a \dot{N} . Hence its paradigm is as follows:

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>strī</i>	<i>strīyau</i>	<i>strīyaḥ</i>
<i>dvitīyā</i>	<i>strīyam, strīm</i>	<i>strīyau</i>	<i>strīyaḥ, strīḥ</i>
<i>tr̥tīyā</i>	<i>strīyā</i>	<i>strībhyām</i>	<i>strībhiḥ</i>
<i>caturthī</i>	<i>strīyai</i>	<i>strībhyām</i>	<i>strībhyāḥ</i>
<i>pañcamī</i>	<i>strīyāḥ</i>	<i>strībhyām</i>	<i>strībhyāḥ</i>
<i>ṣaṣṭhī</i>	<i>strīyāḥ</i>	<i>strīyōḥ</i>	<i>strīṇām</i>
<i>saptamī</i>	<i>strīyām</i>	<i>strīyōḥ</i>	<i>strīṣu</i>
<i>sambódhanam</i>	<i>strī</i>	<i>strīyau</i>	<i>strīyaḥ</i>

§II.6. Stems ending in *-ū* (*ūkārāntāni*)

Most stems ending in *-ū* belong to the *nadī* class, and hence their declension is almost identical to that of stems ending in *-ī* like *dēvī-* and *nadī-*. The only difference is that whereas *ī*-stems form the nominative singular without a suffix, *ū*-stems form the nominative singular with the default suffix *sU* (i.e., *ḥ*).

All nominal stems belonging to this class are feminine.

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>vadhūḥ</i>	<i>vadhvaū</i>	<i>vadhvaḥ</i>
<i>dvitīyā</i>	<i>vadhūm</i>	<i>vadhvaū</i>	<i>vadhūḥ</i>
<i>tr̥tīyā</i>	<i>vadhvā</i>	<i>vadhúbhyām</i>	<i>vadhúbhiḥ</i>
<i>caturthī</i>	<i>vadhvai</i>	<i>vadhúbhyām</i>	<i>vadhúbhyaḥ</i>
<i>pañcamī</i>	<i>vadhvāḥ</i>	<i>vadhúbhyām</i>	<i>vadhúbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>vadhvāḥ</i>	<i>vadhvōḥ</i>	<i>vadhúnām</i>
<i>saptamī</i>	<i>vadhvām</i>	<i>vadhvōḥ</i>	<i>vadhūṣu</i>
<i>sambódhanam</i>	<i>vádhu</i>	<i>vadhvaū</i>	<i>vadhvaḥ</i>

§II.7. Stems ending in *-r* (*rkārāntāni*)

These stems generally fall into one of two *semantic* categories: (1) nouns which express relations (such as mother, father, sister, brother, etc.), and (2) adjectives which express the agent of a verb, as well as a handful of other words. Nominal forms of the second type are used in the so-called periphrastic future (*luṭ*).

In *morphological* terms, however, there is a distinction between (1) nouns which take the full grade (*guṇāḥ*) of the stem-final vowel in the strong cases; and (2) nouns which take the lengthened grade (*vṛddhiḥ*) of the stem-final vowel in the strong cases. All agent nouns belong to the second category. Most nouns of relationship belong to the first category, with the exception of *nāptṛ-* “grandson” and *svāśṛ-* “sister,” and the word *stṛ-* “star.”

Paradigms of the first class of nominal stems ending in *r*, i.e., those which take a full grade vowel of the stem in the strong cases, are presented first.

	<i>ekavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>pitā</i>	<i>pitārau</i>	<i>pitāraḥ</i>
<i>dvitiyā</i>	<i>pitāram</i>	<i>pitārau</i>	<i>pitṛñ</i>
<i>trītiyā</i>	<i>pitṛā</i>	<i>pitṛbhyām</i>	<i>pitṛbhiḥ</i>
<i>caturthī</i>	<i>pitṛē</i>	<i>pitṛbhyām</i>	<i>pitṛbhyaḥ</i>
<i>pañcamī</i>	<i>pitṛuḥ</i>	<i>pitṛbhyām</i>	<i>pitṛbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>pitṛuḥ</i>	<i>pitṛōḥ</i>	<i>pitṛñām</i>
<i>saptamī</i>	<i>pitāri</i>	<i>pitṛōḥ</i>	<i>pitṛṣu</i>
<i>sambódhanam</i>	<i>pítar</i>	<i>pitārau</i>	<i>pitāraḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>mātā́</i>	<i>mātārau</i>	<i>mātārah</i>
<i>dvitīyā</i>	<i>mātāram</i>	<i>mātārau</i>	<i>mātṛ̥ḥ</i>
<i>tr̥tīyā</i>	<i>mātrā́</i>	<i>mātṛ̥bbhyām</i>	<i>mātṛ̥bbhiḥ</i>
<i>caturthī</i>	<i>mātré</i>	<i>mātṛ̥bbhyām</i>	<i>mātṛ̥bbhyaḥ</i>
<i>pañcamī</i>	<i>mātúḥ</i>	<i>mātṛ̥bbhyām</i>	<i>mātṛ̥bbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>mātúḥ</i>	<i>mātróḥ</i>	<i>mātṛ̥ṇām</i>
<i>saptamī</i>	<i>mātāri</i>	<i>mātróḥ</i>	<i>mātṛ̥ṣu</i>
<i>sambódhanam</i>	<i>mātar</i>	<i>mātārau</i>	<i>mātārah</i>

Paradigms of the second class of nominal stems ending in *r*, which take the lengthened grade in the strong cases, follow:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dātā́</i>	<i>dātārau</i>	<i>dātārah</i>
<i>dvitīyā</i>	<i>dātāram</i>	<i>dātārau</i>	<i>dātṛ̥n</i>
<i>tr̥tīyā</i>	<i>dātrā́</i>	<i>dātṛ̥bbhyām</i>	<i>dātṛ̥bbhiḥ</i>
<i>caturthī</i>	<i>dātré</i>	<i>dātṛ̥bbhyām</i>	<i>dātṛ̥bbhyaḥ</i>
<i>pañcamī</i>	<i>dātúḥ</i>	<i>dātṛ̥bbhyām</i>	<i>dātṛ̥bbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>dātúḥ</i>	<i>dātróḥ</i>	<i>dātṛ̥ṇām</i>
<i>saptamī</i>	<i>dātāri</i>	<i>dātróḥ</i>	<i>dātṛ̥ṣu</i>
<i>sambódhanam</i>	<i>dātar</i>	<i>dātārau</i>	<i>dātārah</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>svāsā</i>	<i>svāsārau</i>	<i>svāsārah</i>
<i>dvitīyā</i>	<i>svāsāram</i>	<i>svāsārau</i>	<i>svāsṛḥ</i>
<i>trītiyā</i>	<i>svāsrā</i>	<i>svāsr̥bhyām</i>	<i>svāsr̥bhiḥ</i>
<i>caturthī</i>	<i>svāsrē</i>	<i>svāsr̥bhyām</i>	<i>svāsr̥bhyaḥ</i>
<i>pañcamī</i>	<i>svāsuḥ</i>	<i>svāsr̥bhyām</i>	<i>svāsr̥bhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>svāsuḥ</i>	<i>svāsrōḥ</i>	<i>svāsr̥ṇām</i>
<i>saptamī</i>	<i>svāsari</i>	<i>svāsrōḥ</i>	<i>svāsr̥ṣu</i>
<i>sambódhanam</i>	<i>svāsar</i>	<i>svāsārau</i>	<i>svāsārah</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dātṛ</i>	<i>dātṛṇī</i>	<i>dātṛṇi</i>
<i>dvitīyā</i>	<i>dātṛ</i>	<i>dātṛṇī</i>	<i>dātṛṇi</i>
<i>trītiyā</i>	<i>dātṛṇā, dātrā</i>	<i>dātṛbhyām</i>	<i>dātṛbhiḥ</i>
<i>caturthī</i>	<i>dātṛṇē, dātrē</i>	<i>dātṛbhyām</i>	<i>dātṛbhyaḥ</i>
<i>pañcamī</i>	<i>dātṛṇaḥ, dātúḥ</i>	<i>dātṛbhyām</i>	<i>dātṛbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>dātṛṇaḥ, dātúḥ</i>	<i>dātrōḥ</i>	<i>dātṛṇām</i>
<i>saptamī</i>	<i>dātṛṇi, dātāri</i>	<i>dātrōḥ</i>	<i>dātṛṣu</i>
<i>sambódhanam</i>	<i>dātṛ, dātā</i>	<i>dātārau</i>	<i>dātārah</i>

The neuter has the same peculiarities as nominal stems ending in *i* and *u*, namely:

1. it inserts the letter *n* between the stem and declensional endings that begin with a vowel;
2. outside of the nominative-accusative, it may take the properly neuter endings, or it may take the same endings as the masculine-feminine.

§II.8. Stems ending in diphthongs

A number of nouns have a stem that ends in a diphthong (*ō*, *ai*, or *au*; no stems in *ē* are found). The main distinction is between stems that show vowel gradation in the root syllable, like *gō-* m.f. “cow” and *dyau-* m. “sky,” and those that do not, like *rai-* f. “wealth” and *nau-* f. “boat.”

Non-gradational stems like *nau-* are straightforward, in that they take the regular endings, with the *sandhi* variants *nau-* before consonants and *nāv-* before vowels.

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>naūḥ</i>	<i>nāvau</i>	<i>nāvah</i>
<i>dṛvitiyā</i>	<i>nāvam</i>	<i>nāvau</i>	<i>nāvah</i>
<i>tr̥tīyā</i>	<i>nāvā</i>	<i>naubhyām</i>	<i>naubhīḥ</i>
<i>caturthī</i>	<i>nāvē</i>	<i>naubhyām</i>	<i>naubhyāḥ</i>
<i>pañcamī</i>	<i>nāvāḥ</i>	<i>naubhyām</i>	<i>naubhyāḥ</i>
<i>ṣaṣṭhī</i>	<i>nāvāḥ</i>	<i>nāvōḥ</i>	<i>nāvām</i>
<i>saptamī</i>	<i>nāvī</i>	<i>nāvōḥ</i>	<i>nausū</i>
<i>sambódhanam</i>	<i>naūḥ</i>	<i>nāvau</i>	<i>nāvah</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>rāḥ</i>	<i>rāyau</i>	<i>rāyaḥ</i>
<i>dviṭīyā</i>	<i>rāyam</i>	<i>rāyau</i>	<i>rāyāḥ</i>
<i>trṭīyā</i>	<i>rāyā</i>	<i>rābhyām</i>	<i>rābhīḥ</i>
<i>caturthī</i>	<i>rāyē</i>	<i>rābhyām</i>	<i>rābhyāḥ</i>
<i>pañcamī</i>	<i>rāyāḥ</i>	<i>rābhyām</i>	<i>rābhyāḥ</i>
<i>ṣaṣṭhī</i>	<i>rāyāḥ</i>	<i>rāyōḥ</i>	<i>rāyām</i>
<i>saptamī</i>	<i>rāyī</i>	<i>rāyōḥ</i>	<i>rāsū</i>
<i>sambódbhanam</i>	<i>rāḥ</i>	<i>rāyau</i>	<i>rāyaḥ</i>

NOTE: The word *rai-* is somewhat different from *nau* because the stem forms are not *rai-* and *rāy-* but *rā-* and *rāy-*. This is because the *y* is not actually part of the radical syllable, but is a glide inserted between the root syllable and the ending when the latter begins with a vowel. The inherited form of this word was **reh₁-*, and hence the stem ended synchronically in a consonant, which was replaced by the glide *y* in Sanskrit (compare Latin *rēs*).

Stems that feature vowel gradation typically show the full or lengthened grade in the “strong” forms (nominative-accusative singular and dual, and nominative plural), and elsewhere have weaker forms. In the case of *gō*, the strong form is *gau-* (**gōw-*, or perhaps **gōh₃w-*), and the weak form is *gō-* (before consonants) and *gav-* (before vowels), i.e., **gōw-*. In the case of *dyau-*, the strong forms are made with *dyau-* (**dyēw-*), and the weak forms are made with *dyu-* (before consonants) and *div-* (before vowels), i.e., **diw-* or **dyu-*. The accusative singular in both cases is formed by omitting the final glide of the radical syllable before the *m* of the ending.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dyauḥ</i>	<i>dyāvau</i>	<i>dyāvah, divah</i>
<i>dvitīyā</i>	<i>dīvam, dyām</i>	<i>dyāvau</i>	<i>dyūn, divāḥ</i>
<i>trītiyā</i>	<i>divā</i>	<i>dyúbhyām</i>	<i>dyúbhiḥ</i>
<i>caturthī</i>	<i>divē</i>	<i>dyúbhyām</i>	<i>dyúbhyaḥ</i>
<i>pañcamī</i>	<i>divāḥ</i>	<i>dyúbhyām</i>	<i>dyúbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>divāḥ</i>	<i>divōḥ</i>	<i>divām</i>
<i>saptamī</i>	<i>divī</i>	<i>divōḥ</i>	<i>dyūsu</i>
<i>sambódhanam</i>	<i>dyaùḥ</i>	<i>dyāvau</i>	<i>dyāvah</i>

NOTE: This noun has been split into two by later Sanskrit grammarians (who are followed by the less empirically-minded European grammarians), viz. *div-* (providing the weak forms in the paradigm above) and *dyō-* (providing the strong forms). This is purely for derivational reasons, since they clearly constitute a single paradigm. Uncertainties of vowel gradation led to the use of multiple forms in certain cases, as noted above. The word is cognate with Greek *Zeús* and Latin *Iu-ppiter*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>gauḥ</i>	<i>gāvau</i>	<i>gāvah</i>
<i>dvitīyā</i>	<i>gām</i>	<i>gāvau</i>	<i>gāḥ</i>
<i>trītiyā</i>	<i>gāvā</i>	<i>góbhyām</i>	<i>góbhiḥ</i>
<i>caturthī</i>	<i>gāvē</i>	<i>góbhyām</i>	<i>góbhyaḥ</i>
<i>pañcamī</i>	<i>gōḥ</i>	<i>góbhyām</i>	<i>góbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>gōḥ</i>	<i>gāvōḥ</i>	<i>gāvām</i>
<i>saptamī</i>	<i>gāvi</i>	<i>gāvōḥ</i>	<i>gōsu</i>
<i>sambódhanam</i>	<i>gauḥ</i>	<i>gāvau</i>	<i>gāvah</i>

§12. Stems ending in consonants (*balantāni*)

Although some stems ending in a vowel are “changeable,” in that the endings of different cases are affixed to different grades of the stem-final vowel, they are usually considered to be “unchangeable.” In contrast, many stems ending in a consonant are more clearly “changeable,” in that the endings are affixed to different forms of the stem.

We can thus distinguish between “strong” and “weak” versions of the stem before certain endings, and in some cases, between “strong,” “middle,” and “weak” versions of the stem.

The “strong” version of the stem occurs before the inflectional endings that Pāṇini calls *sarvanāmasthānam*. These are the nominative and accusative singular, the nominative and accusative dual, and the nominative plural (i.e., the endings comprised in Pāṇini’s abbreviation *suT*).

The “weak” version of the stem occurs before all of the other inflectional endings. But there is often a distinction between the “weak” form of the stem before inflectional endings beginning with consonant—the so-called “word” or *padam* endings—and the “weak” form before those endings beginning with a vowel. Sometimes grammars refer to the form of the stem before consonant-initial endings as the “middle” form of the stem, and reserve the term “weak” for the form of the stem before vowel-initial endings.

१० एक०	१० द्वि०	१० बहु०
२० एक०	२० द्वि०	२० बहु०
३० एक०	३० द्वि०	३० बहु०
४० एक०	४० द्वि०	४० बहु०
५० एक०	५० द्वि०	५० बहु०
६० एक०	६० द्वि०	६० बहु०
७० एक०	७० द्वि०	७० बहु०

§12.1. Stems ending in *-s*

The stems that end in *-s* (or *-ṣ*) fall into **three** categories:

1. neuter nouns, which are usually primary derivatives of verbs (representing *nomina concreta*), such as *mānas-* “mind,” *haviṣ-* “oblation,” and *āyuṣ-* “life.”
2. comparative adjectives, which are formed with the suffix *-yas-*;
3. perfect participles, which are formed with the suffix *-vāms-/ -vat-/ -uṣ-*

These three types will be presented in turn.

In the case of neuter nouns, the stem *does not change* with the endings.

NOTE: An apparent exception is the nominative-accusative plural, in which the final vowel of the stem is lengthened and nasalized before the ending *-i*. However, Pāṇini considers this to be a general effect that the neuter nominative-accusative ending (which he calls *ṣī*) has on a preceding stem.

	<i>ekavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>mānaḥ</i>	<i>mānasī</i>	<i>mānāṁsi</i>
<i>dvitīyā</i>	<i>mānaḥ</i>	<i>mānasī</i>	<i>mānāṁsi</i>
<i>trītiyā</i>	<i>mānasā</i>	<i>mānōbbhyām</i>	<i>mānōbbhiḥ</i>
<i>caturthī</i>	<i>mānasē</i>	<i>mānōbbhyām</i>	<i>mānōbbhyaḥ</i>
<i>pañcamī</i>	<i>mānasaḥ</i>	<i>mānōbbhyām</i>	<i>mānōbbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>mānasaḥ</i>	<i>mānasōḥ</i>	<i>mānasām</i>
<i>saptamī</i>	<i>mānasi</i>	<i>mānasōḥ</i>	<i>mānaḥsu</i>
<i>sambódhanam</i>	<i>mānaḥ</i>	<i>mānasī</i>	<i>mānāṁsi</i>

The declension of stems in *-iṣ* (e.g., *haviṣ*) and *-uṣ* (e.g., *áyuṣ*) is entirely parallel, except, of course, with the transformation of the stem-final *ṣ* to *ṣ̣* before endings beginning with a vowel.

These nouns may occur as the final member of an adjectival (i.e., *bahuvrīhiṣ*) compound. When they agree with a masculine or feminine noun, they are inflected in the same way as in the neuter, except in the nominative and accusative cases, as shown below.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>sumānāḥ</i>	<i>sumānasau</i>	<i>sumānasah</i>
<i>dvitīyā</i>	<i>sumānasam</i>	<i>sumānasau</i>	<i>sumānasah</i>

The next major class of nominal stems ending in *-s* is represented by comparative adjectives, which are formed with the suffix *-yas-* (Pāṇini's *īyasUN*). In the neuter, the stem ends in *-yas-* throughout (except in the nominative-accusative plural, where, as usual, the case-ending *Śi* causes lengthening and nasalization of the preceding vowel). In the masculine, the stem ends in *-yāms-* in the “strong” cases (*sarvanāmasthānam*) and *-yas-* in the “weak” cases. The corresponding feminine is formed by adding the suffix *ī* (*ŌiP*) to the version of the stem ending in *-yas-*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>śréyān / śréyaḥ</i>	<i>śréyāṁsau / śréyasī</i>	<i>śréyāṁsaḥ / śréyāṁsi</i>
<i>dvitīyā</i>	<i>śréyāṁsam / śréyaḥ</i>	<i>śréyāṁsau / śréyasī</i>	<i>śréyasah / śréyāṁsi</i>
<i>tr̥tīyā</i>	<i>śréyasā</i>	<i>śréyōbbhyām</i>	<i>śréyōbbhiḥ</i>
<i>caturthī</i>	<i>śréyasē</i>	<i>śréyōbbhyām</i>	<i>śréyōbbhyaḥ</i>
<i>pañcamī</i>	<i>śréyasah</i>	<i>śréyōbbhyām</i>	<i>śréyōbbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>śréyasah</i>	<i>śréyasōḥ</i>	<i>śréyasām</i>
<i>saptamī</i>	<i>śréyasi</i>	<i>śréyasōḥ</i>	<i>śréyaḥsu</i>
<i>sambódhanam</i>	<i>śréyan / śréyaḥ</i>	<i>śréyāṁsau / śréyasī</i>	<i>śréyāṁsaḥ / śréyāṁsi</i>

Finally, the participle of the perfect stem, which Pāṇini called *KvasU*. The suffix has different forms, but in this case the differences are quite radical:

- In the neuter, the “underlying” form of the stem can be thought of as *-vas-* in the strong cases (*sarvanāmasthānam*) and the weak cases beginning with a consonant (the so-called “*pada* endings” or “middle cases”), and as *-uṣ-* in the remaining weak cases (i.e., those beginning with a vowel). Thus we can distinguish between a full-grade suffix in the “strong” and “middle” cases, and a zero-grade suffix in the “weak” cases. The full-grade form, however, has been replaced with *-vat-* in all cases apart from the nominative-accusative plural.
- In the masculine, before the “strong” cases (*sarvanāmasthānam*), the form of the stem is *-vāṁs-*, and among the remaining cases, it takes the form *-vad-* before the “middle” cases (i.e., those beginning with a consonant) and *-uṣ-* before the “weak” cases (i.e., those beginning with a vowel), just as in the neuter.

Here is the neuter inflection of such a stem:

	<i>ekaṣvacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>cakṛvān, cakṛvāt</i>	<i>cakṛvāmsau, cakrúṣī</i>	<i>cakṛvāmsaḥ, cakṛvāmsi</i>
<i>dvitīyā</i>	<i>cakṛvāmsam, cakṛvāt</i>	<i>cakṛvāmsau, cakrúṣī</i>	<i>cakrúṣaḥ, cakṛvāmsi</i>
<i>tr̥tīyā</i>	<i>cakrúṣā</i>	<i>cakṛvādbhyām</i>	<i>cakṛvādbhiḥ</i>
<i>caturthī</i>	<i>cakrúṣē</i>	<i>cakṛvādbhyām</i>	<i>cakṛvādbhyaḥ</i>
<i>pañcamī</i>	<i>cakrúṣaḥ</i>	<i>cakṛvādbhyām</i>	<i>cakṛvādbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>cakrúṣaḥ</i>	<i>cakrúṣōḥ</i>	<i>cakrúṣām</i>
<i>saptamī</i>	<i>cakrúṣi</i>	<i>cakrúṣōḥ</i>	<i>cakṛvātsu</i>
<i>sambódhanam</i>	<i>cakṛvān, cakṛvat</i>	<i>cakṛvāmsau, cakrúṣī</i>	<i>cakṛvāmsaḥ, cakṛvāmsi</i>

The noun *pums-* m. “human, man” is similar to perfect participles:

	<i>ekaṣvacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>púmān</i>	<i>púmāmsau</i>	<i>púmāmsaḥ</i>
<i>dvitīyā</i>	<i>púmāmsam</i>	<i>púmāmsau</i>	<i>pumsáḥ</i>
<i>tr̥tīyā</i>	<i>pumsá</i>	<i>pumbhyām</i>	<i>pumbhiḥ</i>
<i>caturthī</i>	<i>pumsé</i>	<i>pumbhyām</i>	<i>pumbhyaḥ</i>
<i>pañcamī</i>	<i>pumsáḥ</i>	<i>pumbhyām</i>	<i>pumbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>pumsáḥ</i>	<i>pumsōḥ</i>	<i>pumsám</i>
<i>saptamī</i>	<i>pumsí</i>	<i>pumsōḥ</i>	<i>pumsú</i>
<i>sambódhanam</i>	<i>púman</i>	<i>púmāmsau</i>	<i>púmāmsaḥ</i>

§12.2. Stems ending in *-n*

The stems that end in *-n* include:

- i. masculine and neuter stems derived with the suffixes *-an*, *-man*, or *-van*;

2. adjectival stems (in the masculine and neuter) derived with the suffix *-in*.

Stems that end in *-n* generally have *three* forms:

- the **strong** form of the stem, which occurs before the so-called “strong” (*sarvanā-masthānam*) case endings;
- the **weak** form of the stem, which occurs before the other case endings, with the following distinction sometimes being applicable:
 - the **middle** cases are those in which the case-suffix begins with a consonant, and
 - the **weakest** cases are those in which the case-suffix begins with a vowel.

As noted above, these different forms of the stem are conditioned by the accentual properties of the endings. In general, the final syllable of the stem will stand in the **full grade** form in its “strong” form, i.e., before the unaccented endings of the nominative and accusative singular, nominative and accusative dual, and nominative plural (also accusative plural for the neuter), whereas it will stand in the **zero grade** form before the other endings.

We will begin by considering the paradigms of masculine and neuter stems in *-an*, including those formed with the suffixes *-man* and *-van*. All of these stems share the same *endings*; they differ merely in the gradation of the stem before those endings. The endings are the *standard endings* taught in *Aṣṭādhyāyī* 4.1.2 and discussed above.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>rājā</i>	<i>rājānau</i>	<i>rājānaḥ</i>
<i>dvitīyā</i>	<i>rājānam</i>	<i>rājānau</i>	<i>rājñāḥ</i>
<i>tr̥tīyā</i>	<i>rājñā</i>	<i>rājabyām</i>	<i>rājabyiḥ</i>
<i>caturthī</i>	<i>rājñē</i>	<i>rājabyām</i>	<i>rājabyaḥ</i>
<i>pañcamī</i>	<i>rājñāḥ</i>	<i>rājabyām</i>	<i>rājabyaḥ</i>
<i>ṣaṣṭhī</i>	<i>rājñāḥ</i>	<i>rājñōḥ</i>	<i>rājñām</i>
<i>saptamī</i>	<i>rājñi, rājani</i>	<i>rājñōḥ</i>	<i>rājasu</i>
<i>sambódhanam</i>	<i>rājan</i>	<i>rājānau</i>	<i>rājānaḥ</i>

Observations:

- The *strong* form of the stem is *rājān-*, with a *lengthened* grade of the stem-final syllable. (See below for a historical explanation of this form.)
- The *weak* form of the stem—that is, the form before accented declensional endings that begin with a vowel—is *rājñ-*, which represents the *zero* grade of the stem-final syllable. The *n* is palatalized by its contact with the palatal consonant *j*.
- The *middle* form of the stem—that is, the form before accented declensional endings that begin with a consonant—is *rājja-*, which similarly represents the *zero* grade of the stem-final syllable. The final *a* in this case is a reflex of a historical vocalic **-ŋ-* (see below).
- Finally, the nominative singular is *rājñā*, rather than ***rājñān* (which is what we would expect from *rājñān* + *sU*).

NOTE: The suffix of masculine nouns of this class was historically **-on-* in the full grade and **-n-* in the zero grade, which had both vocalic (**-ŋ-*) and consonantal (**-n-*) forms depending on whether the declensional suffix that followed began with a consonant or vowel, respectively.

The lengthened grade of the “strong” stem is because of *Brugmann’s Law*, according to which an **o* in an open syllable (i.e., an **o* followed by *one* consonant and then a vowel within the same word) was lengthened in Proto-Indo-Iranian. Hence:

PIE	Brugmann’s Law	Sanskrit
<i>*h₁rēg-on-m</i>	<i>*rāḡ-ān-am</i>	<i>rāj-ān-am</i>

Like *rāja-* is inflected *ātmā-*, with one major difference: whereas, in the paradigm of *rāja-*, the *a* between the radical element *rāj* and the *-n* of the stem-final syllable is generally lost in the weak cases, in the paradigm of *ātmā-*, the *a* is retained in all of the weak cases, because otherwise we would have an inadmissible sequence of consonants (**āt-m-n-*).

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>ātmā</i>	<i>ātmānau</i>	<i>ātmānaḥ</i>
<i>dvitīyā</i>	<i>ātmānam</i>	<i>ātmānau</i>	<i>ātmānaḥ</i>
<i>trītiyā</i>	<i>ātmānā</i>	<i>ātmābhyām</i>	<i>ātmābhiḥ</i>
<i>caturthī</i>	<i>ātmānē</i>	<i>ātmābhyām</i>	<i>ātmābhyaḥ</i>
<i>pañcamī</i>	<i>ātmānaḥ</i>	<i>ātmābhyām</i>	<i>ātmābhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>ātmānaḥ</i>	<i>ātmānōḥ</i>	<i>ātmānām</i>
<i>saptamī</i>	<i>ātmāni</i>	<i>ātmānōḥ</i>	<i>ātmāsu</i>
<i>sambódhanam</i>	<i>ātmān</i>	<i>ātmānau</i>	<i>ātmānaḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>nāma</i>	<i>nāmnī, nāmanī</i>	<i>nāmāni</i>
<i>dṛvitiyā</i>	<i>nāma</i>	<i>nāmnī, nāmanī</i>	<i>nāmāni</i>
<i>tr̥tīyā</i>	<i>nāmnā</i>	<i>nāmabhyām</i>	<i>nāmabhiḥ</i>
<i>caturthī</i>	<i>nāmnē</i>	<i>nāmabhyām</i>	<i>nāmabhyaḥ</i>
<i>pañcamī</i>	<i>nāmnāḥ</i>	<i>nāmabhyām</i>	<i>nāmabhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>nāmnāḥ</i>	<i>nāmnōḥ</i>	<i>nāmnām</i>
<i>saptamī</i>	<i>nāmnī, nāmnani</i>	<i>nāmnōḥ</i>	<i>nāmasu</i>
<i>sambódhanam</i>	<i>nāman, nāma</i>	<i>nāmnī, nāmanī</i>	<i>nāmāni</i>

A class of neuter nouns exemplified by *ākṣi-* n. “eye” has two stems, one ending in *-i* used in the strong cases, and one ending in *-n* used in the weak cases. The nouns inflected this way are *ākṣi-/akṣán-* “eye,” *ásthi-/asthán-* “bone,” *dádhi-/dadhán-* “curds,” and *sákthi-/saktán-* “thigh.”

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>ākṣi</i>	<i>ākṣinī</i>	<i>ākṣīni</i>
<i>dṛvitiyā</i>	<i>ākṣi</i>	<i>ākṣinī</i>	<i>ākṣīni</i>
<i>tr̥tīyā</i>	<i>akṣṇá</i>	<i>akṣibhyām</i>	<i>akṣibhiḥ</i>
<i>caturthī</i>	<i>akṣṇé</i>	<i>akṣibhyām</i>	<i>akṣibhyaḥ</i>
<i>pañcamī</i>	<i>akṣṇáh</i>	<i>akṣibhyām</i>	<i>akṣibhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>akṣṇáh</i>	<i>akṣṇōḥ</i>	<i>akṣṇām</i>
<i>saptamī</i>	<i>akṣṇí</i>	<i>akṣṇōḥ</i>	<i>akṣīṣú</i>
<i>sambódhanam</i>	<i>ākṣi</i>	<i>ākṣinī</i>	<i>ākṣīni</i>

§12.3. Stems ending in *-t* and *-d*

Stems that end in *-t* include various classes of nouns and adjectives in Sanskrit, including *root nouns*, *present participles*, and *possessive adjectives* formed with the suffixes *matUP* and *vatUP*.

Stems that end in *-d* are much rarer, but they can be considered under the same heading.

The category of **root nouns** includes some archaic nouns that differentiate between a strong and a weak stem, like *pád-* “foot,” as well as many nouns that use a single stem throughout, such as *suhrd-* “friend.”

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>suhrd</i>	<i>suhrdau</i>	<i>suhrdaḥ</i>
<i>dvitīyā</i>	<i>suhrdam</i>	<i>suhrdau</i>	<i>suhrdaḥ</i>
<i>trītiyā</i>	<i>suhrdā</i>	<i>suhrdbhyām</i>	<i>suhrdbhiḥ</i>
<i>caturthī</i>	<i>suhrdē</i>	<i>suhrdbhyām</i>	<i>suhrdbhyaḥ</i>
<i>pañcamī</i>	<i>suhrdaḥ</i>	<i>suhrdbhyām</i>	<i>suhrdbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>suhrdaḥ</i>	<i>suhrdōḥ</i>	<i>suhrdām</i>
<i>saptamī</i>	<i>suhrdi</i>	<i>suhrdōḥ</i>	<i>suhrtsu</i>
<i>sambódhanam</i>	<i>suhr̥t</i>	<i>suhrdau</i>	<i>suhrdaḥ</i>

Exactly parallel to stems ending in *-d* with an unchanging stem are stems ending in *-t* with an unchanging stem. These include many *upapada-tatpuruṣaḥ* compounds, which, when the suffix *KviP* is used, insert the augment *tuK* at the end of a light verbal root. As an example, consult *bhūbhṛt-* m. ‘mountain’ (from $\sqrt{bhṛ}$ ‘lift, bear’ with *bhū-* ‘the earth’).

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>bhūbhṛt</i>	<i>bhūbhṛtau</i>	<i>bhūbhṛtaḥ</i>
<i>dvitīyā</i>	<i>bhūbhṛtam</i>	<i>bhūbhṛtau</i>	<i>bhūbhṛtaḥ</i>
<i>trītiyā</i>	<i>bhūbhṛtāb</i>	<i>bhūbhṛdbhyām</i>	<i>bhūbhṛdbhiḥ</i>
<i>caturthī</i>	<i>bhūbhṛtē</i>	<i>bhūbhṛdbhyām</i>	<i>bhūbhṛdbhyaḥ</i>
<i>pañcamī</i>	<i>bhūbhṛtaḥ</i>	<i>bhūbhṛdbhyām</i>	<i>bhūbhṛdbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>bhūbhṛtaḥ</i>	<i>bhūbhṛtōḥ</i>	<i>bhūbhṛtām</i>
<i>saptamī</i>	<i>bhūbhṛti</i>	<i>bhūbhṛtōḥ</i>	<i>bhūbhṛtsu</i>
<i>sambódhanam</i>	<i>bhūbhṛt</i>	<i>bhūbhṛtau</i>	<i>bhūbhṛtau</i>

Most of the other stems in *-t* are formed using a suffix that exhibits vowel-gradation. The *strong stem* will usually end in *-ant*, and the *weak stem* in *-at*.

For stems derived using the possessive suffixes *matUP* and *vatUP*, the declension is as follows:

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dhanavān, dhanavat</i>	<i>dhanavantau, dhanavati</i>	<i>dhanavantaḥ, dhanavanti</i>
<i>dvitīyā</i>	<i>dhanavantam, dhanavat</i>	<i>dhanavantau, dhanavati</i>	<i>dhanavataḥ, dhanavanti</i>
<i>trītiyā</i>	<i>dhanavatā</i>	<i>dhanavadbhyām</i>	<i>dhanavadbhiḥ</i>
<i>caturthī</i>	<i>dhanavatē</i>	<i>dhanavadbhyām</i>	<i>dhanavadbhyaḥ</i>
<i>pañcamī</i>	<i>dhanavataḥ</i>	<i>dhanavadbhyām</i>	<i>dhanavadbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>dhanavataḥ</i>	<i>dhanavatōḥ</i>	<i>dhanavatām</i>
<i>saptamī</i>	<i>dhanavati</i>	<i>dhanavatōḥ</i>	<i>dhanavatsu</i>
<i>sambódhanam</i>	<i>dhanavan, dhanavat</i>	<i>dhanavantau, dhanavati</i>	<i>dhanavantaḥ, dhanavanti</i>

Note that the nominative singular masculine of stems formed with the suffixes *matUP* and *vatUP*, as well as of other stems such as *bhāvat-* “you,” has a *long vowel*, in contrast to the declension of present participles.

The other main class of stems ending in *-t* are *present participles*, that is, verbal adjectives formed from the present stem. In the *parasmaipadām*, such adjectives are formed with a suffix that Pāṇini calls *ŚatR̥*. (In the *ātmanēpadām*, they are formed with a different suffix, *ŚānaC*, and such forms are inflected like regular *a*-stem nominals.) This suffix *ŚatR̥* forms nominal stems whose inflection is almost identical to the inflection of stems formed with *matUP* and *vatUP*. The difference is in the nominative singular of the masculine, where the ending, as shown below, is not *-ān* but *-an*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>spr̥ṣan, spr̥ṣat</i>	<i>spr̥ṣantau, spr̥ṣanti</i>	<i>spr̥ṣantaḥ, spr̥ṣanti</i>
<i>dṛvītiyā</i>	<i>spr̥ṣantam, spr̥ṣant</i>	<i>spr̥ṣantau, spr̥ṣanti</i>	<i>spr̥ṣataḥ, spr̥ṣanti</i>
<i>tr̥tīyā</i>	<i>spr̥ṣatā</i>	<i>spr̥ṣadbhyām</i>	<i>spr̥ṣadbhiḥ</i>
<i>caturthī</i>	<i>spr̥ṣatē</i>	<i>spr̥ṣadbhyām</i>	<i>spr̥ṣadbhyaḥ</i>
<i>pañcamī</i>	<i>spr̥ṣataḥ</i>	<i>spr̥ṣadbhyām</i>	<i>spr̥ṣadbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>spr̥ṣataḥ</i>	<i>spr̥ṣatōḥ</i>	<i>spr̥ṣatām</i>
<i>saptamī</i>	<i>spr̥ṣati</i>	<i>spr̥ṣatōḥ</i>	<i>spr̥ṣatsu</i>
<i>sambódhanam</i>	<i>spr̥ṣan, spr̥ṣat</i>	<i>spr̥ṣantau, spr̥ṣanti</i>	<i>spr̥ṣantaḥ, spr̥ṣanti</i>

NOTE: Be careful not to confuse forms of the participle with homophonous forms of the finite verb, such as *spr̥ṣati* and *spr̥ṣanti*!

One exception to this general pattern is furnished by participles of verbs belonging to the third, or reduplicating, class. In these words, the weak stem is used throughout the paradigm, even in the strong cases (apart from the nominative-accusative-vocative of the neuter plural, where the strong form of the stem may optionally be used).

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dādat</i>	<i>dādatau, dādatī</i>	<i>dādataḥ, dādati/dādanti</i>
<i>dvitīyā</i>	<i>dādatam, dādat</i>	<i>dādatau, dādatī</i>	<i>dādataḥ, dādati/dādanti</i>
<i>tr̥tīyā</i>	<i>dādatā</i>	<i>dādadbhyām</i>	<i>dādadbhiḥ</i>
<i>caturthī</i>	<i>dādatē</i>	<i>dādadbhyām</i>	<i>dādadbhyaḥ</i>
<i>pañcamī</i>	<i>dādataḥ</i>	<i>dādadbhyām</i>	<i>dādadbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>dādataḥ</i>	<i>dādatōḥ</i>	<i>dādatām</i>
<i>saptamī</i>	<i>dādati</i>	<i>dādatōḥ</i>	<i>dādatsu</i>
<i>sambódhanam</i>	<i>dādat</i>	<i>dādantau, dādatī</i>	<i>dādataḥ, dādanti/dādati</i>

The noun *páth-* m. “path” synchronically ends in *th*, but historically ended in a laryngeal consonant (**h*₂), which resulted in a pattern of vowel gradation that looks rather irregular:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>pánthāḥ</i>	<i>pánthānu</i>	<i>pánthānaḥ</i> (RV <i>pánthāḥ</i>)
<i>dvitīyā</i>	<i>pánthānam</i> (RV <i>pánthām</i>)	<i>pánthānu</i>	<i>patháḥ</i>
<i>tr̥tīyā</i>	<i>pathá</i>	<i>pathibhyām</i>	<i>pathibhiḥ</i>
<i>caturthī</i>	<i>pathé</i>	<i>pathibhyām</i>	<i>pathibhyaḥ</i>
<i>pañcamī</i>	<i>patháḥ</i>	<i>pathibhyām</i>	<i>pathibhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>patháḥ</i>	<i>pathóḥ</i>	<i>pathám</i>
<i>saptamī</i>	<i>pathí</i>	<i>pathóḥ</i>	<i>pathíṣu</i>
<i>sambódhanam</i>	<i>pánthāḥ</i>	<i>pánthānu</i>	<i>pánthānaḥ</i>

At the end of a compound, the stem is *patha-*.

NOTE: The pattern of this noun is actually very straightforward from a historical perspective. The stem can be considered a combination of the elements **pent-eh*₂-. In the strong cases both elements received the full grade. In the weak cases neither element of the stem received the full

grade, and instead the accent and full-grade vowel appeared on the ending (e.g., **pnt-h₂-eh₁* for *pathā́*).

§12.4. Stems ending in palatals

This category, once again, includes stems that exhibit gradation and stems that do not. We will begin with the latter category, which is quite straightforward. In nominal declension, palatals generally become velars in internal sandhi:

	<i>ekavacanē</i>	<i>dviṽvacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>dik</i>	<i>diśau</i>	<i>diśaḥ</i>
<i>dvitīyā</i>	<i>diśam</i>	<i>diśau</i>	<i>diśaḥ</i>
<i>tr̥tīyā</i>	<i>diśā</i>	<i>digbhyām</i>	<i>digbhiḥ</i>
<i>caturthī</i>	<i>diśē</i>	<i>digbhyām</i>	<i>digbhyaḥ</i>
<i>pañcamī</i>	<i>diśaḥ</i>	<i>digbhyām</i>	<i>digbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>diśaḥ</i>	<i>diśōḥ</i>	<i>diśām</i>
<i>saptamī</i>	<i>diśi</i>	<i>diśōḥ</i>	<i>dikṣu</i>
<i>sambódhanam</i>	<i>dik</i>	<i>diśau</i>	<i>diśaḥ</i>

Similarly inflected are stems that end in the word *-dṛś-*, including adjectives of comparison, *tādṛś-* ‘like that,’ *īdṛś-* ‘like this.’

The relatively common set of nominal derivatives formed from the root *√añc* ‘turn’ have an idiosyncratic declension that reflects both (a) the erstwhile presence of a laryngeal at the beginning of the root, and (b) the general pattern of vowel gradation, with full grade of the root in the strong forms, and zero grade in the weak forms.

	<i>ekaṣvacanē</i>	<i>dviṣvacanē</i>	<i>bahuṣvacanē</i>
<i>prathamā</i>	<i>prāñ, prāk</i>	<i>prāñcau, prācī</i>	<i>prāñcaḥ, prāñci</i>
<i>dṛvitiyā</i>	<i>prāñcam, prāk</i>	<i>prāñcau, prācī</i>	<i>prācaḥ, prāñci</i>
<i>tr̥tiyā</i>	<i>prācā</i>	<i>prāgbhyām</i>	<i>prāgbhiḥ</i>
<i>caturthī</i>	<i>prācē</i>	<i>prāgbhyām</i>	<i>prāgbhyaḥ</i>
<i>pañcamī</i>	<i>prācaḥ</i>	<i>prāgbhyām</i>	<i>prāgbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>prācaḥ</i>	<i>prācōḥ</i>	<i>prācām</i>
<i>saptamī</i>	<i>prāci</i>	<i>prācōḥ</i>	<i>prākṣu</i>
<i>sambódhanam</i>	<i>prāñ, prāk</i>	<i>prāñcau, prācī</i>	<i>prāñcaḥ, prāñci</i>

Similar are *viṣvañc-* ‘going apart,’ *āpāñc-* ‘going away,’ *āvāñc-* ‘turned down,’ *arvāñc-* ‘turned towards,’ *adharāñc-* ‘turned down.’

The stem *pratyāñc-* shows some different vowel alternation:

	<i>ekaṣvacanē</i>	<i>dviṣvacanē</i>	<i>bahuṣvacanē</i>
<i>prathamā</i>	<i>pratyāñ, pratyák</i>	<i>pratyāñcau, praticī</i>	<i>pratyāñcaḥ, pratyāñci</i>
<i>dṛvitiyā</i>	<i>pratyāñcam, pratyák</i>	<i>pratyāñcau, praticī</i>	<i>praticāḥ, pratyāñci</i>
<i>tr̥tiyā</i>	<i>praticā</i>	<i>pratyāgbhyām</i>	<i>pratyāgbhiḥ</i>
<i>caturthī</i>	<i>praticē</i>	<i>pratyāgbhyām</i>	<i>pratyāgbhyaḥ</i>
<i>pañcamī</i>	<i>praticāḥ</i>	<i>pratyāgbhyām</i>	<i>pratyāgbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>praticāḥ</i>	<i>praticōḥ</i>	<i>praticām</i>
<i>saptamī</i>	<i>praticī</i>	<i>praticōḥ</i>	<i>pratikṣú</i>
<i>sambódhanam</i>	<i>pratyāñ, pratyák</i>	<i>pratyāñcau, praticī</i>	<i>pratyāñcaḥ, pratyāñci</i>

Similarly inflected are *nyāñc-* ‘turned down,’ *údañc-* ‘turned up,’ and *samyāñc-* ‘turned correctly’ (the *i* in this stem is unetymological, presumably after the analogy of *nyāñc-* and *pratyāñc-*).

The stem *tiryāñc-* ‘horizontal’ is somewhat irregular, probably deriving from a conflation of *tirás-* with other forms ending in *añc-*. Its weak stem is *tiráśc-*.

NOTE: The strong form of the root in these stems was originally **Henk*, which often constituted a separate syllable after the prefix (i.e., *pra-āñcam*, *prati-āñcam*). The weak form was originally **Hk*, without the nasal, which resulted in (a) the lengthening of a preceding vowel (hence *prāc-*, *pratic-*), in case the preceding sound was a vowel, or (b) the insertion of the vowel *-i-*, in case the preceding sound was a consonant. These are the standard effects of Indo-European laryngeals in Sanskrit.

§13. Pronouns

Pronouns are nominal forms whose occasion for use (*pravṛttinimittam*) is to *refer* to something that has either already been mentioned in a given discursive context (a *referent*) or which can be assumed or implied by the same discursive context. For this reason they are often said to “stand in place of” (*pro-*) something that would otherwise be expressed by a nominal form. There are, however, several types of pronouns, in Sanskrit as in English, each of which have different functions within a sentence. This section will be primarily concerned with the *forms* of these pronouns, although notes on their meaning and usage will follow.

The Sanskrit term for a pronoun is *sarvanāmá*. This stands for a list of pronominal stems which take special endings, namely (Vasu on *Aṣṭādhyāyī* 1.1.27):

- *sárva-* “every, all” (Gr. ὅλος, from **solwo-*);
- *vísva-* “whole, all”;
- *ubhá-* “both”;
- *ubháya-* “both”;
- words formed with the affix *Ḍatara*, as in *katará-* “which” (of two);

- words formed with the affix *Ḍatama*, as in *katamā*- “which” (of more than two);
- *anyā*- “other, different”;
- *anyatarā*- “the other” (of two);
- *itara*- “other, different” (also formed using the contrastive affix *-tara*-);
- *tvaḍ*- and *tva*- “one, several” (only in Vedic texts);
- *nēma*- “one, the other, half”;
- *samā*- “any, every” (Gr. *ἅμós*, Eng. *some*);
- *simā*- “all, every”;
- *tyād* (i.e., the forms associated with this neuter nom.-acc. sg. form, of which the masc. nom. sg. is *syāḥ* and the fem. nom. sg. is *syā*) “that,” a rare demonstrative;
- *tād* (i.e., the forms associated with this neuter nom.-acc. sg. form, of which the masc. nom. sg. is *sāḥ* and the fem. nom. sg. is *sā*) “that,” the basic demonstrative;
- *yād* (i.e., the forms associated with this neuter nom.-acc. sg. form, of which the masc. nom. sg. is *yāḥ* and the fem. nom. sg. is *yā*) “which,” the relative;
- *ētād* (i.e., the forms associated with this neuter nom.-acc. sg. form, of which the masc. nom. sg. is *ēṣāḥ* and the fem. nom. sg. is *ēṣā*) “this,” the proximate demonstrative;
- *idām* (i.e., the forms associated with this neuter nom.-acc. sg. form, of which the masc. nom. sg. is *ayām* and the fem. nom. sg. is *iyām*), “this,” another proximate demonstrative;
- *adās* (i.e., the forms associated with this neuter nom.-acc. sg. form, of which the masc.-fem. nom. sg. is *asaū*), “that,” a distal demonstrative;
- *ēka*- “one, a single”;

- *dvī-* “two”;
- *yuṣmād* “you” (see below);
- *asmād* “we” (see below);
- the personal pronoun *bhavat-*, which Pāṇini teaches as *bhavatU* “you”;
- *kīm* (i.e., the forms associated with this neuter nom.-acc. sg. form, of which the masc. nom. sg. is *kāḥ* and the fem. nom. sg. is *kā*) “what?”, the interrogative pronoun.

The special endings that are added to most *sarvanāmā* except for the personal pronouns are:

- the ending *-ē* rather than *-āḥ* (*Śī* rather than *Jas*) in the masc.nom.pl./*pum.prathamābahu*;
- the use of the augment *-sma-* in several cases of the masculine and neuter singular, namely:
 - *-smai* (*sma* + *Ñē*) instead of *-āya* in the masc.-neut.dat.sg./*pum.napum.caturthyēka*., according to *Aṣṭādhyāyī* 7.1.14;
 - *-smāt* (*sma* + *ÑasI*) instead of *-āt* in the masc.-neut.abl.sg./*pum.napum.pañcamyēka*., according to *Aṣṭādhyāyī* 7.1.15;
 - *-smin* (*sma* + *Ñi*) instead of *-ēin* the masc.-neut.loc.sg./*pum.napum.saptamyēka*., according to *Aṣṭādhyāyī* 7.1.15.
- the use of the augment *-syā-* in several cases of the feminine singular, namely:
 - *-syai* (*syā* + *Ñē*) instead of *-āyai* in the fem.dat.sg./*strī.caturthyēka*.
 - *-syāḥ* (*syā* + *Ñas(I)*) instead of *-āyāḥ* in the fem.abl.-gen..sg./*strī.pañcamīṣaṣṭhyēka*.;
 - *-syām* (*syā* + *Ñi*) instead of *-āyām* in the fem.loc..sg./*strī.saptamyēka*.

§13.1. Personal pronouns

Sanskrit is a *pro-drop* language, meaning that pronouns (and above all **subject** pronouns) can be dropped if their meaning is expressed elsewhere in the sentence (for instance through *person marking* on the verb) or if they can be inferred from context. Thus it is usually sufficient to use a verb without a subject pronoun in the first and second person: *karōmi* means “I do,” whereas *aham karōmi* implies that the fact that I am doing the action — as opposed to anyone else — is somehow relevant (“it is I who do it,” “I am the one who does it,” “as for me, I do it”). Of course non-subject pronouns cannot be dropped as easily because non-subject arguments are not marked on the verb.

The first and second pronouns have no **gender**. They can be used in agreement with any gender: *kas tvam* “who are you (masc.)?” or *kā tvam* “who are you (fem.)?”. In the accusative, dative, and genitive case, all three numbers of both pronouns have alternative **enclitic** forms that can only be used after another word (enclitics cannot occur first within a sentence). There is no difference in meaning between the enclitic and non-enclitic forms.

A note on **number**: the plural is often used for the singular and dual in the first person (*Aṣṭādhyāyī* 1.2.59); in the second person, the pronoun *bhavat-* is often used, with third person verb agreement, much like Italian *Lei* or Spanish *usted*.

Sanskrit grammarians refer to these forms as *asmad* (first person plural), *mad* (first person singular), *yuṣmad* (second person plural), *tvad* (second person singular). These are also the forms used in compounds.

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>ahám</i>	<i>āṣám</i>	<i>vayám</i>
<i>dṵvitiyā</i>	<i>mám, mā</i>	<i>āṣám</i>	<i>asmán, naḥ</i>
<i>tr̥tīyā</i>	<i>máyā</i>	<i>āṣábbhyām</i>	<i>asmábbhiḥ</i>
<i>caturthī</i>	<i>máhyam, mē</i>	<i>āṣábbhyām</i>	<i>asmábbhyam, naḥ</i>
<i>pañcamī</i>	<i>mát</i>	<i>āṣábbhyām</i>	<i>asmát</i>
<i>ṣaṣṭhī</i>	<i>máma, mē</i>	<i>āṣáyōḥ</i>	<i>asmákam, naḥ</i>
<i>saptamī</i>	<i>máyi</i>	<i>āṣáyōḥ</i>	<i>asmásu</i>

NOTE: The paradigm of the pronouns of the first person (*uttamapurusaḥ*) employs several different stems:

1. *ah-ám* ← **h₁eg̃-h₂óm* (Avestan *azəm*, Greek *ἐγώ*, Latin *egō*, Old English *ic*).
2. *má-* ← **mé-* (Avestan *məm, mōi, mē*; Greek *μέ* and *μοι*, Latin *me, mī, mihi*, and Old English *meċ, mē*).
3. *āṣá-*; origin unclear.
4. *vay-* ← **wei-* (Avestan *vaēm*, Gothic *weis*, German *wir*, Old English *wē*).
5. *asmá-* ← **ns-mé* (e.g. Greek *ἡμεῖς* ← **n̥smé-es*, Homeric *ἄμμε* ← **n̥smé*, German *uns*, Old English *ūs*).
6. *naḥ* ← **nos* (Latin *nōs*). It seems likely that the enclitic pronoun of the plural is a full-grade form (**nos*) of what appears in the non-enclitic pronouns in the zero-grade form (**n̥s*).

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>tvám</i>	<i>yuvám</i>	<i>yūyám</i>
<i>dvitīyā</i>	<i>tvám, tvā</i>	<i>yuvám</i>	<i>yuṣmán, vaḥ</i>
<i>tr̥tīyā</i>	<i>tváyā</i>	<i>yuvábhyām</i>	<i>yuṣmábhiḥ</i>
<i>caturthī</i>	<i>túbhyam, tē</i>	<i>yuvábhyām</i>	<i>yuṣmábhyam, vaḥ</i>
<i>pañcamī</i>	<i>tvát</i>	<i>yuvábhyām</i>	<i>yuṣmát</i>
<i>ṣaṣṭhī</i>	<i>táva, tē</i>	<i>yuváyōḥ</i>	<i>yuṣmākam, vaḥ</i>
<i>saptamī</i>	<i>tváyi</i>	<i>yuváyōḥ</i>	<i>yuṣmāsu</i>

NOTE: The paradigm of the pronouns of the second person (*madhyamapurusaḥ*) employs several different stems.

1. *tu-* ← **tu* (Latin *tu, tibi*, Old English *pū*)
2. *tē* from **toi* (Greek *τοί*)
3. *yu-v-*; origin unclear.
4. *yu-ṣ-ma-* from **yus-mé-* (Greek *ύμεῖς* ← **yusmé-es*, Homeric *ύμμε* ← **yusmé*; Old English *ēow*)
5. *vaḥ* from **wos* (Latin *vōs*). As in the case of the first person, it seems likely that the enclitic pronoun of the plural is a full-grade form (**wos*) of what appears in the non-enclitic pronouns in the zero-grade form (**us*).

§13.2. The *tá-/yá-/ká-* series

The pronominal stems in *tá-*, *yá-* and *ká-* form a closely-related series. The *tá-* forms are demonstrative pronouns (which often function as “correlative” pronouns to relative clauses), the *yá-* forms are relative pronouns, and the *ká-* forms are interrogative pronouns. These three stems are inflected in entirely the same way. For more on relative clauses, see below.

Most Indian grammarians, including Pāṇini, teach the neuter nominative-accusative singular (*napuṃ.prathamādvitīyaika.*) as the “basic” stem of these forms, because the paradigms of *tá-* and *yá-* share the idiosyncrasy that the nominative-accusative singular of the neuter is a special form that ends in *-d*, rather than in *-m*, as neuters of *a*-stem forms commonly do.

The forms of *tá-* function as the primary demonstrative pronoun and adjective in Sanskrit. They are used where English uses the demonstrative “that,” but also equivalently to the third-person pronoun (he/she/it) in English, and in some cases equivalently to the definite article (the) in English. The unifying feature appears to be the *identifiability* of the referent of the demonstrative.

The pronoun *tá-* or *tát* is paradigmatic of the pronominal declension in Sanskrit. Please look there for comments about the special form of the endings of this class of words.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>sáḥ / tát</i>	<i>taú / té</i>	<i>té / táni</i>
<i>dvitīyā</i>	<i>tám / tát</i>	<i>taú / té</i>	<i>tán / táni</i>
<i>tr̥tīyā</i>	<i>téna</i>	<i>tábhyām</i>	<i>taíḥ</i>
<i>caturthī</i>	<i>tásmai</i>	<i>tábhyām</i>	<i>tébhyaḥ</i>
<i>pañcamī</i>	<i>tásmāt</i>	<i>tábhyām</i>	<i>tébhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>tásya</i>	<i>táyōḥ</i>	<i>téṣām</i>
<i>saptamī</i>	<i>tásmīn</i>	<i>táyōḥ</i>	<i>téṣu</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>sā́</i>	<i>té́</i>	<i>tā́ḥ</i>
<i>dvitīyā</i>	<i>tām</i>	<i>té́</i>	<i>tā́ḥ</i>
<i>tr̥tīyā</i>	<i>táyā</i>	<i>tā́bhyām</i>	<i>tā́bhiḥ</i>
<i>caturthī</i>	<i>tásyai</i>	<i>tā́bhyām</i>	<i>tā́bhyaḥ</i>
<i>pañcamī</i>	<i>tásyāḥ</i>	<i>tā́bhyām</i>	<i>tā́bhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>tásyāḥ</i>	<i>tā́yōḥ</i>	<i>tāsām</i>
<i>saptamī</i>	<i>tásyām</i>	<i>tā́yōḥ</i>	<i>tā́su</i>

NOTE: Many of these forms have cognates in other Indo-European languages. For instance:

- *tát*: Latin is-tod (later is-tud), neut. “that”; Greek τό (n.) “that”; from **tót*.
- *sá*: Greek ó (m.); from **só* (the form without a final *s* appears to be original, which may account for the irregular *sandhi* of this word).
- *sā́*: Greek ἥ (f.); from **seh₂*.
- *tásya*: Greek τοῖο; from **tósyō*.
- *tām*: Greek τόν; from **tóm*.
- *tām*: Greek τήν; from **téh₂m*.

Note that the pronoun *ētá-* (*ētád*) is declined in exactly the same way as *tá-*, being a compound of *tá-* and the deictic particle *ē* (a full-grade form of the deictic particle *i*, which is sometimes called the *hic et nunc* or “here and now” particle in Indo-European studies). Compare forms like *i-dānim* and *i-ba*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>yāḥ / yāt</i>	<i>yaú / yé</i>	<i>yé / yāni</i>
<i>dvitīyā</i>	<i>yām / yāt</i>	<i>yaú / yé</i>	<i>yān / yāni</i>
<i>tr̥tīyā</i>	<i>yēna</i>	<i>yābhyām</i>	<i>yaiḥ</i>
<i>caturthī</i>	<i>yāsmāi</i>	<i>yābhyām</i>	<i>yébhyaḥ</i>
<i>pañcamī</i>	<i>yāsmāt</i>	<i>yābhyām</i>	<i>yébhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>yāsya</i>	<i>yáyōḥ</i>	<i>yéśām</i>
<i>saptamī</i>	<i>yāsmīn</i>	<i>yáyōḥ</i>	<i>yéśu</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>yā</i>	<i>yé</i>	<i>yāḥ</i>
<i>dvitīyā</i>	<i>yām</i>	<i>yé</i>	<i>yāḥ</i>
<i>tr̥tīyā</i>	<i>yáyā</i>	<i>yābhyām</i>	<i>yābhiḥ</i>
<i>caturthī</i>	<i>yāsyai</i>	<i>yābhyām</i>	<i>yābhyaḥ</i>
<i>pañcamī</i>	<i>yāsyāḥ</i>	<i>yābhyām</i>	<i>yābhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>yāsyāḥ</i>	<i>yáyōḥ</i>	<i>yāsām</i>
<i>saptamī</i>	<i>yāsyām</i>	<i>yáyōḥ</i>	<i>yāsu</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>kāḥ / kīm</i>	<i>kaú / ké</i>	<i>ké / kāni</i>
<i>dvitīyā</i>	<i>kām / kīm</i>	<i>kaú / ké</i>	<i>kān / kāni</i>
<i>tr̥tīyā</i>	<i>kēna</i>	<i>kābhyām</i>	<i>kaiḥ</i>
<i>caturthī</i>	<i>kāsmāi</i>	<i>kābhyām</i>	<i>kébhyaḥ</i>
<i>pañcamī</i>	<i>kāsmāt</i>	<i>kābhyām</i>	<i>kébhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>kāsya</i>	<i>káyōḥ</i>	<i>kéśām</i>
<i>saptamī</i>	<i>kāsmīn</i>	<i>káyōḥ</i>	<i>kéśu</i>

Note that there are *two* stems in use for the neuter forms of this pronoun. One of them is *kí-*, which derives from the same *i*-stem form we see in Latin *quid* and Greek *τί*. The other is *ká-*, which is historically a thematic stem (ending in either **e* or **o* in Indo-European). We only see the *i*-stem form in the neuter singular form *kim*, which is analogically reconstructed from *cit*.

NOTE: Historically, we would expect the labiovelar of the inherited form **k̑id* to be palatalized by the following high vowel. And in fact this is what happens: the particle *cit* is the direct continuation of the Indo-European form. However, the velar has been restored throughout the paradigm of the pronoun *ká-/kí-*, on analogy with unpalatalized forms like *ké* (from **k̑oi*). When there was variation within a paradigm between velar and palatal stops, introduced by sound changes in Indo-Iranian, Sanskrit typically flattens the variation in favor of the velar stops.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>ká</i>	<i>ké</i>	<i>kāḥ</i>
<i>dvitīyā</i>	<i>kām</i>	<i>ké</i>	<i>kāḥ</i>
<i>tr̥tīyā</i>	<i>káyā</i>	<i>kābhyām</i>	<i>kābhiḥ</i>
<i>caturthī</i>	<i>kásyai</i>	<i>kābhyām</i>	<i>kābhyaḥ</i>
<i>pañcamī</i>	<i>kásyāḥ</i>	<i>kābhyām</i>	<i>kābhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>kásyāḥ</i>	<i>káyoḥ</i>	<i>kāsām</i>
<i>saptamī</i>	<i>kásyām</i>	<i>káyoḥ</i>	<i>kāsu</i>

§13.3. The demonstrative stem *idám*

This is a demonstrative stem which, like all such stems in Sanskrit, can be used either as an adjective, qualifying another noun (e.g., *ayam rājā na jānāti*, “this king doesn’t know”) or as a pronoun, replacing another noun (e.g., *ayam na jānāti*, “this person doesn’t know”). It has *proximal reference* (*purōvartinirdēśaḥ*) and is therefore used to refer to people and things that are relatively close to the speaker in a particular discursive context.

For the accent, see .

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>ayám / idám</i>	<i>imaú / imé</i>	<i>imé / imáni</i>
<i>dvitīyā</i>	<i>imám / idám</i>	<i>imaú / imé</i>	<i>imán / imáni</i>
<i>tr̥tīyā</i>	<i>anéna</i>	<i>ābhyám</i>	<i>ēbhíḥ</i>
<i>caturthī</i>	<i>asmaí</i>	<i>ābhyám</i>	<i>ēbhyaḥ</i>
<i>pañcamī</i>	<i>asmát</i>	<i>ābhyám</i>	<i>ēbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>asyá</i>	<i>anáyōḥ</i>	<i>ēśám</i>
<i>saptamī</i>	<i>asmín</i>	<i>anáyōḥ</i>	<i>éśu</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>iyám</i>	<i>imé</i>	<i>imáḥ</i>
<i>dvitīyā</i>	<i>imám</i>	<i>imé</i>	<i>imáḥ</i>
<i>tr̥tīyā</i>	<i>anáyā</i>	<i>ābhyám</i>	<i>ābhíḥ</i>
<i>caturthī</i>	<i>asyaí</i>	<i>ābhyám</i>	<i>ābhyaḥ</i>
<i>pañcamī</i>	<i>asyáḥ</i>	<i>ābhyám</i>	<i>ābhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>asyáḥ</i>	<i>anáyōḥ</i>	<i>āsám</i>
<i>saptamī</i>	<i>asyám</i>	<i>anáyōḥ</i>	<i>āsú</i>

§13.4. The demonstrative stem *adás*

This pronoun is used with *distal reference* (*dūravartinirdēśaḥ*), i.e., to refer to something that is relatively distant from the speaker in a particular discursive context.

When two forms are listed in the table, they represent masculine and feminine forms; when three forms are listed, they represent masculine, neuter, and feminine forms.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamā</i>	<i>asaú / adáḥ / asaú</i>	<i>amú</i>	<i>amí / amúni / amúḥ</i>
<i>d̥vītiyā</i>	<i>amúm / adáḥ / amúm</i>	<i>amú</i>	<i>amún / amúni / amúḥ</i>
<i>tr̥tiyā</i>	<i>amúnā / amúyā</i>	<i>amúbh̥yām</i>	<i>amíb̥hiḥ / amúb̥hiḥ</i>
<i>caturthī</i>	<i>amúṣmai / amúṣyai</i>	<i>amúbh̥yām</i>	<i>amíb̥hyaḥ / amúb̥hyaḥ</i>
<i>pañcamī</i>	<i>amúsmāt / amúṣyāḥ</i>	<i>amúbh̥yām</i>	<i>amíb̥hyaḥ / amúb̥hyaḥ</i>
<i>ṣaṣṭhī</i>	<i>amúṣya / amúṣyāḥ</i>	<i>amúyōḥ</i>	<i>amíṣām / amúṣām</i>
<i>saptamī</i>	<i>amúṣmin / amúṣyām</i>	<i>amúyōḥ</i>	<i>amíṣu / amúṣu</i>

NOTE: The dual nominative-accusative forms of *adáḥ* are *pragr̥hyam*, that is, their final vowels are not subject to *sandhi* (see *Aṣṭādhyāyī* 1.1.12). Hence: *amī atra*, *amū atra*, etc.

§14. Numerals

The Sanskrit name for a number is *saṁkhyā́*. Sanskrit has **cardinal** numbers, which answer the question *how many*, and **ordinal** numbers, which answer the question *in what order*.

§14.1. Cardinal numbers

First the stems of the numbers from one to nineteen:

Number	Stem
1	<i>éka-</i>
2	<i>dvá-</i>
3	<i>trí-</i>
4	<i>catúr-</i>
5	<i>pāñca-</i>
6	<i>ṣaṭ-</i>
7	<i>saptá-</i>
8	<i>aṣṭá-</i>
9	<i>náva-</i>
10	<i>dása-</i>
11	<i>ékādaśa-</i>
12	<i>dvādaśa-</i>
13	<i>trāyōdaśa-</i>
14	<i>cāturdaśa-</i>
15	<i>pāñcadaśa-</i>
16	<i>ṣōḍaśa-</i>
17	<i>saptādaśa-</i>
18	<i>aṣṭādaśa-</i>
19	<i>nāvadaśa-</i>

The numbers from one to four are *inflected* for gender, number, and case. They are generally used as *adjectives*, i.e., to qualify another nominal, although in many cases that nominal may be understood from context and thus omitted. Hence *dvāv āgatau* “two came,” in the masculine, can easily be understood to refer to *two men*.

The numeral *éka-* is inflected as a pronoun. It can also be used in the plural (not given here) to mean “some” or “a few.”

<i>vibhaktiḥ</i>	<i>puṁliṅgam</i>	<i>napuṁsakaliṅgam</i>	<i>strīliṅgam</i>
<i>prathamā</i>	<i>ékaḥ</i>	<i>ékam</i>	<i>ékā</i>
<i>dvitīyā</i>		<i>ékam</i>	<i>ékām</i>
<i>tr̥tīyā</i>		<i>ékēna</i>	<i>ékayā</i>
<i>caturthī</i>		<i>ékasmai</i>	<i>ékasyai</i>
<i>pañcamī</i>		<i>ékasmāt</i>	<i>ékasyāḥ</i>
<i>ṣaṣṭhī</i>		<i>ékasya</i>	<i>ékasyāḥ</i>
<i>saptamī</i>		<i>ékasmin</i>	<i>ékasyām</i>

The cardinal numeral “2” also distinguishes gender in the nominative-accusative. It is inflected exclusively in the dual.

<i>vibhaktiḥ</i>	<i>puṁliṅgam</i>	<i>napuṁsakaliṅgam</i>	<i>strīliṅgam</i>
<i>prathamādvitīyē</i>	<i>dvāu</i>		<i>dvē</i>
<i>tr̥tīyācaturthīpañcamyah</i>		<i>dvābhyām</i>	
<i>ṣaṣṭhisaptamyau</i>		<i>dvāyōḥ</i>	

The number “three”:

<i>vibhaktiḥ</i>	<i>puṁliṅgam</i>	<i>napuṁsakaliṅgam</i>	<i>strīliṅgam</i>
<i>prathamā</i>	<i>trāyaḥ</i>	<i>trīṇi</i>	<i>tisráḥ</i>
<i>dvitīyā</i>	<i>trín</i>		
<i>tr̥tīyā</i>		<i>tribhiḥ</i>	<i>tisṛbbhiḥ</i>
<i>caturthīpañcamyau</i>		<i>tribhyaḥ</i>	<i>tisṛbbhyaḥ</i>
<i>ṣaṣṭhī</i>		<i>trayāṇām</i>	<i>tisṛṇām</i>
<i>saptamī</i>		<i>triṣú</i>	<i>tisṛṣu</i>

<i>vibhaktiḥ</i>	<i>pumlingam</i>	<i>napuṃsakalingam</i>	<i>strilingam</i>
<i>prathamā</i>	<i>catvāraḥ</i>	<i>catvāri</i>	<i>cātasraḥ</i>
<i>dvitīyā</i>	<i>catūraḥ</i>		
<i>tr̥tīyā</i>		<i>catúrbbhiḥ</i>	<i>catasṛbbhiḥ</i>
<i>caturthīpañcamyau</i>		<i>catúrbhyaḥ</i>	<i>catasṛbbhyaḥ</i>
<i>ṣaṣṭhī</i>		<i>caturṇām</i>	<i>catasṛṇām</i>
<i>saptamī</i>		<i>catúrṣu</i>	<i>catasṛṣu</i>

The numbers from five to nineteen are inflected for case and number (which will always be plural), but not gender. In the nominative and accusative, the bare stem is used, without the usual declensional endings. These numbers, too, are used as *adjectives*.

<i>vibhaktiḥ</i>	<i>rūpam</i>
<i>prathamādvitīyē</i>	<i>pāñca</i>
<i>tr̥tīyā</i>	<i>pañcābbhiḥ</i>
<i>caturthīpañcamyau</i>	<i>pañcābbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>pañcānām</i>
<i>saptamī</i>	<i>pañcāsu</i>

saptā- “7,” *návā*- “9,” and *dásā*- “10,” as well as the numbers from 11 to 19 (which end in *dásā*-), are inflected in the same way as *pāñca*-.

<i>vibhāktiḥ</i>	<i>rūpam</i>
<i>prathamādvitīyē</i>	<i>ṣāṭ</i>
<i>tr̥tiyā</i>	<i>ṣaḍbbhiḥ</i>
<i>cathurthīpañcamyau</i>	<i>ṣaḍbbhyāḥ</i>
<i>ṣaṣṭhī</i>	<i>ṣaṇṇām</i>
<i>saptamī</i>	<i>ṣaṭsú</i>

<i>vibhāktiḥ</i>	<i>rūpam</i>
<i>prathamādvitīyē</i>	<i>saptá</i>
<i>tr̥tiyā</i>	<i>saptábbhiḥ</i>
<i>cathurthīpañcamyau</i>	<i>saptábbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>saptānām</i>
<i>saptamī</i>	<i>saptásu</i>

<i>vibhāktiḥ</i>	<i>rūpam</i>
<i>prathamādvitīyē</i>	<i>aṣṭáu, aṣṭá</i>
<i>tr̥tiyā</i>	<i>aṣṭábbhiḥ, aṣṭábbhiḥ</i>
<i>caturthīpañcamyau</i>	<i>aṣṭábbhyaḥ, aṣṭábbhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>aṣṭānām</i>
<i>saptamī</i>	<i>aṣṭású, aṣṭásu</i>

<i>vibhákṭiḥ</i>	<i>rūpam</i>
<i>prathamādvitīyē</i>	<i>náva</i>
<i>tr̥tīyā</i>	<i>navábhīḥ</i>
<i>caturthīpañcamyau</i>	<i>navábhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>navānám</i>
<i>saptamī</i>	<i>navásu</i>

<i>vibhákṭiḥ</i>	<i>rūpam</i>
<i>prathamādvitīyē</i>	<i>dása</i>
<i>tr̥tīyā</i>	<i>daśábhīḥ</i>
<i>caturthīpañcamyau</i>	<i>daśábhyaḥ</i>
<i>ṣaṣṭhī</i>	<i>daśānám</i>
<i>saptamī</i>	<i>daśásu</i>

NOTE: The Proto-Indo-European reconstructions of these numbers are:

1	* <i>óī-</i>
2	* <i>dwó-</i>
3	* <i>trí-</i>
4	* <i>kṛétwór-</i>
5	* <i>pénkṛe-</i>
6	* <i>swek</i> (?)
7	* <i>septm-</i>
8	* <i>októ-</i>
9	* <i>néwo-</i>
10	* <i>dekm-</i>

The numbers from twenty onwards are nouns, and construed with what they modify on the genitive (e.g. *dāsīnām śatam* “a hundred slaves”) or used in apposition to what they modify (e.g., *dāsyah śatam* id.). Most of the tens are feminine; the numbers 100 and 1000 are neuter.

Number	Stem	Gender
20	<i>vimśati-</i>	f.
30	<i>triṃśāt-</i>	f.
40	<i>catvāriṃśāt-</i>	f.
50	<i>pañcāśāt-</i>	f.
60	<i>ṣaṣṭi-</i>	f.
70	<i>saptatī-</i>	f.
80	<i>aṣṭī-</i>	f.
90	<i>navatī-</i>	f.
100	<i>śatā-</i>	n.
1000	<i>sahasra-</i>	n.

§14.2. Ordinals

The ordinals are adjectives that describe the *order* of something in a series. They are generally formed from the cardinal numbers (the exception being “first” or *prathamā-*) by means of various suffixes, such as *thā*, *mā*, *tamā*, and *tīya/īya*. The feminine stem of all of the ordinal numbers is formed with *ī*, except *prathamā-*, *dvitīyā-*, *trītiyā-*, *tūryā-* and *turīyā-*.

Number	Stems
1st	<i>prathamá-</i> , <i>prathamā-</i>
2nd	<i>dvitīya-</i> , <i>dvitīyā-</i>
3rd	<i>tr̥tīya-</i> , <i>tr̥tīyā-</i>
4th	<i>caturthá-</i> , <i>caturthī-</i> [also <i>túrya-</i> , <i>túryā-</i> and <i>turīya-</i> , <i>turīyā-</i>]
5th	<i>pañcamá-</i> , <i>pañcamī-</i>
6th	<i>ṣaṣṭhá-</i> , <i>ṣaṣṭhī-</i>
7th	<i>saptamá-</i> , <i>saptamī-</i>
8th	<i>aṣṭamá-</i> , <i>aṣṭamī-</i>
9th	<i>navamá-</i> , <i>navamī-</i>
10th	<i>daśamá-</i> , <i>daśamī-</i>
11th	<i>ēkādaśá-</i> , <i>ēkādaśī-</i>

The ordinals from 11th to 19th are formed like *ēkādaśá-*, *ēkādaśī-*.

Number	Stems
20th	<i>vimśá-</i> , <i>vimśī-</i>
30th	<i>triṁśá-</i> , <i>triṁśī-</i>
40th	<i>catvāriṁśá-</i> , <i>catvāriṁśī-</i>
50th	<i>pañcāśá-</i> , <i>pañcāśī-</i>
60th	<i>ṣaṣṭá-</i> , <i>ṣaṣṭī-</i>
70th	<i>saptatá-</i> , <i>saptatī-</i>
80th	<i>aṣṭatá-</i> , <i>aṣṭatī-</i>
90th	<i>navatá-</i> , <i>navatī-</i>
100th	<i>śatataśá-</i> , <i>śatataśī-</i>
1000th	<i>sahasratamá-</i> , <i>sahasratamī-</i>

The numbers between the tens are formed as simple compounds of the “ones” place and the ordinal stem for the “tens” place (e.g., *ekāviṃśá-*, *dvātriṃśá-*, *catuṣcatvāriṃśá-*, etc.). The numbers after 100 and 1000 are formed with the stem *śatá-*, *śatī-* and *sahasrá-*, *sahasrí-*, rather than from the longer ordinal stem (e.g., *ekaśatá-*, etc.).

§14.3. The *bhūtasamkhyā* system

§15. Adjectives

Adjectives, as noted above, are morphologically identical to nouns. In syntactic terms, an adjective is defined by its agreement in gender, number, and case with a noun, to which it serves as a modifier or, as the Indian grammarians say, a qualifier (*viśeṣaṇam*). Adjectives are sometimes called *guṇavacanāni*, “words expressive of qualities.”

Because it is declined in all three genders, the *stem* (*prātipadikam*) of an adjective may change. Thus, for example, when a masculine or neuter noun is described as “blue,” the *a*-stem form *nīla-* is used, whereas when a feminine noun is described as “blue,” the *ā*-stem noun *nīlā-* is used. The feminine form can often be considered a derivative of the masculine-neuter form, which is therefore considered to be the “basic” stem for the purposes of adjective formation. Thus Pāṇini teaches the feminine forms of many adjectives with the suffixes *ṬāP*, *ṆīP*, *ÑīṢ*, *ḌāP*, and so on. In learning an adjectival formation, one should also learn which feminine stem is used with it.

Here are a few examples of adjectival stems:

Meaning	<i>pumlingam</i>	<i>napumsakalingam</i>	<i>strilingam</i>	Suffix
“red”	<i>lōha-</i>	<i>lōha-</i>	<i>lōhā-</i>	<i>ṬāP</i>
“confused”	<i>mugdha-</i>	<i>mugdha-</i>	<i>mugdhā-</i>	<i>ṬāP</i>
“doer”	<i>karṭṛ-</i>	<i>karṭṛ-</i>	<i>kartrī-</i>	<i>ÑiP</i>
“learned”	<i>vidvant-</i>	<i>vidvat-</i>	<i>viduṣī-</i>	<i>ÑiP</i>
“short”	<i>laghu-</i>	<i>laghu-</i>	<i>laghvi-</i>	<i>ÑiP</i>
“sacrificing”	<i>pacant-</i>	<i>pacat-</i>	<i>pacantī-</i>	<i>ÑiP</i>
“great”	<i>mahant-</i>	<i>mahat-</i>	<i>mahatī-</i>	<i>ÑiP</i>
“carrying a staff”	<i>daṇḍin-</i>	<i>daṇḍin-</i>	<i>daṇḍinī-</i>	<i>ÑiP</i>
“of the Kosalas”	<i>kausalya-</i>	<i>kausalya-</i>	<i>kausalyā-</i>	<i>CāP</i>

§15.1. Comparison of adjectives

One particularity of adjectives is that they can take particular suffixes that express grades of comparison. These suffixes are similar to (and indeed etymologically related to) the English comparative suffix *-er* and superlative suffix *-est*, as in *redder* and *reddest*.

The most general set of suffixes, which can be used with any adjectival stem, are *taraP*, which expresses the comparative degree, and *tamaP*, which expresses the superlative degree (5.3.55–57). They are added to the basic stem, that is, the masculine-neuter form of the adjectival stem, in the weak form (i.e., the form that occurs before endings beginning with a consonant, like *bhis*) if the stem alternates between strong and weak forms. For the comparative degree, the masculine and neuter form is *-tara-*, and their feminine form is *-tarā-*; for the superlative degree, the masculine and neuter form is *-tama-*, and the feminine form is *-tamā-*.

Positive degree		Comparative degree		Superlative degree	
<i>laghú</i>	“light”	<i>laghutáram</i>	“lighter”	<i>laghutámam</i>	“lighest”
<i>gurú</i>	“heavy”	<i>gurutáram</i>	“heavier”	<i>gurutámam</i>	“heaviest”
<i>mṛdú</i>	“soft”	<i>mṛdutáram</i>	“softer”	<i>mṛdutámam</i>	“softest”
<i>sthūlám</i>	“thick”	<i>sthūlātaram</i>	“thicker”	<i>sthūlátamam</i>	“thickest”
<i>prāk</i>	“eastern”	<i>práktaram</i>	“more eastern”	<i>práktamam</i>	“most eastern”
<i>dhaní</i>	“wealthy”	<i>dhanítaraḥ</i>	“wealthier”	<i>dhanítamaḥ</i>	“wealthiest”
<i>vidvān</i>	“knowing”	<i>vidvāttaraḥ</i>	“more knowing”	<i>vidvāttamaḥ</i>	“most knowing”

Pāṇini allows these suffixes to be affixed directly to inflected expressions of time in the locative, e.g., *pūrvāhṇē* “in the forenoon” → *pūrvāhṇētarē* “earlier in the forenoon” (*Aṣṭādhyāyī* 6.3.17). In the form *-tarām* and *-tamām*, they can also be added to indeclinable adverbs and even to finite verbs (*Aṣṭādhyāyī* 5.3.56). Of these forms, only adverbs like *natarām* “how much less” are common.

The suffixes *īyasUN* and *iṣṭhaN* constitute another set, which however can only be used after a small set of adjectives. In contrast to *taraP* and *tamaP*, which can be considered “derivational” suffixes to the extent that they are added onto already-existing nominal forms, *īyasUN* and *iṣṭhaN* are added directly onto roots. Hence they *alternative* with the suffixes of the positive degree rather than being added onto them. Another particularity of these suffixes is that the root takes the full grade; thus these forms contrast with the positive degree, where the root very often is in the zero grade. For the declension of stems in *-yas-* see above.

NOTE: It is less common to speak of roots in the case of adjectives than in the case of verbs. Sometimes (e.g., *kṣiprā-*) the adjectival root corresponds in form and meaning to a verbal root (*√kṣip*). But most adjectives can be considered to be formed by derivation from an abstract root form. The systems of adjective formation in Proto-Indo-European were studied by Willem Caland and are therefore known as Caland systems.

Generally the suffixes *īyas* and *iṣṭha* are added after the final consonant of an adjectival stem (thus replacing a final vowel), e.g., *pāpāḥ* “bad,” *pāpīyān* “worse,” *pāpīṣṭhaḥ* “worst.” But in the following forms the adjective takes a different form in the positive degree than it does in the comparative and superlative degree (in some cases being given by *suppletion*). All forms are given in the neuter nominative singular.

Positive degree		Comparative degree		Superlative degree	
<i>antikám</i>	“close”	<i>nédīyaḥ</i>	“closer”	<i>nédiṣṭham</i>	“closest”
<i>álpam</i> <i>álpīyaḥ</i>	“small” <i>álpīṣṭham</i>	<i>kánīyaḥ</i>	“smaller”	<i>kániṣṭham</i>	“smallest”
<i>urú</i>	“wide”	<i>váriyaḥ</i>	“wider”	<i>váriṣṭham</i>	“widest”
<i>ṛjú</i> <i>rájīyaḥ</i>	“straight” <i>rájīṣṭham</i>	<i>ṛjīyaḥ</i>	“straighter”	<i>ṛjīṣṭham</i>	“straightest”
<i>kṛśám</i>	“lean”	<i>krásīyaḥ</i>	“leaner”	<i>krásiṣṭham</i>	“leanest”
<i>kṣiprám</i>	“swift”	<i>kṣépīyaḥ</i>	“swifter”	<i>kṣépiṣṭham</i>	“swiftest”
<i>kṣudrám</i>	“mean”	<i>kṣódīyaḥ</i>	“meaner”	<i>kṣódiṣṭham</i>	“meanest”
<i>gurú</i>	“heavy”	<i>gáriyaḥ</i>	“heavier”	<i>gáriṣṭham</i>	“heaviest”
<i>tṛprám</i>	“satisfied”	<i>trápiyaḥ</i>	“more satisfied”	<i>trápiṣṭham</i>	“most satisfied”
<i>dirghám</i>	“long”	<i>drāghīyaḥ</i>	“longer”	<i>drāghiṣṭham</i>	“longest”
<i>dūrám</i>	“far”	<i>dāvīyaḥ</i>	“farther”	<i>dáviṣṭham</i>	“farthest”
<i>dṛḍhám</i>	“firm”	<i>dráḍhīyaḥ</i>	“firmer”	<i>dráḍhiṣṭham</i>	“firmest”
<i>páriverḍham</i>	“exalted”	<i>páriveraḍhīyaḥ</i>	“more exalted”	<i>páriveraḍhiṣṭham</i>	“most exalted”
<i>prthú</i>	“broad”	<i>práthīyaḥ</i>	“broader”	<i>práthiṣṭham</i>	“broadest”
<i>prásasyam</i> <i>jyāyaḥ</i>	“praiseworthy” <i>jyēṣṭham</i>	<i>śréyaḥ</i>	“better”	<i>śréṣṭham</i>	“best”
<i>priyám</i>	“dear”	<i>préyaḥ</i>	“dearer”	<i>préṣṭham</i>	“dearest”
<i>bahú</i>	“much”	<i>bhúyaḥ</i>	“more”	<i>bhúyiṣṭham</i>	“most”
<i>bahulám</i>	“thick”	<i>bámhīyaḥ</i>	“thicker”	<i>bámhiṣṭham</i>	“thickest”
<i>bhṛśám</i>	“excessive”	<i>bhrásīyaḥ</i>	“more excessive”	<i>bhrásiṣṭham</i>	“most excessive”
<i>mṛdú</i>	“soft”	<i>mráḍīyaḥ</i>	“softer”	<i>mráḍiṣṭham</i>	“softest”
<i>yúvan</i> <i>kánīyaḥ</i>	“young” <i>kániṣṭham</i>	<i>yávīyaḥ</i>	“younger”	<i>yáviṣṭham</i>	“youngest”
<i>bāḍhám</i>	“firm”	<i>sádhīyaḥ</i>	“firmer”	<i>sáḍhiṣṭham</i>	“firmest”
<i>vr̥ddhám</i> <i>jyāyaḥ</i>	“old” <i>jyēṣṭham</i>	<i>várṣīyaḥ</i>	“older”	<i>várṣiṣṭham</i>	“oldest”
<i>vṛndārakam</i>	“beautiful”	<i>vṛndīyaḥ</i>	“more beautiful”	<i>vṛndiṣṭham</i>	“most beautiful”
<i>sthírám</i>	“firm”	<i>sthéyaḥ</i>	“firmer”	<i>sthéṣṭham</i>	“firmest”
<i>sthūlám</i>	“thick”	<i>sthāvīyaḥ</i>	“thicker”	<i>stháviṣṭham</i>	“thickest”
<i>sphirám</i>	“thick”	<i>sphéyaḥ</i>	“thicker”	<i>sphéṣṭham</i>	“thickest”
<i>hrasvám</i>	“short”	<i>hrásīyaḥ</i>	“shorter”	<i>hrásiṣṭham</i>	“shortest”

§16. Adverbs

Adverbs are words that directly modify either a **verb** or an **adjective**. They are considered to be indeclinable (*avyayam*) because they do not change their form to agree with anything else in gender, number, person or case. However, do not make the mistake of thinking that adverbs have no case-suffixes. Most Sanskrit adverbs are in fact case-forms of nouns or adjectives that are “frozen” in a particular adverbial usage. Others are formed from pronominal bases by the addition of a number of suffixes that form words that are used adverbially (although some words so formed have other uses as well).

§16.1. Regular case-forms used adverbially

Any nominal form (noun or adjective) can be used as an adverb if it is in the accusative singular form, and if it is an adjective, then it will appear in the **neuter** gender.

Accusatives. As noted above, any accusative (neuter) singular form can be used as an adverb. Here are a few examples formed from nouns:

- *ramyam* “pleasingly” (*ramya-* “pleasing”)
- *priyam* “pleasantly” (*priya-* “pleasant”)
- *tīvram* “sharply” (*tīvra-* “sharp”)
- *kṛcchram* “with difficulty” (*kṛcchra-* “sharp”)
- *ciram* “for a long time” (*cira-* “lasting a long time”)
- *mandam* “slowly” (*manda-* “slow”)
- *sādaram* “carefully” (*sādara-* “careful, with care”)
- *śīghram* “quickly” (*śīghra-* “quick”)
- *atyantam* “excessively, too much” (*atyanta-* “excessive”)

There are also a few nouns that can be used adverbially in their accusative singular forms:

- *sukham* “easily, comfortably” (*sukha-* “comfort, ease, pleasure”)
- *kāmam* “with pleasure, *placiter, volentieri*” (*kāma-* “pleasure”)

Pronominal forms can also be used adverbially in the neuter accusative singular form:

- *tat* “so,” “for that reason”
- *yat* “because”
- *kim* “why?” “how?”

Instrumentals. The following instrumental forms, in some cases “frozen” and not used in any other case, are used as adverbs:

- *acirēṇa* “soon” (*a-cira-* “not for a long time”)
- *divā* “by day” (*dyu-* or *dyau-* “day”)
- *sahasā* “suddenly, violently” (*sahas-* “force”)
- *kṣaṇēna* “momentarily” (*kṣaṇa-* “moment”)
- *paramparayā* “indirectly” (*paramparā-* “uninterrupted series”)
- *praṇālikayā* “indirectly” (*praṇālikā-* “channel”)
- *atisayēna* “excessively” (*atisaya-* “excess”)
- *uccaiḥ* “loudly”
- *nīcaiḥ* “quietly” (*nīca-* “low”)

Ablatives. Ablatives are not very often used adverbially, but here are a few adverbial forms that are in original frozen ablatives:

- *paścāt* “afterwards”
- *samantāt* “entirely, on all sides”
- *akasmāt* “suddenly”

- *sākṣāt* “directly”
- *balāt* “by force”

Locatives. Locatives (and genitives) are the case-forms least likely to form adverbs, but a few are quotable:

- *sapadi* “immediately”

§16.2. Special adverbial forms

A number of suffixes are used to form adverbs from nominal, and especially pronominal, stems. The pronominal stems commonly encountered in these adverbial forms are:

- *ta-* (from *tat* “that”; note that *ētat* does not form adverbs!)
- *a-* (from *idam* “this”)
- *amu-* (from *adaḥ* “that”)
- *sarva-* “all, every”
- *ēka-* “one”
- *anya-* “other”

-tra — local adverbs. These forms are generally used adverbially, but they can sometimes be used in place of locative case forms, and hence to qualify another locative case form (e.g., *tatra vanē* = *tasmin vanē* “in that forest”).

- *yatra* “where...” (relative)
- *tatra* “there”
- *atra* “here”
- *kutra* “where?”
- *paratra* “in another place”

- *amutra* “over there”
- *sarvatra* “everywhere”
- *ubhayatra* “in both cases”
- *ekatra* “in one case”

-śaḥ — distributive adverbs.

- *ekaśaḥ* “one by one”
- *śataśaḥ* “by the hundreds”
- *gaṇaśaḥ* “in crowds”

-dhā — multiplicative adverbs. Translatable as “in x ways,” where x most commonly refers to a quantity:

- *bahudhā* “in many ways
- *ekadhā* “in a single way
- *dvidhā* “in two ways”

-thā — adverbs of manner.

- *yathā* “in which way...” or “as”
- *tathā* “in such a way”
- *anyathā* “otherwise”
- *itarathā* “otherwise”
- *sarvathā* “in every way”
- *ubhayathā* “in both ways”

This suffix *-thā* also has a variant *-tham* found in a few forms:

- *ittham* “in this way”
- *katham* “how?”

-dā — temporal adverbs.

- *yadā* “when...” (relative)
- *tadā* “at that time”
- *kadā* “when?”
- *sadā* “always”
- *ekadā* “at one time”
- *sarvadā* “at all times”
- *anyadā* “at another time” (often: “one day...”)

In this group we can probably also put *idānīm* “now” (*idā-nīm*).

-tāt — local adverbs, usually (but not always) after stems in s:

- *purastāt* “in front”
- *adhastāt* “below”
- *upariṣṭāt* “above”
- *parastāt* “after”

-āt — resultative adverbs.

- *bhasmāt* “to ashes”

Another way of forming adverbs — more common in the Middle Indic languages than in Sanskrit, however — is to use the quotative particle *iti* after an imitative sound. They probably have the sense of “as soon as you can say...” or “like this” (accompanied by

snapping the fingers). The most common of these forms is:

- *jhaṭiti* “immediately”

§16.3. The suffix *tasI*

The suffix *-taḥ* (called *tasI* or *tasIL* by Pāṇini) has a variety of different functions, but it is most convenient to discuss it in connection with adverb formation. In general it is taught as an optional replacement for the ablative ending (*ṆasI*), and this is perhaps its most common use, with both nominal and pronominal stems:

- *grāmataḥ* = *grāmāt* “from the village”
- *grāmataḥ* = *grāmāt* “from the village”
- *yataḥ ... tataḥ* = *yasmāt ... tasmāt* “because... for that reason” (ablative of cause)
- *itaḥ* “from this,” “because of this”
- *kutaḥ* “from what?” “why?”
- *rāmataḥ paṭutaraḥ* “cleverer **than Rāma**” (ablative of comparison)
- *sarvataḥ* “from all sides”

But it can also have a much wider range of adverbial usages, some of which are exemplified below:

- *agrataḥ* “in front”
- *antataḥ* “finally, at the end”
- *guṇataḥ* “in terms of qualities, with reference to qualities”
- *vastutaḥ* “in reality, really”
- *itastataḥ* “this way and that, here and there”
- *abhitataḥ* “nearby”

- *paritaḥ* “all around”
- *samantataḥ* “on all sides”

Chapter 3

Verbal Morphology

§17. Verbs

“Verbs” (*ākhyātam*) are those forms which have verbal endings (also called *ākhyātāni*), that is to say, finite verbs, which are inflected for the grammatical categories of *person*, *number*, *diathesis* (or “voice”), as well as *tense* and *mood*. The process of inflecting a verbal form for these categories is called *conjugation*.

NOTE: English has a fairly minimal system of conjugation (*I do, you do, he does*, etc. for the present tense, *I did, you did, he did* etc. for the past), and expresses most of the distinctions of tense, mood, and diathesis through *compound* verbal expressions that make use of auxiliary verbs. In Sanskrit, by contrast, all of these categories are typically expressed in a single verbal form.

Finite verbs are so called because they are limited (*finitum*) by these grammatical categories; **non-finite** verbs do not express all of these categories. Usually only a **finite** form can function as a verbal predicate. Non-finite forms are used as the complements of certain types of verbal and adjectival phrases (as in the case of *infinitives*), or as the head of a subordinate clause (as in the case of *converbs*).

As noted above, verbal forms are understood by Indian grammarians refer to “processes” (*bhāvaḥ*), in contrast to “existing things” (*sattvam*), which are designated by nominal forms. However, because of Sanskrit’s rich processes of derivation, it is possible to express processes with nominal forms as well.

In Pāṇini’s grammar, the starting point for the formation of any finite verbal form, and several non-finite verbal forms, is a *verbal root* (*dhātuḥ*). The next step is to select one of the *lakāraḥ*, abstract signs that combine the notion of *tense* and *mood*. One a tense and mood has been assigned with a *lakāraḥ*, a conjugational *stem* is formed through morphological processes such as reduplication (in the case of the perfect tense or *liṭ*) and suffixation (in the case of most other tenses and moods). In the latter case, the stem-forming suffix is selected lexically: certain verbal roots take certain stem-forming suffixes and not others. Finally, once a conjugational *stem* (*aṅgam*) has been formed, the conjugational *endings* (*tiṅ*) are added, which differ according to the grammatical categories that are to be expressed by them (such as *person*, *number*, and *diathesis*) and according to the tense–mood of the stem to which they are added. Each step of this process will be discussed in the following sections.

§17.1. Verbal roots

A verbal root is an abstract entity from which the process of verbal inflection begins. It expresses a basic meaning (e.g., “going”) that is specified by the addition of suffixes, specifically, the *tense and mood* suffixes (called *lakāraḥ*) to which the conjugational endings of verbs are added.

Most primary roots in Sanskrit are *monosyllabic*, as was evidently the case in Indo-European as well. The qualification “primary” is necessary because, in Sanskrit, a verbal root, in the strictly morphological sense of a unit to which tense and mood suffixes can be added, can be formed secondarily from either a nominal stem (a *prātipadikam*) or from another

verbal root by means of certain suffixes (called *sanādiṣratyayāḥ*). These denominal and deverbal roots are almost always polysyllabic.

Learning the verbal roots and their meanings has long been one of the “first steps” of learning Sanskrit. Pāṇini’s grammar refers to a traditional “recitation of verbal roots” (*dhātupāṭhaḥ*), and many such lists were edited and compiled.

§17.2. *Sēṭ* and *Aniṭ* roots

Verbal roots in Proto-Indo-European could end in a consonant called a laryngeal, a sound which does not survive in Sanskrit but which has left traces here and there. One of these traces is that roots which historically ended in a laryngeal take the augment *i* before certain suffixes. (This *i* is called *iṭ*, and it is the regular outcome of a Proto-Indo-European laryngeal between consonants.) This augment was gradually extended to roots which did not end with a laryngeal in Proto-Indo-European. Thus one will have to know whether a given root is *sēṭ* (literally “with the augment *i*”) or *aniṭ* (“without the augment *i*”). Thus:

root:	\sqrt{vrt} (<i>sēṭ</i>)	\sqrt{hu} (<i>aniṭ</i>)
Ktvā:	<i>vart-i-tvā</i>	<i>hu-tvā</i>
root:	$\sqrt{lū}$ (<i>sēṭ</i>)	$\sqrt{yā}$ (<i>aniṭ</i>)
thaL:	<i>lulav-i-tha</i>	<i>yayā-tha</i>

Sēṭ roots will be noted in transliteration with a superscript *i*, as in $\sqrt{lū}^i$.

NOTE: As noted above, the class of *sēṭ* roots largely corresponds to roots that ended in a laryngeal in Proto-Indo-European. Because of the laryngeal’s effects on the preceding sounds, it’s often possible to guess whether a root belongs to this class or not on the basis of its form. Roots that end in voiceless aspirates (such as \sqrt{grath}^i) and in long vowels (such as $\sqrt{lū}^i$) are often *sēṭ*.

§17.3. Tenses and moods

Every finite verb can be said to have both a *tense*, which expresses the time in which the action referred to by the verb occurred relative to the time in which the verb form is used, as well as a *mood*, which expresses the “way” (modus) in which the action is referred to, that is to say, whether it is something the speaker refers to as actually occurring (either in the past, present, or future), or as something that either might happen or ought to happen.

The five **tenses** of Sanskrit are:

- **present:** For referring to an action that takes place more or less more or less at the same time that the verbal form is used (*Aṣṭādhyāyī* 3.1.123). The Sanskrit present tense corresponds to the English habitual present (“I go to the store”) and progressive present (“I am going to the store”).
- **orist:** For referring to an action that takes place in the past, without further specification of time (*Aṣṭādhyāyī* 3.2.110).
- **imperfect:** For an action that takes place in the relatively recent past. (“Before the present day,” according to Pāṇini’s definition in *Aṣṭādhyāyī* 3.2.111.)
- **perfect:** For referring to an action that takes place in the distant past. (“Beyond the speaker’s personal experience,” according to Pāṇini’s definition in *Aṣṭādhyāyī* 3.2.115.)
- **future:** For referring to an action that takes place in the future, relative to the speaker’s time.

Sanskrit therefore has **three** past tenses, and more can be added if we consider the common use of the past participle to be a past tense. For practical purposes, *there is no difference in meaning* between the imperfect, orist, and perfect, although fastidious authors will

observe Pāṇini's rules and they will refrain from using, for instance, a perfect-tense verb to describe an action which the speaker has personally witnessed.

The following **moods** may also be distinguished:

- **indicative:** For a referring to an action that actually did, does, or will take place. This is sometimes called the *realis* mood.
- **optative:** For referring to an action that *ought to* or *ought not to* take place, as well as an action that *might* or *might not* take place. This is the principal *irrealis* mood.
- **imperative:** For referring to an action that, from the speaker's perspective, *must* or *must not* take place, especially when giving commands or orders.

Lists of Sanskrit moods often include the following additional moods, which are only used in very specific circumstances, and which in some cases are clearly derivative of the three moods above:

- **subjunctive:** So called because of its formal identity with the Indo-European subjunctive, but used in Vedic texts as a future tense.
- **injunctive:** In post-Vedic Sanskrit, this mood is used exclusively in prohibitions, in complementary distribution with the imperative; in Vedic Sanskrit, it is a tenseless verb used for events that occur "outside of time."
- **precative:** A mood used for wishing blessings, formally similar to the optative.
- **conditional:** A mood used to express counterfactual conditions, of comparatively rare occurrence.

It is important to note, however, that the system of tenses and moods has been restructured in Sanskrit *vis-à-vis* what we can reconstruct for Indo-European. Most importantly, Indo-European distinguished a category of **aspect** that has been more or less folded into the category of tense in post-Vedic Sanskrit. There were three such aspects:

- **imperfective:** For referring to an action as occurring over an extended period of time, including continuous, progressive, or habitual action.
- **aorist:** For referring to an action as a punctual event.
- **stative:** For referring to an action as a state consequent upon a previous action.

Each of these three aspects was expressed with a particular form of the stem. Each aspectual stem “had” the indicative, subjunctive, imperative and optative moods, in the sense that endings that characterized these moods could be added onto a given aspectual stem. Moreover, in the case of the imperfective aspect, there were two *tenses* of the indicative mood, one indicating present time, and another indicating past time. Hence the verbal system that Sanskrit inherited from Indo-European looked something like the following:

aspect	mood and tense
	indicative present (<i>laṭ</i>)
indicative past (<i>laṅ</i>)	
imperative (<i>lōṭ</i>)	
subjunctive (<i>lēṭ</i>)	
optative (<i>liṅ</i>)	
	indicative (<i>luṅ</i>)
imperative	
aorist	
subjunctive	
optative	
	indicative (<i>liṭ</i>)
imperative	
stative	
subjunctive	
optative	

There are therefore three different “systems” of tenses and moods, corresponding to the three different aspects of Indo-European: the **present** (the inherited imperfective), the **aurist** (the inherited aurist), and the **perfect** (the inherited stative).

These systems have been modified in Sanskrit in a number of ways:

- First, the distinction between tense and aspect has been largely erased, so that the **past indicative of the imperfective**, the **indicative of the aurist**, and the **indicative of the stative** all function as past tenses, namely, as the **imperfect**, **aurist**, and **perfect**.
- Second, the non-indicative moods, besides those of the present system, are only used in the Vedic language. In the post-Vedic language, the *imperative* and *optative* moods can only be formed from the present stem.
- The subjunctive is no longer used in the post-Vedic language, having been functionally replaced with two **future** tenses.

§17.4. *lakārāḥ*

In the above table, we have noted in parentheses those aspect-tense-mood combinations that are represented in Pāṇini’s system of *lakārāḥ*. As noted above, these *lakārāḥ* stand for fixed tense-mood combinations. They are listed below, together with the *stem* of the verb that they select for:

<i>lakāraḥ</i>	Interpretation	Stem
<i>laṭ</i>	Present (indicative)	Present
<i>laṇ</i>	Imperfect (indicative)	Present
<i>lōṭ</i>	Imperative	Present
<i>liṇ</i>	Optative	Present
<i>lēṭ</i>	Subjunctive	Present
<i>lṛṭ</i>	(Synthetic) future	Future
<i>lṛṇ</i>	Conditional	Future
<i>luṭ</i>	(Analytic) future	N/A
<i>luṇ</i>	Aorist (indicative)	Aorist
<i>liṭ</i>	Perfect (indicative)	Perfect

Pāṇini's names reflect the patterns of these different tense-mood combinations. For example, what the present indicative and imperfect indicative share, in contrast to all of the other tense-mood combinations, is the medial element *-a-*, which signifies that these forms are built by adding a set of personal endings to the present stem without any additional suffixation. By contrast, the present indicative is characterized by a final *-ṭ*, whereas the imperfect indicative is characterized by a final *-ṇ*, and therefore they take two different sets of endings.

§17.5. Person (*puruṣaḥ*)

Among the categories that finite verbs are inflected for is *person*. Sanskrit distinguishes between the *prathamapuruṣaḥ* or “first person,” the *madhyamapuruṣaḥ* or “middle person,” and the *uttamapuruṣaḥ* or “last person.” **Beware** that these correspond to what we call the third person, the second person, and the first person, respectively. Sanskrit does not distinguish between an inclusive and exclusive first person.

§17.6. Number (*saṃkhyā*)

Like nouns, finite verbs in Sanskrit are inflected for *singular* (*ēkavacanam*), *dual* (*dvivacanam*), and *plural* (*bahuvacanam*) numbers.

§17.7. Diathesis or voice

The **diathesis** (also called *voice*) of a verb, in linguistics, generally refers to the connection between the *arguments* of a verb, which are features of its *syntax*, to one or another of the *participants* in the verbal action (called thematic roles below), which are features of its *semantics*. In English, we distinguish between “active voice,” where the *agent* is the principal argument, or *subject*, of the verb, and “passive voice,” where the *patient* is the subject of the verb.

In Sanskrit, there is a clear distinction between verbal constructions wherein the subject is an *agent*, and verbal constructions where in the subject is a *patient*. The latter are called “passive” or “P-oriented” (for *patient*) constructions. These will be discussed below.

Sanskrit makes a further diathetic distinction within the category of “active” or “A-oriented” voice between *parasmaipadām*, “a word for another,” and *ātmanēpadām*, “a word for one-self.” This distinction maps onto what grammars in the Greek and Latin tradition call “active” (ἐνέργεια) and “middle” (μεσότης), respectively. The expression “middle,” in the Greek and Latin tradition, is meant to capture the fact that the subject of the verb in question is represented as neither the *agent* of a particular action, nor the *patient* of the verbal action, but something in between. Here is an analogous case from English:

- *I am baking the bread in the oven.* :: **active** voice, because the subject of the verb “bake” is represented as the *agent* of the verbal action.
- *The bread is being baked in the oven.* :: **passive** voice, because the subject of the verb “bake” is represented as the *patient* of the verbal action.

- *The bread is baking in the oven.* :: **middle** voice, because the subject of the verb “bake” is the bread, which is neither represented as the agent of an action of baking, nor the patient of the same action.

The “middle” voice, so construed, is used to represent the subject of the verb as a “non-agentive agent,” that is, someone who undergoes or experiences the action of the verb, but who is nevertheless not represented as the patient of an action performed by someone else. It is therefore often, cross-linguistically, with the following types of verbs:

- verbs of *perceiving* and *experiencing*;
- verbs of *motion*;
- other verbs referring to *changes in state*.

Note that these types of verbs are typically *intransitive*, that is, they do not take a direct object. They may, however, take dependents that agree with the subject: in “I feel tired,” “tired” is not a direct object, but an adjective that agrees with the subject of the verb.

Whereas the distinction between “active” and “passive” voice in Sanskrit is made by the verbal **stem**—one form of the stem being used for “A-oriented” constructions, and another for “P-oriented” constructions—the distinction between *parasmaipadām* and *ātmanēpadām* is made by the verbal **endings**. There are thus, for any verb, two sets of endings, and the choice of whether to use *parasmaipadām* or *ātmanēpadām* endings is mostly conditioned lexically, along the lines sketched above:

- Most transitive verbs have an **agent subject**, that is, the subject of the verb is an “agentive agent.” These verbs take *parasmaipadām* endings.
 - *indrō vṛtram hanti* “Indra slays Vṛtra.”
- A few transitive verbs have an **experiencer subject**, that is, the subject of the verb is one who experiences something. These verbs take *ātmanēpadām* endings.

- *indrō sōmam bhuñktē* “Indra consumes the Sōma.”
- Among intransitive verbs, some will treat the subject as an “agentive agent,” and will hence take *parasmaipadām* endings (these verbs are usually called *unergative* in the linguistics literature):
 - *brāhmaṇāś calanti* “The Brahmins are walking.”
- Some intransitive verbs, however, treat the subject as a “non-agentive agent,” and will take *ātmanēpadām* endings (these verbs are called *unaccusative* in the linguistics literature):
 - *sa manyatē* “He is thinking.”

§18. Verbal endings (*tiN*)

The verbal endings—or *tiN*, to use Pāṇini’s abbreviation for them—are the final element in a finite verbal form. The endings are what express the categories of person, number, and diathesis; additionally, each tense-mood combination (*lakārāḥ*) takes a specific set of endings.

As with the nominal endings, Pāṇini teaches the verbal endings in “triplets,” consisting of the singular, dual, and plural ending in the third person, second person, and first person, in that order. There are two such 3x3 matrices taught in *Aṣṭādhyāyī* 3.4.78, the first being the endings of the *parasmaipadām* and the second being the endings of the *ātmanēpadām*.

These two sets of endings are actually the starting-point for the derivation of additional sets of endings, because both the *parasmaipadām* and *ātmanēpadām* include special endings for each *lakārāḥ*. We will see, however, that Pāṇini has classified the *lakārāḥ* on the basis of the kinds of endings that they take, and therefore there is a broad division—subsequently discovered by philologists, who gave it a new name—between **primary** end-

ings, used in *lakārāḥ* with the marker \bar{T} , and **secondary** endings, used in *lakārāḥ* with the marker \bar{N} .

In some verbal inflections, just as in some nominal inflections, there is a distinction between the *strong* and *weak* form of the stem, which historically arose from the interplay of the accent of the root, or stem-forming suffix, and the accent of the inflectional ending. The endings that require the *strong* form of the stem will be noted below.

§18.1. *Parasmaipadām* endings

This section will explain the *parasmaipadām* endings for the various *lakārāḥ*. We begin with the *parasmaipadām* endings that Pāṇini teaches as basic:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>tiP</i>	<i>tas</i>	<i>jhi</i>
<i>madhyapurusaḥ</i>	<i>siP</i>	<i>thas</i>	<i>tha</i>
<i>uttamapurusaḥ</i>	<i>miP</i>	<i>vas</i>	<i>mas</i>

Note that the endings of the singular all have the marker *P*, which indicates that the accent is on the preceding morpheme; all of the other endings are accented. These singular endings also require the *strong* form of the stem, if the paradigm distinguishes between strong and weak forms. The endings listed above are the *primary* endings, which are used in the present indicative (*laṭ*). If we “translate” Pāṇini’s endings into the forms that actually appear, we obtain the following 3x3 matrix:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	-ti	-táḥ	-ánti / -áti
<i>madhyamapurusaḥ</i>	-si	-tháḥ	-thá
<i>uttamapurusaḥ</i>	-mi	-vāḥ	-máḥ

Important points to notice about these endings are:

- The endings of the singular are *unaccented*, and additionally, they and the plural of the *prathamapurusaḥ* end in an element *-i*, which Indo-Europeanists have considered a “*hic-et-nunc* particle,” indicating that the verb refers to the present. This element disappears in the secondary endings.
- The remaining endings of the *uttamapurusaḥ* end in an element *-ḥ*, which also disappears in the secondary endings.
- The plural ending of the *prathamapurusaḥ* has two variants, *-ánti* and *-áti*, which derive from two different grades of an earlier ending **-ént-i* and **-nt-i*.
- Most of these endings are well-attested in the other Indo-European languages:
 - *-ti* (एक. प्र.): Lat. -t, Hittite -zi, Greek -τι in ἐστί.
 - *-si* (एक. मध्य.): Lat. -s, Hittite -si.
 - *-mi* (एक. उत्त.): Hittite -mi, Greek -μι in verbs like δείκνυμι.
 - *-ánti* (बहु. प्र.): Hittite -anzi, Greek (Doric) -οντι, Latin -unt.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	-t	-tám	-án / -úḥ
<i>madhyamapurusaḥ</i>	-s	-tám	-tá
<i>uttamapurusaḥ</i>	-am	-vā	-má

Notes on these endings:

- The “*hic-et-nunc* particle” does not appear on the endings of the singular, or of the plural *prathamapurusaḥ*.
- The singular ending of the *uttamapurusaḥ* is *-am*, which derives from **-m* (the primary ending without *-i*); it is taught as *-am* because it takes this form after consonants, whereas after vowels, it is *-m*.
- Similarly, the element *-ḥ* of the dual and plural *uttamapurusaḥ* endings does not appear, as it does in the primary endings.
- The plural ending of the *prathamapurusaḥ* has two variants. The first, *-án*, is used in the imperfect (*lañ*), and it is simply **-ánt*, after the application of the rule that no Sanskrit word can end in more than one consonant.
- The second plural ending of the *prathamapurusaḥ*, *-úḥ*, is used in the aorist (*luñ*) and optative (*liñ*). Historically, it derives from **-ṛs*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>-tu</i>	<i>-tām</i>	<i>-ántu / -ātu</i>
<i>madhyamapurusaḥ</i>	<i>-dhí / -hí / Ø</i>	<i>-tām</i>	<i>-tá</i>
<i>uttamapurusaḥ</i>	<i>-āni</i>	<i>-āva</i>	<i>-āma</i>

The imperative endings are most similar to the secondary endings, with the following differences:

- The primary endings that terminate in an element *-i*—the three singular endings as well as the plural of the *prathamapurusaḥ*—take a similar element in the imperative, namely, *-u*.

- The singular of the *madhyamapuruṣaḥ*, however, always takes a special ending in the imperative:
 - after the stem-final vowel *-a-* (the so-called “thematic vowel”), the ending is \emptyset .
 - otherwise, the ending is *-dhí* (after consonants) and *-hí* after vowels (compare Greek *-thí*)
- There is no imperative of the *uttamapuruṣaḥ*. The subjunctive forms are used instead.

§18.2. *Ātmanēpadām* endings

This section will explain the *ātmanēpadām* endings for the various *lakārāḥ*, starting, once again, from the endings that Pāṇini teaches as basic:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapuruṣaḥ</i>	<i>ta</i>	<i>ātām</i>	<i>jha</i>
<i>madhyamapuruṣaḥ</i>	<i>thās</i>	<i>āthām</i>	<i>dhvam</i>
<i>uttamapuruṣaḥ</i>	<i>iḌ</i>	<i>vahi</i>	<i>mahiṆ</i>

These are the basic *ātmanēpadām* endings, which can also be referred to using Pāṇini’s abbreviation *taṆ*. In contrast to the *parasmaipadām* endings, Pāṇini teaches the *secondary* endings as basic, and has rules (e.g., *Aṣṭādhyāyī* 3.4.79) which change the secondary endings to primary endings in the *lakārāḥ* that require them. For the sake of convenience, here are the *primary* endings of the *ātmanēpadām*, that is, those which are used in the present indicative (*laṭ*):

	<i>ekaṣvacanē</i>	<i>dvivaṣvacanē</i>	<i>bahuvacaṣvacanē</i>
<i>prathamapurusaḥ</i>	- <i>tḗ</i>	- <i>ātḗ</i>	- <i>ántḗ</i> / - <i>átḗ</i>
<i>madhyamapurusaḥ</i>	- <i>sḗ</i>	- <i>āthḗ</i>	- <i>dhvḗ</i>
<i>uttamapurusaḥ</i>	- <i>ḗ</i>	- <i>váhḗ</i>	- <i>máhḗ</i>

Notes on these endings:

- The element *-i*, which characterizes a certain set of primary endings in the *parasmaipadām*, also characterizes a set of primary endings in the *ātmanēpadām*. In the *ātmanēpadām*, however, this element almost always combines with a final vowel *-a* to yield *-ḗ*. The endings with this element can thus be analyzed as follows:
 - *-tá + i → -tḗ* (एक० प्र०), cp. Greek *-εται*
 - *-sá + i → -sḗ* (एक० मध्य०)
 - *-á + i → -ḗ* (एक० उत्त०)
 - *-ánta + i → -ántḗ* (बहु० प्र०), cp. Greek *-ονται*, Hittite *-anta*
- The terminal element *-ḗ* appears throughout the primary endings of the *ātmanēpadām*, even when it cannot be analyzed as the result of combining a final *-a* with a particle *-i*. Several of the corresponding secondary endings do not end in a *-a* but in *-am* or *-ām*.
- Several elements are recognizably the same as the *parasmaipadām* endings:
 - *-t-* as a marker of the एक० प्र० (here followed by a vowel *-a*)
 - *-s-* as a marker of the एक० मध्य० (here followed by a vowel *-a*)
 - *-nt-* as a marker of the बहु० प्र० (here followed by a vowel *-a*)
 - *-va-* as a marker of the द्वि० उत्त० (here followed by an element *-hi* / *-hḗ*)
 - *-ma-* as a marker of the बहु० उत्त० (here followed by an element *-hi* / *-hḗ*)

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	-tá	-átām	-ánta / -áta/ -rán
<i>madhyapurusaḥ</i>	-tháḥ	-áthām	-dhvám
<i>uttapurusaḥ</i>	-í / -á	-váhi	-máhi

The similarities of these endings to those of the *parasmaipadám* have been discussed above. When some relationship is evident between the forms, the principal difference is that the secondary endings of the *ātmanēpadám*, in contrast to those of the *parasmaipadám*, are followed by an element *-a* (extended to *-ē* in the primary endings) or *-hi* (extended, probably analogically, to *-hē* in the primary endings). A number of other points:

§18.3. The optative suffix

As noted above, the optative (*lin*) always receives the “secondary” endings, like the aorist and imperfect. The optative, however, always includes an element *between* the verbal stem and the secondary endings which serves as the marker of this mood.

There are *two* related forms of this marker, *yā* and *ī*. The former is used only in *athematic* verbs, that is, verbs belonging to classes 2, 3, 5, 7, 8 and 9, and then only in the so-called *strong* forms, i.e., the *singular* forms of the *parasmaipadám*. The marker *ī* is used in all other contexts, including in all of the thematic conjugations, where it combines with the stem-final vowel to form the ending *ē*.

NOTE: The marker of the optative in Indo-European was **-ih₁-* in the zero grade and **-yeh₁-* in the full grade.

§19. The past-tense augment

The past tenses—that is, the imperfect (*lañ*) and the aorist (*luñ*)—employ an *augment* that appears *prior to* the verbal form, although *after* any verbal prefixes. This augment, which Pāṇini teaches as *aT*, is generally a short vowel *a*:

- *ákarōt* “he did”
- *ákārṣīt* “id.”

However, in the case of verbal roots beginning with a vowel, the combination of augment and initial vowel always results in *vṛddhiḥ* of the initial vowel:

- *aícchat* “he desired” ($\sqrt{iṣ}$)
- *áit* “he went” (\sqrt{i})
- *ārcchat* “he went” (\sqrt{rch})

In a small number of other cases, the augment is lengthened before an initial consonant of a verb:

- *ávar* “he blocked”

NOTE: The lengthening of the augment before a consonant is an effect of a root-initial laryngeal (in the above example, the proto-form is **é-h₂u~~er~~-t*).

§20. The present system

The *present system* refers to a family of verbal forms that have in common the fact that they are formed from the same *verbal stem*, which is conventionally called the *present stem*. (Not all of these forms have a reference to the present time, however.) The verbal forms that belong to the present system are:

- the present indicative, or *laṭ*;
- the imperfect indicative, or *lan*;
- the imperative, or *lōṭ*; and
- the optative, or *liṭ*.

The present stem is formed in different ways from different verbal roots, and hence we talk about ten *classes* of verbs. A verb belongs to a class solely by virtue of how its present stem is formed, which is to say, which present-stem-forming suffix (*vikaraṇaḥ*) is added to the verbal root before the endings of the mood-tense complexes (*lakārāḥ*) that belong to the present system. In part, a verb's belonging to one or the other class is determined by *phonological* considerations; in part, it is also determined by *semantic* considerations. The reason is that some of the present-stem-forming suffixes (*vikaraṇāḥ*) had particular meanings—generally, nasal-infix presents are more “transitive,” and *-ya-* presents are more “stative” or “reflexive”—but most of those semantic nuances have been lost. A verb's membership in one (or more) of the ten classes must be memorized.

The ten classes are distinguished, as noted above, by the present-stem-forming suffix, or *vikaraṇaḥ*, that is used to form the present stem. The following suffixes are used:

1. *ŚaP* (*Aṣṭādhyāyī* 3.1.68): Unaccented *-a-* which causes the root to be accented and full-grade (*guṇāḥ*). The list of verbs of this first class is called *bhavadigaṇaḥ*.
2. **No suffix** (technically: *luk*-elision of the formant *ŚaP*, cf. *Aṣṭādhyāyī* 2.4.72). The root takes the full grade (*guṇa*) in the strong form of the stem, and the zero grade in the weak form of the stem. The list of verbs of this second class is called *adādigaṇaḥ*.
3. **No suffix** (technically: *slu*-elision of the formant *ŚaP*, cf. *Aṣṭādhyāyī* 2.4.75). Reduplication (*abhyāsaḥ*) of the verbal root, which takes the full-grade (or *guṇa*) form

in the strong forms of the stem, and the zero-grade form in the weak forms of the stem. The list of verbs of this third class is called *bvādiganaḥ*.

4. *ŚyaN*: An unaccented suffix *-ya-*. The root takes its weakest (zero) grade before this suffix, but it is accented. The list of verbs of this fourth class is called *divādiganaḥ*.
5. *Śnu* (*Aṣṭādhyāyī* 3.1.73): The suffix is *-nō-* in the strong form of the stem, and *-nu-* in the weak form of the stem. The list of verbs of this fifth class is called *svādiganaḥ*.
6. *Śa* (*Aṣṭādhyāyī* 3.1.77): The suffix is an accented *-á-*, and the root stays in the zero grade. The list of verbs of this sixth class is called *tudādiganaḥ*.
7. *Śnam* (*Aṣṭādhyāyī* 3.1.78): The *vikaranaḥ* is actually an infixed *-na-* before the final consonant in the strong forms, and *-n-* in the weak forms. The list of verbs of this seventh class is called *rudhādiganaḥ*.
8. *u* (*Aṣṭādhyāyī* 3.1.79): The suffix is *-ō-* in the strong form of the stem, and *-u-* in the weak form. The list of verbs of this eighth class is called *tanādiganaḥ*.
9. *Śnā* (*Aṣṭādhyāyī* 3.1.81): A suffix *-nā-* in the strong form of the stem, and *-nī-* in the weak form of the stem. The list of verbs of this ninth class is called *kryādiganaḥ*.
10. *ṆiC* (*Aṣṭādhyāyī* 3.1.25): The root is first suffixed with *ṆiC*, which induces *Ṇ-vṛddhiḥ* in the root syllable; then the suffixed root takes the *vikaranaḥ ŚaP*, which causes the preceding suffix to undergo *guṇāḥ*. Hence the entire suffix appears as *-āya-*. The list of verbs of this tenth class is called *curādiganaḥ*.

Full paradigms of all of the mood-tense complexes *lakārāḥ* belonging to the present system will follow for verbs belonging to each of the ten classes.

§20.1. The first class (*bhṡādigaṇaḥ*)

Formed with a *vikaraṇaḥ* -a- that induces *guṇa* on the root, if the root is capable of taking *guṇaḥ*. (Recall that “superheavy” roots, which contain either a long vowel followed by a consonant, like $\sqrt{jīṡ}$, or any vowel followed by two consonants, like \sqrt{nind} , cannot take *guṇaḥ*.) The root is accented.

The first class is the largest. Here are some of the most common verbs:

- $\sqrt{bhū}$ “become” (*parasmaipadi*)
- $\sqrt{smṛ}$ “remember” (*parasmaipadi*)
- \sqrt{nad} “hum” (*parasmaipadi*)
- \sqrt{nind} “blame” (*parasmaipadi*)
- \sqrt{vraj} “wander” (*parasmaipadi*)
- \sqrt{tap} “burn” (*parasmaipadi*)
- \sqrt{cam} “sip” (*parasmaipadi*)
- \sqrt{nam} “bow” (*parasmaipadi*)
- \sqrt{ji} “win” (*parasmaipadi*)
- \sqrt{dah} “burn” (*parasmaipadi*)
- $\sqrt{dhāṡ}$ “run” (*parasmaipadi*)
- $\sqrt{sṛ}$ “spread” (*parasmaipadi*)
- \sqrt{tr} “cross” (*parasmaipadi*)
- \sqrt{vad} “speak” (*parasmaipadi*)
- \sqrt{vas} “dwell” (*parasmaipadi*)
- \sqrt{pat} “fall” (*parasmaipadi*)

- $\sqrt{ikṣ}$ “fall” (*ātmanēpadi*)
- $\sqrt{iḥ}$ “desire” (*ātmanēpadi*)
- \sqrt{dyut} “shine” (*ātmanēpadi*)
- \sqrt{syand} “sprinkle” (*ātmanēpadi*)
- \sqrt{ram} “enjoy” (*ātmanēpadi*)
- \sqrt{tvar} “hurry” (*ātmanēpadi*)
- \sqrt{ni} “lead” (*ubhayapadi*)
- \sqrt{sab} “bear” (*ātmanēpadi*)
- \sqrt{khan} “dig” (*ubhayapadi*)
- $\sqrt{hṛ}$ “take” (*ubhayapadi*)
- \sqrt{yaj} “worship” (*ubhayapadi*)
- \sqrt{vap} “sow” (*ubhayapadi*)
- \sqrt{vah} “carry” (*ubhayapadi*)
- $\sqrt{śri}$ “betake oneself” (*ubhayapadi*)

A number of roots form their present stem with a suffix *cha*. They are considered to belong to the first class, if the root syllable is accented, or the sixth class, if the suffix is accented. The root always takes the *zero grade* before this suffix. See (*Aṣṭādhyāyī* 7.3.77).

- \sqrt{gam} “go” (*parasmaipadi*) → *gáccha-*
- \sqrt{yam} “stop” (*parasmaipadi*) → *yáccha-*
- $\sqrt{ṛ}$ “go” (*parasmaipadi*) → *ṛccha-* (cf. *ἔρχομαι*)
- \sqrt{prach} “go” (*parasmaipadi*) → *prcchá-* (cf. *poscō*)

- \sqrt{is} “want” (*parasmaipadi*) → *icchá-*

NOTE: This suffix was originally a present stem forming suffix (*-*ske-*/*-*sko-*), and is attested in several other Indo-European languages. It probably had an “inchoative” sense, indicating that the agent is just beginning the action: hence **gʷm-ské-ti* “he sets out.”

A very small number of verbal roots in this class form their present stem with an irregular kind of reduplication:

- $\sqrt{sthā}$ “stand” (*parasmaipadi*) → *tíṣṭha-* (cf. ἵστημι)
- $\sqrt{pā}$ “drink” (*parasmaipadi*) → *píbati-*
- $\sqrt{ghrā}$ “sniff” (*parasmaipadi*) → *jígghra-*

The following roots, historically ending in a laryngeal, form the present stem by lengthening the root vowel:

- \sqrt{kram} “stride” (*parasmaipadi*) → *krámati*

The first class is exemplified with $\sqrt{bhū}$ “become” in the *parasmaipadām* and *ruc* “shine” in the *ātmanēpadām*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapuruṣaḥ</i>	<i>bhāvati</i>	<i>bhāvataḥ</i>	<i>bhāvanti</i>
<i>madhyamapuruṣaḥ</i>	<i>bhāvasi</i>	<i>bhāvathaḥ</i>	<i>bhāvatha</i>
<i>uttamapuruṣaḥ</i>	<i>bhāvāmi</i>	<i>bhāvāvaḥ</i>	<i>bhāvāmaḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>rōcatē</i>	<i>rōcētē</i>	<i>rōcantē</i>
<i>madhyamapurusaḥ</i>	<i>rōcasē</i>	<i>rōcēthē</i>	<i>rōcadhvē</i>
<i>uttamapurusaḥ</i>	<i>rōcē</i>	<i>rōcāvahē</i>	<i>rōcāmahē</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ābhavat</i>	<i>ābhavatām</i>	<i>ābhavan</i>
<i>madhyamapurusaḥ</i>	<i>ābhavaḥ</i>	<i>ābhavatam</i>	<i>ābhavata</i>
<i>uttamapurusaḥ</i>	<i>ābhavam</i>	<i>ābhavāva</i>	<i>ābhavāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ārōcata</i>	<i>ārōcētām</i>	<i>ārōcanta</i>
<i>madhyamapurusaḥ</i>	<i>ārōcathāḥ</i>	<i>ārōcēthām</i>	<i>ārōcadhvam</i>
<i>uttamapurusaḥ</i>	<i>ārōcē</i>	<i>ārōcāvahi</i>	<i>ārōcāmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>bhāvatu</i>	<i>bhāvātām</i>	<i>bhāvantu</i>
<i>madhyamapurusaḥ</i>	<i>bhāva</i>	<i>bhāvataṁ</i>	<i>bhāvata</i>
<i>uttamapurusaḥ</i>	[<i>bhāvāni</i>]	[<i>bhāvāva</i>]	[<i>bhāvāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>rōcatām</i>	<i>rōcētām</i>	<i>rōcantām</i>
<i>madhyamapurusaḥ</i>	<i>rōcasva</i>	<i>rōcēthām</i>	<i>rōcadhvam</i>
<i>uttamapurusaḥ</i>	[<i>rōcai</i>]	[<i>rōcāvahai</i>]	[<i>rōcāmahai</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>bhāvēt</i>	<i>bhāvētām</i>	<i>bhāvēyuḥ</i>
<i>madhyamapurusaḥ</i>	<i>bhāvēḥ</i>	<i>bhāvētām</i>	<i>bhāvēta</i>
<i>uttamapurusaḥ</i>	<i>bhāvēyam</i>	<i>bhāvēva</i>	<i>bhāvēma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>rōcēta</i>	<i>rōcēyātām</i>	<i>rōcēran</i>
<i>madhyamapurusaḥ</i>	<i>rōcēthāḥ</i>	<i>rōcēyāthām</i>	<i>rōcēdhvam</i>
<i>uttamapurusaḥ</i>	<i>rōcēya</i>	<i>rōcēvahi</i>	<i>rōcēmahi</i>

§20.2. The second class (*adādiganaḥ*)

This is the *root* present. There is no present-stem forming suffix: the default suffix, *ŚaP* (*Aṣṭādhyāyī* 3.1.68), is deleted by *Aṣṭādhyāyī* 2.4.72. There is a distinction in *vowel gradation* for roots of this class: a *strong stem*, which generally features a full-grade root (or *guṇāḥ*), and a *weak stem*, which generally features a zero-grade root. The strong stem is used before the singular endings of the *parasmaipadām* only, i.e., those endings that Pāṇini teaches with the *anubandha p* (*tiP*, *siP*, and *miP*), and that, too, only in the *present indicative* (*laṭ*) and *imperfect indicative* (*laṇ*), as well as certain forms of the *imperative* (*lōṭ*), namely, all forms of the first person (which are taken from the subjunctive) as well as the third person singular of the *parasmaipadām*.

If the verb is accented (see above), then the accent is on the *root* when the strong stem is used, i.e., in the singular forms of the *parasmaipadām*; the accent is on the *ending* in the other forms.

Here is a list of relatively common second class verbs, which I provide with their third persons singular and plural::

- \sqrt{ad} “eat” (*parasmaipadi*), *átti*, *adánti*
- $\sqrt{yā}$ “go” (*parasmaipadi*), *yāti*, *yánti*
- \sqrt{han} “kill” (*parasmaipadi*), *hánti*, *ghnánti*
- \sqrt{vas} “desire” (*parasmaipadi*), *váṣṭi*, *uśánti*
- $\sqrt{ās}$ “sit” (*ātmanēpadi*), *ástē*, *ásatē*
- \sqrt{vid} “know” (*parasmaipadi*), *vétti*, *vidánti*
- \sqrt{i} “go” (*parasmaipadi*), *éti* *yánti*
- \sqrt{as} “be” (*parasmaipadi*), *ásti*, *sánti*
- \sqrt{vac} “speak” (*parasmaipadi*), *vákti* (no third person plural)
- $\sqrt{sās}$ “command” (*parasmaipadi*), *sásti*, *sāsāti*
- \sqrt{is} “rule” (*ātmanēpadi*), *ísé*, *ísátē*
- $\sqrt{brū}$ “speak” (*ubhayapadi*), *brāvīti* or *brūtē*, *bruvānti* or *bruvátē*

To exemplify the paradigm, we use \sqrt{i} “go” in the *parasmaipadām* and $\sqrt{ās}$ “sit” in the *ātmanēpadām*.

NOTE: All of the roots beginning with a long vowel in this class, including $\sqrt{ās}$, maintain their accent on the root throughout.

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapuruṣaḥ</i>	<i>éti</i>	<i>itáḥ</i>	<i>yánti</i>
<i>madhyamapuruṣaḥ</i>	<i>éṣi</i>	<i>itháḥ</i>	<i>ithá</i>
<i>uttamapuruṣaḥ</i>	<i>émi</i>	<i>iváḥ</i>	<i>imáḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āstē</i>	<i>āsātē</i>	<i>āsātē</i>
<i>madhyamapurusaḥ</i>	<i>āssē</i>	<i>āsāthē</i>	<i>āddhvē</i>
<i>uttamapurusaḥ</i>	<i>āsē</i>	<i>āsṽabhē</i>	<i>āsmāhe</i>

NOTE: The verb \sqrt{i} has the strong stem \bar{e} and the weak stem i . The strong stem only occurs before endings that begin with a consonant. The weak stem, however, occurs before both consonant-initial and vowel-initial endings. In the *parasmaipadām*, the only vowel-initial ending is *-anti*, and there is a special rule (*Aṣṭādhyāyī* 6.4.81) that tells us that the vowel of the stem, i , is replaced by the corresponding semivowel, y , before this ending, and hence we have third-person plural form *yānti*.

In the *ātmanēpadām*, however, there are many endings that begin with vowels. The *ātmanēpadām* forms of this verb only occur after a verbal prefix, and in this context, by a special rule, the stem i is not replaced by the corresponding semivowel y , but by the sequence *iy* (which keeps the root as a distinct syllable), according to *Aṣṭādhyāyī* 6.4.77. Hence the forms in the *ātmanēpadām* would be *iyē*, *iyāthē*, *iyātē*, *iyatē*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>aít</i>	<i>aítām</i>	<i>ā́yan</i>
<i>madhyamapurusaḥ</i>	<i>aíḥ</i>	<i>aítām</i>	<i>aíta</i>
<i>uttamapurusaḥ</i>	<i>ā́yam</i>	<i>aíva</i>	<i>aíma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ā́sta</i>	<i>āsātām</i>	<i>āsata</i>
<i>madhyamapurusaḥ</i>	<i>ā́sthāḥ</i>	<i>āsāthām</i>	<i>āddhvam</i>
<i>uttamapurusaḥ</i>	<i>ā́si</i>	<i>āsṽahi</i>	<i>āsmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>étu</i>	<i>itām</i>	<i>yāntu</i>
<i>madhyapurusaḥ</i>	<i>ihí</i>	<i>itām</i>	<i>itá</i>
<i>uttamapurusaḥ</i>	[<i>áyāni</i>]	[<i>áyāva</i>]	[<i>áyāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ástām</i>	<i>ásātām</i>	<i>ásatām</i>
<i>madhyapurusaḥ</i>	<i>ássva</i>	<i>ásāthām</i>	<i>áddhvam</i>
<i>uttamapurusaḥ</i>	[<i>ásai</i>]	[<i>ásāvabai</i>]	[<i>ásāmabai</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>iyát</i>	<i>iyātām</i>	<i>iyúḥ</i>
<i>madhyapurusaḥ</i>	<i>iyáḥ</i>	<i>iyātām</i>	<i>iyáta</i>
<i>uttamapurusaḥ</i>	<i>iyám</i>	<i>iyáva</i>	<i>iyáma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ásita</i>	<i>ásiyātām</i>	<i>ásīran</i>
<i>madhyapurusaḥ</i>	<i>ásithāḥ</i>	<i>ásiyāthām</i>	<i>ásīdhvam</i>
<i>uttamapurusaḥ</i>	<i>ásiya</i>	<i>ásīvahi</i>	<i>ásīmahi</i>

§20.3. The third class (*hvādiganaḥ*)

This is the “reduplicating” present, so called because it is formed with a reduplicated syllable, or (*abhyāsaḥ*), which is always a *modified version of the root*. The rules for the formation of the reduplicated syllable are almost exactly the same as for the reduplication of the perfect. Specifically:

- No aspiration is permitted in the reduplicated syllable. Aspirate stops become their corresponding unaspirated forms, and the voiced aspirate *h* becomes *j*.
- The reduplicated syllable itself is *always light*. This means that vowel of the root, if it is long, is shortened; if it is a diphthong (*ē*, *ō*, *ai* and *au*), it becomes the corresponding simple vowel (*i* or *u*). Generally the vowel *ā* in the root syllable becomes *a* in the reduplicated syllable (e.g., *dadāti* from $\sqrt{dā}$), but in a few roots, it becomes *i* (e.g., *mimāti* from $\sqrt{mā}$). This rule also means that *any root-final consonants are lost*, since they would make the reduplicated syllable heavy.
- No complex consonants are permitted in the reduplicated syllable. Generally, if the onset of the root is C_1C_2 , the onset of the reduplicated syllable is C_1 (e.g., *jibrēti* from \sqrt{hri}). If, however, root begins with a sibilant-stop combination, then the stop, rather than the sibilant, appears in the reduplicated syllable.
- Velar (*kaṇṭhyaḥ*) consonants are replaced by their palatal (*tālavyaḥ*) counterparts. This is because the vowel of the reduplicated syllable in Indo-European was high (either **e* or **i*), which caused the palatalization of a preceding velar stop in Indo-Iranian.

The examples are \sqrt{hu} “pour out” for *parasmaipadām* and $\sqrt{mā}$ “measure” for *ātmanēpadām*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapuruṣaḥ</i>	<i>juhōti</i>	<i>juhutāḥ</i>	<i>jūhṽati</i>
<i>madhyamapuruṣaḥ</i>	<i>juhōṣi</i>	<i>juhuthāḥ</i>	<i>juhuthā</i>
<i>uttamapuruṣaḥ</i>	<i>juhōmi</i>	<i>juhuvāḥ</i>	<i>juhumāḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>mimītē</i>	<i>mīmātē</i>	<i>mímatē</i>
<i>madhyamapurusaḥ</i>	<i>mīmīṣē</i>	<i>mīmāthē</i>	<i>mīmīdhvē</i>
<i>uttamapurusaḥ</i>	<i>mímē</i>	<i>mimīvāhē</i>	<i>mimīmāhē</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ájubhōt</i>	<i>ájubutām</i>	<i>ájubhavuḥ</i>
<i>madhyamapurusaḥ</i>	<i>ájubhōḥ</i>	<i>ájubutam</i>	<i>ájubuta</i>
<i>uttamapurusaḥ</i>	<i>ájubhavam</i>	<i>ájubhva</i>	<i>ájubuma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ámimīta</i>	<i>ámimātām</i>	<i>ámimata</i>
<i>madhyamapurusaḥ</i>	<i>ámimīthaḥ</i>	<i>ámimāthām</i>	<i>ámimīdhvam</i>
<i>uttamapurusaḥ</i>	<i>ámimi</i>	<i>ámimīvahi</i>	<i>ámimīmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>jubhōtu</i>	<i>jubutām</i>	<i>júbhvatu</i>
<i>madhyamapurusaḥ</i>	<i>jubudhí</i>	<i>jubutām</i>	<i>jubutá</i>
<i>uttamapurusaḥ</i>	[<i>jubāvāni</i>]	[<i>jubāvāva</i>]	[<i>jubāvāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>mimitām</i>	<i>mīmātām</i>	<i>mímatām</i>
<i>madhyamapurusaḥ</i>	<i>mimiṣvá</i>	<i>mīmāthām</i>	<i>mimidhvám</i>
<i>uttamapurusaḥ</i>	[<i>mímai</i>]	[<i>mímāvahai</i>]	<i>mímāmahai</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>juhuyāt</i>	<i>juhuyātām</i>	<i>juhuyūḥ</i>
<i>madhyapurusaḥ</i>	<i>juhuyāḥ</i>	<i>juhuyātām</i>	<i>juhuyāta</i>
<i>uttapurusaḥ</i>	<i>juhuyām</i>	<i>juhuyāva</i>	<i>juhuyāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>mimitā</i>	<i>mimīyātām</i>	<i>mimīrān</i>
<i>madhyapurusaḥ</i>	<i>mimīthāḥ</i>	<i>mimīyāthām</i>	<i>mimīdhvām</i>
<i>uttapurusaḥ</i>	<i>mimīyā</i>	<i>mimīvāhi</i>	<i>mimīmāhi</i>

§20.4. The fourth class (*divādigaṇaḥ*)

The fourth class (“[the list of verbal roots] which begins with *div*”) forms its present stem with the present-stem-forming suffix *ŚyaN* (*Aṣṭādhyāyī* 3.1.69). This has the following properties:

- The form of the present-stem-forming suffix is an unaccented *-ya-*.
- The suffix requires that the root be in the *zero grade*. Hence:
 1. No *guṇāḥ* or *vṛddhiḥ* applies to the verbal root.
 2. If the verbal root is taught in a full-grade form (e.g., *tam*) then it will go into the corresponding zero-grade form (e.g., *tām*).
- The accent is on the root syllable.

Here is a list of relatively common fourth class verbs:

- *√naś* “be lost” (*parasmaipadi*)

- $\sqrt{kṣudh}$ “be hungry” (*parasmaipadi*)
- \sqrt{trp} “be satisfied” (*parasmaipadi*)
- $\sqrt{nṛt}$ “dance” (*parasmaipadi*)
- $\sqrt{siṽ}$ “sew” (*parasmaipadi*)
- \sqrt{div} “gamble” (*parasmaipadi*)
- \sqrt{man} “think” (*ātmanēpadi*)
- $\sqrt{naḥ}$ “tie up, bind” (*parasmaipadi*)
- $\sqrt{puṣ}$ “nourish” (*parasmaipadi*) or “be nourished” (*ātmanēpadi*)

The root $\sqrt{śram}$ “become tired” lengthens its vowel when the present stem forming suffix is added, hence *śrāmyāti*.

The forms are exemplified with $\sqrt{puṣ}$ “nourish” in the *parasmaipadām* and \sqrt{man} “think” in the *ātmanēpadām*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>púṣyati</i>	<i>púṣyataḥ</i>	<i>púṣyanti</i>
<i>madhyamapurusaḥ</i>	<i>púṣyasi</i>	<i>púṣyathaḥ</i>	<i>púṣyatha</i>
<i>uttamapurusaḥ</i>	<i>púṣyāmi</i>	<i>púṣyāvaḥ</i>	<i>púṣyāmaḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>mānyatē</i>	<i>mānyētē</i>	<i>mānyantē</i>
<i>madhyamapurusaḥ</i>	<i>mānyasē</i>	<i>mānyēthē</i>	<i>mānyadhvē</i>
<i>uttamapurusaḥ</i>	<i>mānyē</i>	<i>mānyāvaḥ</i>	<i>mānyāmaḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āpuṣyat</i>	<i>āpuṣyatām</i>	<i>āpuṣyan</i>
<i>madhyamapurusaḥ</i>	<i>āpuṣyaḥ</i>	<i>āpuṣyatam</i>	<i>āpuṣyata</i>
<i>uttamapurusaḥ</i>	<i>āpuṣyam</i>	<i>āpuṣyāva</i>	<i>āpuṣyāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āmanyatē</i>	<i>āmanyētām</i>	<i>āmanyanta</i>
<i>madhyamapurusaḥ</i>	<i>āmanyathāḥ</i>	<i>āmanyēthām</i>	<i>āmanyadhvam</i>
<i>uttamapurusaḥ</i>	<i>āmanyē</i>	<i>āmanyāvahi</i>	<i>āmanyāmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>púsyatu</i>	<i>púsyatām</i>	<i>púsyantu</i>
<i>madhyamapurusaḥ</i>	<i>púsyā</i>	<i>púsyatam</i>	<i>púsyata</i>
<i>uttamapurusaḥ</i>	[<i>púsyāni</i>]	[<i>púsyāva</i>]	[<i>púsyāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>mānyatām</i>	<i>mānyētām</i>	<i>mānyantām</i>
<i>madhyamapurusaḥ</i>	<i>mānyasva</i>	<i>mānyēthām</i>	<i>mānyadhvam</i>
<i>uttamapurusaḥ</i>	[<i>mānyai</i>]	[<i>mānyāvahai</i>]	[<i>mānyāmahai</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>púsyēt</i>	<i>púsyētām</i>	<i>púsyēyuh</i>
<i>madhyamapurusaḥ</i>	<i>púsyēḥ</i>	<i>púsyētam</i>	<i>púsyēta</i>
<i>uttamapurusaḥ</i>	<i>púsyēyam</i>	<i>púsyēva</i>	<i>púsyēma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>mānyēta</i>	<i>mānyēyātām</i>	<i>mānyēran</i>
<i>madhyamapurusaḥ</i>	<i>mānyēthāḥ</i>	<i>mānyēyāthām</i>	<i>mānyēdhvam</i>
<i>uttamapurusaḥ</i>	<i>mānyēya</i>	<i>mānyēvahi</i>	<i>mānyēmahi</i>

§20.5. The fifth class (*svādiganaḥ*)

This class adds the stem-forming suffix (*vikaraṇaḥ*) *-nō/-nu-* to the verbal root. It is essentially identical to the eighth class, which adds the suffix *-ō/-u-*. The strong forms are built with the full-grade suffix *-nō-*, and the weak forms, with the zero-grade suffix *-nu-*.

The accent is on the present-stem forming suffix in the strong forms and on the ending in the weak forms.

Roots of this class behave somewhat differently in their **internal sandhi** depending on whether they end in a vowel or a consonant. For roots that end in a vowel, the final *u* of the stem becomes *v* before endings that begin with a vowel (e.g., *cinvānti*). This final *u* also be dropped before the endings of the first person dual and plural (e.g., *cinmāḥ* or *cinumāḥ*).

For roots that end in a consonant, however, the consonant cluster *-C-n-* prevents the final *u* of the stem from becoming *v* (because that would result in an awkward consonant cluster *-Cnv-*). Instead, we have *uvañ*-sandhi, where the final *u* is replaced by *uv* before endings that begin with a vowel (e.g., *āpnuvānti*). The *u* of the stem is retained before the endings of the first person dual and plural (e.g., *āpnumāḥ*).

Here is a list of relatively common fifth class verbs:

- *√śak* “be capable” (*parasmaipadi*)

- \sqrt{sru} “hear” (*parasmaipadi*); though this forms its stem as if from $\acute{s}r$
- $\sqrt{\acute{a}p}$ “obtain” (*parasmaipadi*)
- \sqrt{as} “pervade” (*ātmanēpadi*)
- \sqrt{su} “press” (*ubhayapadi*)
- \sqrt{ci} “collect” (*ubhayapadi*)
- \sqrt{str} “cover” (*ubhayapadi*)
- \sqrt{vr} “choose” (*ubhayapadi*)

The paradigms are given using $\sqrt{\acute{a}p}$ “obtain” for the *parasmaipadām* and \sqrt{ci} “gather” for the *ātmanēpadām*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āpnōti</i>	<i>āpnutáḥ</i>	<i>āpnuvánti</i>
<i>madhyamapurusaḥ</i>	<i>āpnōṣi</i>	<i>āpnutháḥ</i>	<i>āpnuthá</i>
<i>uttamapurusaḥ</i>	<i>āpnōmi</i>	<i>āpnuváḥ</i>	<i>āpnumáḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>cinutē</i>	<i>cinvátē</i>	<i>cinvátē</i>
<i>madhyamapurusaḥ</i>	<i>cinuṣē</i>	<i>cinváthē</i>	<i>cinudhvē</i>
<i>uttamapurusaḥ</i>	<i>cinvé</i>	<i>cinváhē</i>	<i>cinmáhē</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āpnōt</i>	<i>āpnutām</i>	<i>āpnuvan</i>
<i>madhyamapurusaḥ</i>	<i>āpnōḥ</i>	<i>āpnutam</i>	<i>āpnuta</i>
<i>uttamapurusaḥ</i>	<i>āpnavam</i>	<i>āpnuva</i>	<i>āpnuma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ácinuta</i>	<i>ácinvātām</i>	<i>ácinvata</i>
<i>madhyamapurusaḥ</i>	<i>ácinuthāḥ</i>	<i>ácinvāthām</i>	<i>ácinudbhvam</i>
<i>uttamapurusaḥ</i>	<i>ácinvi</i>	<i>ácinvahi</i>	<i>ácinmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āpnótu</i>	<i>āpnutām</i>	<i>āpnvántu</i>
<i>madhyamapurusaḥ</i>	<i>āpnú</i>	<i>āpnutām</i>	<i>āpnutá</i>
<i>uttamapurusaḥ</i>	[<i>tanávāni</i>]	[<i>tanávāva</i>]	[<i>tanávāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>cinutām</i>	<i>cinvātām</i>	<i>cinvāthām</i>
<i>madhyamapurusaḥ</i>	<i>cinuṣvā</i>	<i>cinvāthām</i>	<i>cinudbhvām</i>
<i>uttamapurusaḥ</i>	[<i>cinávai</i>]	[<i>cinávāvahai</i>]	[<i>cinávāmahi</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āpnuyát</i>	<i>āpnuyátām</i>	<i>āpnuyúḥ</i>
<i>madhyamapurusaḥ</i>	<i>āpnuyáḥ</i>	<i>āpnuyátam</i>	<i>āpnuyáta</i>
<i>uttamapurusaḥ</i>	<i>āpnuyám</i>	<i>āpnuyáva</i>	<i>āpnuyáma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>cinvitá</i>	<i>cinviyātām</i>	<i>cinvirán</i>
<i>madhyamapurusaḥ</i>	<i>cinvithāḥ</i>	<i>cinviyāthām</i>	<i>cinvimáhi</i>
<i>uttamapurusaḥ</i>	<i>cinviyá</i>	<i>cinviváhi</i>	<i>cinvimáhi</i>

§20.6. The sixth class (*tudādigāṇaḥ*)

The sixth class (“[the list of verbal roots] which begins with *tud*”) forms its present stem with the present-stem-forming suffix *śa*. This has the following properties:

- The form of the present-stem-forming suffix is an unaccented *-á-*.
- The suffix requires that the root be in the *zero grade*. Hence:
 1. No *guṇáḥ* or *vṛddhiḥ* applies to the verbal root.
 2. If the verbal root is taught in a full-grade form (e.g., *prach*) then it will go into the corresponding zero-grade form (e.g., *pr̥ch*).
 3. Typically these roots end in a consonant, but for roots that end in the vowel *ṛ*, the stem ends in *-irá-*.
- The accent is on the present-stem-forming suffix.

Here is a list of relatively common verbs that belong to the sixth class:

- *√viś* “enter” (*parasmaipadi*)
- *√dis* “point out” (*parasmaipadi*)
- *√likh* “write” (*parasmaipadi*)
- *√spṛś* “touch” (*parasmaipadi*)
- *√kṛ* “scatter” (*parasmaipadi*)
- *√kṣip* “throw” (*parasmaipadi*)
- *√vidh* “worship” (*parasmaipadi*)
- *√lajj* “be embarrassed” (*ātmanēpadi*)
- *√sphur* “tremble, flash, throb, pulse” (*parasmaipadi*)

- \sqrt{vis} “enter” (*parasmaipadi*)
- $\sqrt{sṛj}$ “emit” (*parasmaipadi*)
- $\sqrt{kṛṣ}$ “plow” (*ubhayapadi*)

The following roots form their present stem by inserting a nasal between the vowel and the final consonant (*Aṣṭādhyāyī* 7.1.59):

- \sqrt{muc} “release” (*ubhayapadi*) → *muñcá-*
- \sqrt{lup} “cut” (*ubhayapadi*) → *lumpá-*
- \sqrt{vid} “find” (*ubhayapadi*) → *vindá-*
- \sqrt{lip} “smear” (*ubhayapadi*) → *limpá-*
- \sqrt{sic} “sprinkle” (*ubhayapadi*) → *siñcá-*
- $\sqrt{kṛt}$ “cut” (*parasmaipadi*) → *kṛntá-*
- $\sqrt{kḥid}$ “oppress” (*parasmaipadi*) → *kḥindá-*
- $\sqrt{piś}$ “form” (*parasmaipadi*) → *piṁśá-*

The verbs listed as \sqrt{prach} and $\sqrt{iṣ}$ form their present stems as *prcchāti* and *icchāti* respectively. See the note on the verbs *yácchati* and *gácchati* under first-class verbs above.

The forms are exemplified with $\sqrt{sṛj}$ “emit” in the *parasmaipadām* and \sqrt{lajj} “be embarrassed” in the *ātmanēpadām*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>sṛjāti</i>	<i>sṛjātaḥ</i>	<i>sṛjānti</i>
<i>madhyapurusaḥ</i>	<i>sṛjāsi</i>	<i>sṛjāthaḥ</i>	<i>sṛjātha</i>
<i>uttamapurusaḥ</i>	<i>sṛjāmi</i>	<i>sṛjāvah</i>	<i>sṛjāmaḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>lajjātē</i>	<i>lajjētē</i>	<i>lajjāntē</i>
<i>madhyamapurusaḥ</i>	<i>lajjāsē</i>	<i>lajjēthē</i>	<i>lajjādhvē</i>
<i>uttamapurusaḥ</i>	<i>lajjē</i>	<i>lajjāvahē</i>	<i>lajjāmahē</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ásrjat</i>	<i>ásrjatām</i>	<i>ásrjan</i>
<i>madhyamapurusaḥ</i>	<i>ásrjaḥ</i>	<i>ásrjatam</i>	<i>ásrjata</i>
<i>uttamapurusaḥ</i>	<i>ásrjam</i>	<i>ásrjāva</i>	<i>ásrjāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>álajjatē</i>	<i>álajjētām</i>	<i>álajjanta</i>
<i>madhyamapurusaḥ</i>	<i>álajjathāḥ</i>	<i>álajjēthām</i>	<i>álajjadhvam</i>
<i>uttamapurusaḥ</i>	<i>álajjē</i>	<i>álajjāvahi</i>	<i>álajjāmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>srjātu</i>	<i>srjātām</i>	<i>srjāntu</i>
<i>madhyamapurusaḥ</i>	<i>srjá</i>	<i>srjātam</i>	<i>srjāta</i>
<i>uttamapurusaḥ</i>	[<i>srjāni</i>]	[<i>srjāva</i>]	[<i>srjāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>lajjātām</i>	<i>lajjētām</i>	<i>lajjāntām</i>
<i>madhyamapurusaḥ</i>	<i>lajjāsva</i>	<i>lajjēthām</i>	<i>lajjādhvam</i>
<i>uttamapurusaḥ</i>	[<i>lajjai</i>]	[<i>lajjāvahi</i>]	[<i>lajjāmahi</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>srjēt</i>	<i>srjētām</i>	<i>srjēyuh</i>
<i>madhyamapurusaḥ</i>	<i>srjēḥ</i>	<i>srjētām</i>	<i>srjēta</i>
<i>uttamapurusaḥ</i>	<i>srjēyam</i>	<i>srjēva</i>	<i>srjēma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>lajjēta</i>	<i>lajjēyātām</i>	<i>lajjēran</i>
<i>madhyamapurusaḥ</i>	<i>lajjēthāḥ</i>	<i>lajjēyāthām</i>	<i>lajjédhvam</i>
<i>uttamapurusaḥ</i>	<i>lajjēya</i>	<i>lajjēvahi</i>	<i>lajjémahi</i>

§20.7. The seventh class (*rudhādigaṇaḥ*)

This class is sometimes called the ‘nasal infix’ class, because its stem-forming affix (*vikaraṇaḥ*) is a nasal, which is not added onto the verbal root, but infixed between the root’s vowel and its final consonant.

In the strong forms, the infix full-grade form *-ná-*. In the weak forms, the infix takes the zero-grade form *-n-*. Note that, because the root ends in a consonant, there will be **internal sandhi** between the root and endings beginning with a consonant. Note, also, that the *-n-* of the infix is subject to retroflexion by NATI in its strong forms.

The accent is on the infix in the strong forms and on the ending in the weak forms.

Some of the most common roots in this class are:

- \sqrt{rudh} “block” (*ubhayapadī*) → *ruṇádḥ-*, *rundh-*
- \sqrt{yuj} “join” (*ubhayapadī*) → *yunáj-*, *yuñj-*
- \sqrt{bhuj} “enjoy” (*ātmanēpadī*) → *bhunáj-*, *bhuñj-*

- \sqrt{his} “strike” (*parasmaipadī*) → *hims-*, *hinás-*
- $\sqrt{śis}$ “distinguish” (*parasmaipadī*) → *śinás-*, *śimś-*
- $\sqrt{bhañj}$ “break” (*parasmaipadī*) → *bhanáj-*, *bhañj-*
- $\sqrt{añj}$ “annoint” (*parasmaipadī*) → *anáj-*, *añj-*

The following paradigms use the verb \sqrt{rudh} “block” for *parasmaipadām* and \sqrt{bhuj} “enjoy” for *ātmanēpadām*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ruṇáddhi</i>	<i>runddháḥ</i>	<i>rundhánti</i>
<i>madhyapurusaḥ</i>	<i>ruṇátsi</i>	<i>runddháḥ</i>	<i>runddhá</i>
<i>uttamapurusaḥ</i>	<i>ruṇádhmi</i>	<i>runddhvāḥ</i>	<i>runddhmāḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>bhuñktē</i>	<i>bhuñjátē</i>	<i>bhuñjátē</i>
<i>madhyapurusaḥ</i>	<i>bhuñkṣé</i>	<i>bhuñjátḥē</i>	<i>bhuñgdhvé</i>
<i>uttamapurusaḥ</i>	<i>bhuñjé</i>	<i>bhuñjvāḥē</i>	<i>bhuñjmāḥē</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>áruṇat</i>	<i>árunddhām</i>	<i>árunddhan</i>
<i>madhyapurusaḥ</i>	<i>áruṇat</i>	<i>árunddham</i>	<i>árunddha</i>
<i>uttamapurusaḥ</i>	<i>áruṇadham</i>	<i>árunddhva</i>	<i>árundhma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ābhukta</i>	<i>ābhuñjātām</i>	<i>ābhuñjata</i>
<i>madhyamapurusaḥ</i>	<i>ābhuktbāḥ</i>	<i>ābhuñjāthām</i>	<i>ābhuṅgdbvam</i>
<i>uttamapurusaḥ</i>	<i>ābhuñji</i>	<i>ābhuñjvahi</i>	<i>ābhuñjmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ruṇāddhu</i>	<i>runddhām</i>	<i>rundhāntu</i>
<i>madhyamapurusaḥ</i>	<i>runddhī</i>	<i>runddhām</i>	<i>runddhā</i>
<i>uttamapurusaḥ</i>	[<i>ruṇādbhāni</i>]	[<i>ruṇādbhāva</i>]	[<i>ruṇādbhāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>bhukktām</i>	<i>bhuñjātām</i>	<i>bhuñjātām</i>
<i>madhyamapurusaḥ</i>	<i>bhukṣvā</i>	<i>bhuñjāthām</i>	<i>bhuṅgdbvām</i>
<i>uttamapurusaḥ</i>	[<i>bhunājai</i>]	[<i>bhunājāvahai</i>]	[<i>bhunājāmahai</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>rundhyāt</i>	<i>rundhyātām</i>	<i>rundhyūḥ</i>
<i>madhyamapurusaḥ</i>	<i>rundhyāḥ</i>	<i>rundhyātām</i>	<i>rundhyāta</i>
<i>uttamapurusaḥ</i>	<i>rundhyām</i>	<i>rundhyāva</i>	<i>rundhyāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>bhuñjitā</i>	<i>bhuñjīyātām</i>	<i>bhuñjirān</i>
<i>madhyamapurusaḥ</i>	<i>bhuñjithāḥ</i>	<i>bhuñjīyāthām</i>	<i>bhuñjidhvām</i>
<i>uttamapurusaḥ</i>	<i>bhuñjīyā</i>	<i>bhuñjīvāhi</i>	<i>bhuñjimāhi</i>

§20.8. The eighth class (*tanādiganaḥ*)

The stem-forming affix (*vikaraṇaḥ*) in this class is the vowel *u*, which takes the full-grade or *guṇāḥ* form *-ō-* in the strong forms, and the zero-grade form *-u-* in the weak forms.

The accent is on the suffix in the strong forms and on the verbal ending in the weak forms.

This class of verbs is exactly parallel to the fifth class, which builds its strong forms with the affix *-nō-* and its weak forms with the affix *-nu-*.

NOTE: The primary verb of the eighth class, \sqrt{tan} “stretch,” historically was a *nu*-present. The root takes the zero-grade form before the suffix, so the inherited form would have been **tn-nu-* or **tn-néu-*. But because an inherited *n* between consonants develops into *a* in Sanskrit, the zero-grade form of the root ends up looking like *ta*, and for convenience, the Sanskrit grammarians considered the *n* of the suffix to belong to the root.

The forms are exemplified with \sqrt{tan} “stretch” in both the *parasmaipadām* and the *ātmanēpadām*.

In addition, the full paradigm of the verb $\sqrt{kṛ}$ “do” is given here, which presents a number of particularities: in the strong forms, the stem takes the form *karō-*, and in the weak forms, it appears as *kuru-* or *kur-*. The latter is the reflex of the zero-grade form *kṛ* before the stem-forming suffix *-u-*. In addition, the verb $\sqrt{kṛ}$ drops the stem-final *u* before the endings of the first person dual and plural (like fifth-class verbs such as \sqrt{ci} , \sqrt{su} , etc.).

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapuruṣaḥ</i>	<i>tanōti</i>	<i>tanutāḥ</i>	<i>tanvānti</i>
<i>madhyamapuruṣaḥ</i>	<i>tanōṣi</i>	<i>tanuthāḥ</i>	<i>tanuthā</i>
<i>uttamapuruṣaḥ</i>	<i>tanōmi</i>	<i>tanuvāḥ</i>	<i>tanumāḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>tanutē</i>	<i>tanvātē</i>	<i>tanvātē</i>
<i>madhyamapurusaḥ</i>	<i>tanuṣē</i>	<i>tanvāthē</i>	<i>tanudhvē</i>
<i>uttamapurusaḥ</i>	<i>tanvē</i>	<i>tanuvāhē</i>	<i>tanumāhē</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>karōti</i>	<i>kurutāḥ</i>	<i>kurvānti</i>
<i>madhyamapurusaḥ</i>	<i>karōṣi</i>	<i>kuruthāḥ</i>	<i>kuruthā</i>
<i>uttamapurusaḥ</i>	<i>karōmi</i>	<i>kurvāḥ</i>	<i>kurmāḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>kurutē</i>	<i>kurvātē</i>	<i>kurvātē</i>
<i>madhyamapurusaḥ</i>	<i>kuruṣē</i>	<i>kurvāthē</i>	<i>kurudhvē</i>
<i>uttamapurusaḥ</i>	<i>kurvē</i>	<i>kurvāhē</i>	<i>kurmāhē</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ātanōt</i>	<i>ātanutām</i>	<i>ātanvan</i>
<i>madhyamapurusaḥ</i>	<i>ātanōḥ</i>	<i>ātanutam</i>	<i>ātanuta</i>
<i>uttamapurusaḥ</i>	<i>ātanuvam</i>	<i>ātanuva</i>	<i>ātanuma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ātanuta</i>	<i>ātanvātām</i>	<i>ātanvata</i>
<i>madhyamapurusaḥ</i>	<i>ātanuthāḥ</i>	<i>ātanvāthām</i>	<i>ātanudhvam</i>
<i>uttamapurusaḥ</i>	<i>ātanvi</i>	<i>ātanuvahi</i>	<i>ātanumahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ākarōt</i>	<i>ākurutām</i>	<i>ākurvan</i>
<i>madhyamapurusaḥ</i>	<i>ākarōḥ</i>	<i>ākurutam</i>	<i>ākuruta</i>
<i>uttamapurusaḥ</i>	<i>ākaravam</i>	<i>ākurva</i>	<i>ākurma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ākuruta</i>	<i>ākurvātām</i>	<i>ākurvata</i>
<i>madhyamapurusaḥ</i>	<i>ākuruthāḥ</i>	<i>ākurvāthām</i>	<i>ākurudhvam</i>
<i>uttamapurusaḥ</i>	<i>ākurvi</i>	<i>ākurvahi</i>	<i>ākurmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>tanōtu</i>	<i>tanutām</i>	<i>tanvāntu</i>
<i>madhyamapurusaḥ</i>	<i>tanú</i>	<i>tanutām</i>	<i>tanutá</i>
<i>uttamapurusaḥ</i>	[<i>tanāvāni</i>]	[<i>tanāvāva</i>]	[<i>tanāvāma</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>tanutām</i>	<i>tanvātām</i>	<i>tanvātām</i>
<i>madhyamapurusaḥ</i>	<i>tanuṣvā</i>	<i>tanvāthām</i>	<i>tanudhvām</i>
<i>uttamapurusaḥ</i>	[<i>tanāvai</i>]	[<i>tanāvāvahi</i>]	[<i>tanāvāmahi</i>]

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>karōtu</i>	<i>kurutām</i>	<i>kurvāntu</i>
<i>madhyamapurusaḥ</i>	<i>kurú</i>	<i>kurutām</i>	<i>kurutá</i>
<i>uttamapurusaḥ</i>	[<i>karāvāni</i>]	[<i>karāvāva</i>]	[<i>karāvāma</i>]

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>kurutām</i>	<i>kurvātām</i>	<i>kurvātām</i>
<i>madhyamapurusaḥ</i>	<i>kurusvā</i>	<i>kurvāthām</i>	<i>kurudhvām</i>
<i>uttamapurusaḥ</i>	[<i>karāvai</i>]	[<i>karāvāvahai</i>]	[<i>karāvāmahai</i>]

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>tanuyāt</i>	<i>tanuyātām</i>	<i>tanuyūḥ</i>
<i>madhyamapurusaḥ</i>	<i>tanuyāḥ</i>	<i>tanuyātām</i>	<i>tanuyāta</i>
<i>uttamapurusaḥ</i>	<i>tanuyām</i>	<i>tanuyāva</i>	<i>tanuyāma</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>tanvitā</i>	<i>tanvīyātām</i>	<i>tanvīrān</i>
<i>madhyamapurusaḥ</i>	<i>tanvithāḥ</i>	<i>tanvīyāthām</i>	<i>tanvīmāhi</i>
<i>uttamapurusaḥ</i>	<i>tanvīyā</i>	<i>tanvīvāhi</i>	<i>tanvīmāhi</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>kuryāt</i>	<i>kuryātām</i>	<i>kuryūḥ</i>
<i>madhyamapurusaḥ</i>	<i>kuryāḥ</i>	<i>kuryātām</i>	<i>kuryāta</i>
<i>uttamapurusaḥ</i>	<i>kuryām</i>	<i>kuryāva</i>	<i>kuryāma</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>kurvitā</i>	<i>kurvīyātām</i>	<i>kurvīrān</i>
<i>madhyamapurusaḥ</i>	<i>kurvithāḥ</i>	<i>kurvīyāthām</i>	<i>kurvidhvām</i>
<i>uttamapurusaḥ</i>	<i>kurvīyā</i>	<i>kurvīvāhi</i>	<i>kurvīmāhi</i>

§20.9. The ninth class (*kryādigāṇaḥ*)

The present-stem forming suffix (*vikaraṇaḥ*) for this class is *-nā-* in the strong forms and *-nī-* (before consonants) or *-n-* (before vowels) in the weak forms. The accent is on the suffix in the strong forms and on the verbal endings in the weak forms.

NOTE: Historically, this class is a subset of the seventh class, which forms the stem with an infix *-na-* or *-n-*. The roots of the ninth class happened to end in a laryngeal in Indo-European, and the combinations of the infix and the final consonant, **-ne-H-* and **-n-H-*, resulted in *-nā-* and *-nī-* in Sanskrit.

The *parasmaipadām* forms are exemplified with $\sqrt{\text{bandh}}$ “bind,” and the *ātmanēpadām* forms with $\sqrt{\text{jñā}}$ “know.”

	<i>ekavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>badhnāti</i>	<i>badhnitāḥ</i>	<i>badhnānti</i>
<i>madhyapurusaḥ</i>	<i>badhnāsi</i>	<i>badhnithāḥ</i>	<i>badhnithā</i>
<i>uttamapurusaḥ</i>	<i>badhnāmi</i>	<i>badhnīvāḥ</i>	<i>badhnīmāḥ</i>

	<i>ekavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>jānītē</i>	<i>jānātē</i>	<i>jānātē</i>
<i>madhyapurusaḥ</i>	<i>jānīṣē</i>	<i>jānāthē</i>	<i>jānīdhvē</i>
<i>uttamapurusaḥ</i>	<i>jānē</i>	<i>jānīvāḥ</i>	<i>jānīmāḥ</i>

	<i>ekavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ābadhnāt</i>	<i>ābadhnitām</i>	<i>ābadhnan</i>
<i>madhyapurusaḥ</i>	<i>ābadhnāḥ</i>	<i>ābadhnitām</i>	<i>ābadhnīta</i>
<i>uttamapurusaḥ</i>	<i>ābadhnām</i>	<i>ābadhnīva</i>	<i>ābadhnīma</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ājānīta</i>	<i>ājānātām</i>	<i>ājānata</i>
<i>madhyamapurusaḥ</i>	<i>ājānīthāḥ</i>	<i>ājānāthām</i>	<i>ājānīdhvam</i>
<i>uttamapurusaḥ</i>	<i>ājāni</i>	<i>ājānīvahi</i>	<i>ājānīmahi</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>badhnātu</i>	<i>badhnitām</i>	<i>badhnāntu</i>
<i>madhyamapurusaḥ</i>	<i>badhniḥi</i>	<i>badhnitām</i>	<i>badhniṭā</i>
<i>uttamapurusaḥ</i>	[<i>badhnāni</i>]	[<i>badhnāva</i>]	[<i>badhnāma</i>]

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>jānitām</i>	<i>jānātām</i>	<i>jānātām</i>
<i>madhyamapurusaḥ</i>	<i>jāniṣvā</i>	<i>jānāthām</i>	<i>jānīdhvām</i>
<i>uttamapurusaḥ</i>	[<i>jānai</i>]	[<i>jānāvahi</i>]	[<i>jānāmahi</i>]

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>badhnīyāt</i>	<i>badhnīyātām</i>	<i>badhnīyūḥ</i>
<i>madhyamapurusaḥ</i>	<i>badhnīyāḥ</i>	<i>badhnīyātām</i>	<i>badhnīyāta</i>
<i>uttamapurusaḥ</i>	<i>badhnīyām</i>	<i>badhnīyāva</i>	<i>badhnīyāma</i>

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>jānītā</i>	<i>jānīyātām</i>	<i>jānīraū</i>
<i>madhyamapurusaḥ</i>	<i>jānīthāḥ</i>	<i>jānīyāthām</i>	<i>jānīdhvām</i>
<i>uttamapurusaḥ</i>	<i>jānīyā</i>	<i>jānīvahi</i>	<i>jānīmahi</i>

§20.10. The tenth class (*curādigāṇaḥ*)

The tenth class mostly includes deverbial verbs, such as causative verbs. But it includes a number of roots that have no corresponding simple verb. These roots are listed in the *curādigāṇaḥ*.

They are formed with the present stem forming suffix *-āya-*, which induces Ṇ-*vṛddhiḥ* on the root syllable. (In Pāṇini's system, these stems are formed by adding the suffix *ṆiC* to the root, and then adding the suffix *ŚaP*, just as in the first class of verbs: *ṆiC* strengthens the root syllable, and *ŚaP* strengthens the root-extension *ṆiC* to *guṇāḥ*, hence the composite form *-āy-a-*.)

Some roots in this class are:

- $\sqrt{gaṇ}$ “count” → *gaṇāya-*
- \sqrt{kath} “say” → *kathāya-*
- \sqrt{cint} “think” → *cintāya-*

The *parasmaipadām* forms are exemplified with \sqrt{cur} “steal.” There are no non-causative *ātmanēpadām* verbs.

	<i>ēkavacanē</i>	<i>dvīvacanē</i>	<i>bahuvacanē</i>
<i>prathamapuruṣaḥ</i>	<i>cōrāyati</i>	<i>cōrāyataḥ</i>	<i>cōrāyanti</i>
<i>madhyamapuruṣaḥ</i>	<i>cōrāyasi</i>	<i>cōrāyathaḥ</i>	<i>cōrāyatha</i>
<i>uttamapuruṣaḥ</i>	<i>cōrāyāmi</i>	<i>cōrāyāvaḥ</i>	<i>cōrāyāmaḥ</i>

§20.11. The passive/impersonal of the present system (*yaK*)

All of the finite verb forms listed above are used “in reference to the agent of the verbal action” (*kartāri prayōgāḥ*). Sanskrit, however, allows for any verb of any of the ten classes to

be used either with reference to the patient of the verbal action (*karmāṇi prayōgāḥ*), if the verb is transitive, or with reference to the verbal action itself (*bhāvē prayōgāḥ*). (For more on these three constructions, see the agentive, patientive, and impersonal constructions below.)

In the present system, a passive/impersonal construction is available with a special present stem forming suffix (*vikaraṇaḥ*) that Pāṇini calls *yaK*. The effect of the final diacritical letter (*anubandhaḥ*) *K* is to put the root into the zero grade (see vowel gradation above). Once the **passive stem** (i.e., the stem used for both passive and impersonal expressions) has been formed by adding the suffix *yaK* to the verbal root in the zero grade, the *ātmanēpadām* endings are added, since these endings are obligatory whenever the verbal form expresses the patient or the verbal action *Aṣṭādhyāyī* 1.3.13.

The **formation** of the passive stem is generally straightforward: add the suffix *-ya-* to the unstrengthened verbal root:

- $\sqrt{\text{gam}} + \text{yaK} [+ tē] \rightarrow \text{gamyātē}$ “goes” [impersonal]
- $\sqrt{\text{nī}} + \text{yaK} [+ tē] \rightarrow \text{nīyātē}$ “is led”
- $\sqrt{\text{pac}} + \text{yaK} [+ tē] \rightarrow \text{pacyātē}$ “is cooked”
- $\sqrt{\text{paṭh}} + \text{yaK} [+ tē] \rightarrow \text{paṭhyātē}$ “is recited”

However the root sometimes undergoes changes. One type of change relates to the combination of root-final vowel with the *-ya-* of the present stem forming suffix. Before the suffix, the vowels *i* and *u* are lengthened, and the vowel *ṛ* is changed to *ri*; a long *ṛ* is changed to *īr* generally, but to *ūr* after labial consonants:

- $\sqrt{\text{śru}} + \text{yaK} [+ tē] \rightarrow \text{śrūyātē}$ “is heard”
- $\sqrt{\text{stu}} + \text{yaK} [+ tē] \rightarrow \text{stūyātē}$ “is praised”
- $\sqrt{\text{ci}} + \text{yaK} [+ tē] \rightarrow \text{cīyātē}$ “is piled”

- $\sqrt{kr} + yaK [+ tē] \rightarrow kriyātē$ “is done”
- $\sqrt{hr} + yaK [+ tē] \rightarrow hriyātē$ “is taken”
- $\sqrt{tr} + yaK [+ tē] \rightarrow tīryātē$ “is crossed”
- $\sqrt{pr} + yaK [+ tē] \rightarrow pūryātē$ “is filled”

NOTE: An exception to this rule is $\sqrt{śi}$ “lie,” which forms the impersonal stem *śayya-* (*Aṣṭādhyāyī* 7.4.22).

Verbal roots ending in *r* that begin with conjunct consonants, however, do not turn the *r* into *ri*, but into *ar*, probably to avoid an awkward combination of consonants such as *smr-*, (*Aṣṭādhyāyī* 7.4.29)

- $\sqrt{smr} + yaK [+ tē] \rightarrow smaryātē$ “it is remembered”

The following verbs take *saṁprasāraṇam* in the passive stem *Aṣṭādhyāyī* 6.1.15:

- $\sqrt{vac} + yaK [+ tē] \rightarrow ucyātē$ “is said”
- $\sqrt{svap} + yaK [+ tē] \rightarrow supyātē$ “sleeps” [impersonal]
- $\sqrt{vaś} + yaK [+ tē] \rightarrow uśyātē$ “is wished”
- $\sqrt{yaj} + yaK [+ tē] \rightarrow ijjyātē$ “is sacrificed”
- $\sqrt{vap} + yaK [+ tē] \rightarrow upyātē$ “is sown”
- $\sqrt{vah} + yaK [+ tē] \rightarrow uhyātē$ “is carried”
- $\sqrt{vas} + yaK [+ tē] \rightarrow uśyātē$ “stays” [impersonal]
- $\sqrt{vē} + yaK [+ tē] \rightarrow ūyātē$ “is weaved”
- $\sqrt{vyē} + yaK [+ tē] \rightarrow vīyātē$ “is covered”
- $\sqrt{hvē} + yaK [+ tē] \rightarrow hūyātē$ “is called”
- $\sqrt{vad} + yaK [+ tē] \rightarrow udyātē$ “is spoken”

- $\sqrt{śvi} + yaK [+ tē] \rightarrow śūyātē$ “expands” [impersonal]
- $\sqrt{grah} + yaK [+ tē] \rightarrow gr̥hyātē$ “is taken”
- $\sqrt{jyā} + yaK [+ tē] \rightarrow jīyātē$ “fails” [impersonal]
- $\sqrt{vyadh} + yaK [+ tē] \rightarrow vidhyātē$ “is pierced”
- $\sqrt{vyac} + yaK [+ tē] \rightarrow vicyātē$ “is surrounded”
- $\sqrt{vraśc} + yaK [+ tē] \rightarrow vṛścyātē$ “is cut”
- $\sqrt{prach} + yaK [+ tē] \rightarrow pr̥chyātē$ “is asked”
- $\sqrt{bhraj} + yaK [+ tē] \rightarrow bhr̥jyātē$ “is fried”
- $\sqrt{syam} + yaK [+ tē] \rightarrow simyātē$ “cries” [impersonal]

The following verbal roots ending a long vowel (and historically in a laryngeal) form their zero-grade forms with *i* (*Aṣṭādhyāyī* 6.4.66):

- $\sqrt{dā} + yaK [+ tē] \rightarrow diyātē$ “is given”
- $\sqrt{dhā} + yaK [+ tē] \rightarrow dhīyātē$ “is placed”
- $\sqrt{mā} + yaK [+ tē] \rightarrow mīyātē$ “is measured”
- $\sqrt{sthā} + yaK [+ tē] \rightarrow sthīyātē$ “stands” [impersonal]
- $\sqrt{hā} + yaK [+ tē] \rightarrow hīyātē$ “is abandoned”
- $\sqrt{gai} + yaK [+ tē] \rightarrow gīyātē$ “is sung”
- $\sqrt{pā} + yaK [+ tē] \rightarrow pīyātē$ “is drunk”
- $\sqrt{sō} + yaK [+ tē] \rightarrow sīyātē$ “is finished”

NOTE: The verbal root $\sqrt{sās}$ forms the passive stem *śīśyā-* (*Aṣṭādhyāyī* 6.4.34).

Roots that have a *penultimate* nasal typically lose it in the passive:

- $\sqrt{rañj} + yaK [+ tē] \rightarrow rajyātē$ “is attached” [impersonal]

- $\sqrt{sramis} + yaK [+ tē] \rightarrow srasyātē$ “falls” [impersonal]
- $\sqrt{bandh} + yaK [+ tē] \rightarrow badhyātē$ “is bound”

Among the roots ending in a nasal consonant, most do not change, but a few can optionally lose the final nasal and lengthen the preceding vowel (*Aṣṭādhyāyī* 6.4.43). All of these historically ended in a laryngeal consonant.

- $\sqrt{jan} + yaK [+ tē] \rightarrow janyātē$ or $jāyātē$ “is born”
- $\sqrt{tan} + yaK [+ tē] \rightarrow tanyātē$ or $tāyātē$ “is stretched”
- $\sqrt{san} + yaK [+ tē] \rightarrow sanyātē$ or $sāyātē$ “is attained”
- $\sqrt{khan} + yaK [+ tē] \rightarrow khanyātē$ or $khāyātē$ “is dug”

§20.12. The present participle

The verbal adjective of the present stem is formed by the addition of two suffixes: one corresponding to *parasmaipadām* forms, which Pāṇini calls *ŚatR*, and one corresponding to *ātmanēpadām* forms, which Pāṇini calls *ŚānaC*. The form that these suffixes take depends on the class of the verb, according to the following rule:

- verbal roots belonging to the **thematic** classes—that is, those whose present-stem forming suffix ends in the thematic vowel *a*, including the first (*bhṛvādigaṇaḥ*), the fourth (*divādigaṇaḥ*), the sixth (*tudādigaṇaḥ*), and the tenth (*curādigaṇaḥ*)—affix the suffix *-at* in the *parasmaipadām* and the suffix *-māna-* in the *ātmanēpadām*;
- verbal roots belonging to all other classes, or **athematic** roots, affix the suffix *-at-* in the *parasmaipadām* and the suffix *-āna-* in the *ātmanēpadām*.

NOTE: The reason for the different suffixes of the *ātmanēpadām* participle in the thematic and non-thematic verb classes is the different development of the inherited suffix, **-mh₁no-*, after a vowel (as was always the case in the thematic verb classes) and after a consonant (as was often the

case in the athematic verb classes). After a vowel, the suffix probably developed into **-mīna-*, for which there is some inscriptional evidence. After a consonant, it developed into **-āna-*. Analogy from the postconsonantal version of the suffix probably reshaped the postvocalic version.

The declension of the present participle of the *parasmaipadām* is covered above: in the masculine and nominative, it is inflected as a stem ending in *-ant* in the strong cases and *-at* in the weak cases. The feminine is formed with the suffix *ÑiP*. As noted in the section on the participle's declension, there is an important exception to general principle that the strong stem is formed with *-ant-* and the weak stem with *-at-*: in the participle of **verbs of the third class**, which have a reduplicated stem, the form of the stem is **always** *-at-*, even in the strong cases (although it is optionally *-ant-* in the nominative-accusative-vocative of the neuter).

Whether the feminine suffix is added onto the stem in *-ant-* or *-at-*, and also whether the neuter nominative-accusative dual is formed by adding the suffix *-ī* onto the stem in *-ant-* or *-at-*, depends on the verb class. The general principle is as follows:

- verbs of the first, fourth, and tenth classes use the stem ending in *-ant-*;
- verbs of the second, third, fifth, seventh, eighth, and ninth classes use the stem ending in *-at-*;
 - (except verbs of the second class ending in *-ā*, which may use either the stem ending in *-at-* or the stem ending in *-ant-*)
- verbs of the sixth class may use either stem.

Class	Masculine	Feminine
1. <i>bhvādiḥ</i>	<i>bhāvan</i>	<i>bhāvanti</i>
2. <i>adādiḥ</i>	<i>adān</i>	<i>adātī</i>
2. <i>adādiḥ</i>	<i>yān</i>	<i>yāntī / yātī</i>
3. <i>hvādiḥ</i>	<i>jūhvan</i>	<i>jūhvatī</i>
4. <i>divādiḥ</i>	<i>dīvyān</i>	<i>dīvyanti</i>
5. <i>svādiḥ</i>	<i>sunvān</i>	<i>sunvatī</i>
6. <i>tudādiḥ</i>	<i>tudān</i>	<i>tudāntī / tudatī</i>
7. <i>rudhādiḥ</i>	<i>rundhān</i>	<i>rundhatī</i>
8. <i>tanādiḥ</i>	<i>tanvān</i>	<i>tanvatī</i>
9. <i>kryādiḥ</i>	<i>krīṇān</i>	<i>krīṇatī</i>
10. <i>curādiḥ</i>	<i>cōrāyan</i>	<i>cōrāyanti</i>

§21. The perfect system

The perfect system refers to a set of verbal forms that are derived with the tense-mood marker *liṭ*. Unlike the present system, there is no distinction between classes in the perfect: all verbs are formed according to the same rules. Not all verbs, however, can be inflected in the perfect: verbs beginning with a vowel (besides *a* or *ā*) that is “superheavy” (i.e., a long vowel followed by a consonant, or a short vowel followed by two consonants), such as $\sqrt{īḍ}$, \sqrt{und} , $\sqrt{ēdh}$, and \sqrt{indh} , cannot be inflected in this tense.

The forms of the perfect are generally used with reference to past time; Pāṇini prescribes the perfect tense for events in the past that one has not personally witnessed (*parōkṣe liṭ* in *Aṣṭādhyāyī* 3.2.115), and it is commonly used in discussing the remote past, or as a general narrative tense..

As with all other verbal forms, the perfect can be thought of as a combination of a stem with a given ending. As with athematic verbs in the present system, the verbs in the

perfect generally distinguish between a **strong** and **weak** form of the stem, the former displaying a full-grade form of the root, and the latter a zero-grade form.

The characteristic of the perfect stem is not a **suffix**, but rather a **reduplication** (*abhyāsaḥ*) of the root. In addition, the perfect takes a distinctive set of **endings** in both the *parasmaipadām* and the *ātmanēpadām*.

§21.1. Reduplication

The basic principles of reduplication in the perfect are similar to that of third-class verbs in the present tense (see above): the reduplicated syllable is the verbal root, only subject to a greater number of phonological constraints, and subject to certain modifications:

- **No coda consonants.** If the root ends in a consonant, it is omitted from the reduplicated syllable. (This is due to a broader constraint on *heavy syllables*.)
 - *car* “go” → *ca-*
 - *pac* “go” → *pa-*
 - *labh* “touch” → *la-*
- **No long vowels.** If the vowel of the root is long, it is shortened in the reduplicated syllable. The short equivalents of *ē* and *ō* are *i* and *u* respectively (*Aṣṭādhyāyī* 1.1.48). (This, too, is due to the aforementioned constraint on *heavy syllables*.) Note that the vowel of the reduplicated syllable of *√bhū* is *ba-* rather than *bu-* (*Aṣṭādhyāyī* 7.4.73).
 - *nī* “lead” → *ni-*
 - *sēv* “serve” → *si-*
 - *dā* “give” → *da-*
 - *bhū* “become” → *ba-*

- **No vocalic r .** r becomes a .
 - vr “open” → va -
 - mr “die” → ma -
- ***Samprasāraṇam* if possible.** Roots that contain a semivowel followed by the vowel a and which are subject to *saṁprasāraṇam* form the reduplicated syllable with the corresponding vowel (*Aṣṭādhyāyī* 6.1.17). Roots that would form a *saṁprasāraṇam* stem with r use a in the reduplicated syllable because of the above constraint on r .
 - vac “speak” → u -
 - vad “speak” → u -
 - vap “sow” → u -
 - $vaś$ “wish” → u -
 - vas “dwell” → u -
 - $svap$ “sleep” → su -
 - yaj “sacrifice” → i -
 - $vyadh$ “strike” → vi -
- **No velars.** Velars turn into the corresponding palatal sounds. See the above examples, as well as:
 - $kāś$ “shine” → ca -
 - kr “play” → ca -
 - $gāh$ “dive into” → ja -
- **No aspirates.** Aspirates are replaced by the corresponding non-aspirate sounds, and the phoneme h is replaced by j .
 - $bhū$ “become” → ba -

- *bhuj* “enjoy” → *bu-*
- *dhā* “place” → *da-*
- *hā* “leave” → *ja-*
- **No conjunct consonants.** If the root begins with a conjunct consonant, it must be reduced to a single consonant. Generally the *least sonorous* consonant remains, where **stops** are the least sonorous of all, followed by **sibilants**, followed by **nasals**, and finally followed by **semivowels**, the least sonorous consonants. Here are examples of the possible combinations:
 - stop + sibilant:
 - *spṛś* “touch” → *pa-*
 - *skhal* “trip” → *ca-*
 - *kṣip* “throw” → *ci-*
 - sibilant + nasal:
 - *smṛ* “remember” → *sa-*
 - stop + semivowel:
 - *kruś* “shout” → *cu-*
 - *tras* “be afraid” → *ta-*

Roots beginning with a vowel follow the same rules, although some *sandhi* changes occurs: in the weak form of the stem, the vowel of the reduplicated syllable will combine with the vowel of the root, and in the strong form, if the root takes *guṇāḥ* or *vṛddhiḥ*, the glide *y* or *v* will be inserted between the reduplicated syllable and the root.

§21.2. Endings

The endings of the perfect are different from those of the present system. In the tables below, they have been presented with the augment *i*, which very often appears between

a stem ending in a consonant, and an ending beginning with a consonant.

In the following, the *parasmaipadām* endings are given with Pāṇini's diacritic letters (*anubandhaḥ*):

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>NaL</i>	<i>atuḥ</i>	<i>uḥ</i>
<i>madhyamapurusaḥ</i>	<i>thaL</i>	<i>athuḥ</i>	<i>a</i>
<i>uttamapurusaḥ</i>	<i>NaL</i>	<i>va</i>	<i>ma</i>

The *ātmanēpadām* endings are generally the same as the primary secondary endings that are used, for example, in the present tense:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ē</i>	<i>ātē</i>	<i>irē</i>
<i>madhyamapurusaḥ</i>	<i>sē</i>	<i>āthē</i>	<i>dhvē</i>
<i>uttamapurusaḥ</i>	<i>ē</i>	<i>vahē</i>	<i>mahē</i>

Note, however, the distinct endings *ē* in the third person singular (in contrast to *tē*) and *irē* in the third person plural.

The augment *iT* very commonly occurs between the perfect stem and endings that begin with a consonant. The presence or absence of *iT* depends very much on the root in question, but the endings can be put into three groups:

always with $i\bar{T}$	$r\bar{e}$	3pl. $\bar{a}tman\bar{e}$.
	va	1du. $parasmai$.
ma	1pl. $parasmai$.	
$s\bar{e}$	2sg. $\bar{a}tman\bar{e}$.	
mostly with $i\bar{T}$	2pl. $\bar{a}tman\bar{e}$.	
$dhv\bar{e}$	1du. $\bar{a}tman\bar{e}$.	
$vah\bar{e}$	1pl. $\bar{a}tman\bar{e}$.	
$mah\bar{e}$		
less often with $i\bar{T}$	tha	2sg. $parasmai$.

Note that the augment is generally optional before the second person singular *parasmaipadám* ending *tha*, hence *uváktha* or *uvácitha*.

The verb \sqrt{kr} *never* takes the augment $i\bar{T}$ in the perfect, except before the third person plural *ātmanēpadám* ending $r\bar{e}$ (which is, for all intents and purposes, $ir\bar{e}$).

Roots ending in a vowel like $\sqrt{dā}$ “give” or $\sqrt{dhā}$ “place” take a **special ending** in the first person and third person singular *parasmaipadam*. In those cases the vowel of the root combines with the ending to produce *au* (see the paradigms below).

§21.3. Vowel gradation

In the perfect, as in all of the other ‘athematic’ verb conjugations, there is a pattern of accent mobility between the stem and the endings, which accompanies a pattern of vowel gradation. According to this pattern, the stem exhibits a *full grade* of the root syllable when it is accented, and a *zero grade* of the root syllable when it is unaccented. Hence the perfect distinguishes between a **strong** and **weak** form of the stem.

As usual, the *singular endings of the parasmaipadám* are unaccented and therefore accompany the **strong** form of the stem, whereas the stem is **weak** before all of the other endings (the dual and plural of the *parasmaipadám* and all of the *ātmanēpadám* endings).

§21.4. The weak stem

The **weak** form of the root is simply the zero grade, which involves all of the transformations associated with the diacritic marker *K* (which is implicit in all of the endings of the perfect other than the singular *parasmaipadám*). The most important such transformation is *samprasāraṇam*: for many verbs that contain a semivowel followed by the vowel *a*, the *a* is lost and the semivowel becomes a vowel. In many of those cases, internal *sandhi* will unite the reduplicating syllable and the root syllable, since *both* are formed with *samprasāraṇam*:

Root	Meaning	Weak stem
√ <i>grab</i>	“grasp”	<i>ja-grb-</i>
√ <i>vac</i>	“say”	<i>ūc-</i>
√ <i>svap</i>	“sleep”	<i>su-ṣup-</i>
√ <i>yaj</i>	“sacrifice”	<i>īj-</i>
√ <i>vyadh</i>	“pierce”	<i>vi-vidh-</i>

For roots ending in vowels, whether the final vowel of the weak stem becomes a semivowel before endings beginning with a vowel (*yaN*) or whether it is substituted with a combination of a short vowel plus a semivowel (*iyaN̄/uvaN̄*) depends on the number of consonants that precede it. If the final vowel is preceded by one consonant, it is regularly converted into a semivowel; if it is preceded by more than one, it is replaced with *iyaN̄* or *uvaN̄*:

Root	Meaning	3pl. <i>parasmai.</i>
√ <i>nī</i>	“lead”	<i>ni-ny-úḥ</i>
√ <i>kri</i>	“buy”	<i>ci-kriy-úḥ</i>
√ <i>śru</i>	“hear”	<i>śu-śruv-úḥ</i>

In the case of the verb $\sqrt{bhū}$, however, the augment vuK is always inserted between the root and endings beginning with a vowel:

Root	Meaning	3pl. <i>parasmai.</i>
$\sqrt{bhū}$	“lead”	<i>ba-bhū-v-úp</i>

One important class of verbal roots does not employ reduplication in the weak form of the stem, but instead uses a **collapsed** stem. These are roots that (1) contain the vowel *a* followed by a single consonant, and (2) form their reduplicating syllable with the *exact same consonant* that is used in the root, i.e., they do not begin with a conjunct consonant, a velar, or an aspirate. Such roots form the weak stem by replacing the medial vowel *a* with \bar{e} , as follows:

Root	Meaning	Weak stem
\sqrt{sad}	“sit”	<i>sēd-</i>
\sqrt{pac}	“cook”	<i>pēc-</i>
\sqrt{man}	“think”	<i>mēn-</i>
\sqrt{tan}	“stretch”	<i>tēn-</i>

An even smaller class of verbs with a medial *a* (i.e., the vowel *a* followed by one and only one consonant) forms the weak stem of the perfect with reduplication, but accompanied by the deletion of the vowel of the root syllable. These roots are as follows *Aṣṭādhyāyī* 6.4.98:

Root	Meaning	Weak stem
\sqrt{gam}	“go”	<i>ja-gm-</i>
\sqrt{han}	“strike”	<i>ja-ghn-</i>
\sqrt{jan}	“be born”	<i>ja-jñ-</i>
\sqrt{khan}	“dig”	<i>ca-khn-</i>
\sqrt{ghas}	“eat”	<i>ja-kṣ-</i>

Note that \sqrt{han} substitutes its original velar, *gh*, for *h* in the perfect forms.

Finally, roots that end in the vowel *ā* form the strong stem with *ā* (which takes special endings in the first and third person *parasmaipadam*) and their weak stem with *i* before consonants and zero before vowels:

Root	Meaning	Weak stem
$\sqrt{dā}$	“give”	<i>da-d-</i> , <i>da-di-</i>

§21.5. The strong stem

For verbs of a certain phonological shape, the **strong** form of the stem itself takes different forms depending on which of the endings follows. The vowel gradation of the strong them is:

ending	vowel grade
<i>ṆaL</i> (1sg. <i>parasmai.</i>)	optionally <i>guṇāḥ</i> or <i>Ṇ-vṛddhiḥ</i>
<i>thaL</i> (2sg. <i>parasmai.</i>)	<i>guṇāḥ</i>
<i>ṆaL</i> (3sg. <i>parasmai.</i>)	<i>Ṇ-vṛddhiḥ</i>

“*N-vṛddhiḥ*” means that the root will take either *guṇāḥ* or *vṛddhiḥ* depending on its phonological shape. Roots endings in a *vowel*, or which have the vowel *a* followed by one and only one consonant, take *vṛddhiḥ* in these forms; all other roots take *guṇāḥ*.

A root like *√bbid* “split” will never take *vṛddhiḥ* before endings marked with *N*, because it has neither a final vowel nor a medial *a*. Hence its paradigm will be as follows:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>bibhēda</i>	<i>bibhidātuḥ</i>	<i>bibhidūḥ</i>
<i>madhyamapurusaḥ</i>	<i>bibhēditha</i>	<i>bibhidātuḥ</i>	<i>bibhidā</i>
<i>uttamapurusaḥ</i>	<i>bibhēda</i>	<i>bibhidivā</i>	<i>bibhidimā</i>

For a verb like *√nī*, however, *vṛddhiḥ* is *required* in the third person singular, and *guṇāḥ* is *required* in the second person singular. In the first person singular, either *guṇāḥ* or *vṛddhiḥ* may be used. Hence:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>nināya</i>	<i>ninyātuḥ</i>	<i>ninyūḥ</i>
<i>madhyamapurusaḥ</i>	<i>ninētha, nināyitha</i>	<i>ninyāthuḥ</i>	<i>ninyā</i>
<i>uttamapurusaḥ</i>	<i>nināya, nināya</i>	<i>ninyivā</i>	<i>ninyimā</i>

NOTE: The reason for the difference in vowel gradation in the strong form of the stem has to do with *Brugmann's Law*. The Proto-Indo-European vowel **o* generally became *a* in Sanskrit. However, when it occurred in an *open* syllable—that is, when it was not followed by a consonant in the same syllable—it developed into the long vowel *ā*. The full grade of the perfect stem was formed with an accented **ō* in Proto-Indo-European. Most often, Indo-European roots end in a single consonant. Hence this **ō* stood in an *open* syllable before endings beginning with a vowel. The endings reconstructed for the perfect in Proto-Indo-European are **e* in the third

person singular, $*th_2e$ in the second person singular, and $*h_2e$ in the first person singular. Hence Brugmann's Law generally converted a medial $*o$ into a in the first and second person singular, and \bar{a} in the third person singular. Possibly the option for $gunāḥ$ or $N-v\ddot{a}ddhiḥ$ in the first person singular arose from the fact that the laryngeal consonant with which the first person singular ending began, $*h_2$, was already unstable at the time that Brugmann's Law operated. Below are the reconstructions for the perfect of $\sqrt{śru}$ "hear", with a dash marking the boundary between the stem and the ending, and a dot marking the boundary between syllables:

Form	Proto-Indo-European	Sanskrit
3sg.parasmai.	$*ke.klō.w-e$	<i>śuśrāva</i>
2sg.parasmai.	$*ke.klōw-t.h_2e$	<i>śuśrōtha</i>
1sg.parasmai.	$*ke-klōw.-h_2e$	<i>śuśrāva</i>

§21.6. Paradigms

The verb $\sqrt{bhū}$ "become" is peculiar first of all because it reduplicates with $ba-$, rather than the expected $bu-$, and second because it does not undergo any kind of vowel gradation in the perfect, and third because a glide (vUK) always appears between the root and endings beginning with a vowel.

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>babhūva</i>	<i>babhūvātuḥ</i>	<i>babhūvūḥ</i>
<i>madhyamapurusaḥ</i>	<i>babhūvitha</i>	<i>babhūvāthuḥ</i>	<i>babhūvā</i>
<i>uttamapurusaḥ</i>	<i>babhūva</i>	<i>babhūvivā</i>	<i>babhūvimā</i>

The verb \sqrt{man} "think" is conjugated in the *ātmanēpadām*, and it forms its weak stem through a "collapse" of the reduplicating syllable and the root.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>mēnē</i>	<i>mēnātē</i>	<i>mēnirē</i>
<i>madhyamapurusaḥ</i>	<i>mēniṣē</i>	<i>mēnāthē</i>	<i>mēnidhvē</i>
<i>uttamapurusaḥ</i>	<i>mēnē</i>	<i>mēnivāhē</i>	<i>mēnimāhē</i>

The verb *√dā* “give” exhibits the special ending of the first and third person singular *parasmaipadam* for verbs ending in a long *ā*:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>dādau</i>	<i>dadatūḥ</i>	<i>dadūḥ</i>
<i>madhyamapurusaḥ</i>	<i>dādātha, dāditha</i>	<i>dadāthuḥ</i>	<i>dadā</i>
<i>uttamapurusaḥ</i>	<i>dādau</i>	<i>dadivā</i>	<i>dadimā</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>dadē</i>	<i>dadātē</i>	<i>dadirē</i>
<i>madhyamapurusaḥ</i>	<i>dadiṣē</i>	<i>dadāthē</i>	<i>dadidhvē</i>
<i>uttamapurusaḥ</i>	<i>dadē</i>	<i>dadivāhē</i>	<i>dadimāhē</i>

§22. The aorist systems

The aorist refers to a set of verbal formations that constitute a system in alternation with the present and perfect system. Originally, the aorist system was associated with *perfective aspect*, that is, to speak of actions as complete in themselves, and usually thus as punctual (e.g., ‘he dropped the glass’ vs. ‘he kept dropping the glass’). The significance of aspect, however, has largely disappeared from the Sanskrit verbal system, and aorist forms are used as the ‘default’ past tense (*Aṣṭādhyāyī* 3.2.110). They contrast with the imperfect,

which is used for actions which have taken place within the lifetime of the speaker but not generally in the timeframe of discourse (e.g., ‘Obama was elected in 2008’), and with the perfect, which is generally reserved for the remote past (e.g., ‘Harṣa defeated Śaśāṅka’). The association of aorist forms with perfective aspect, however, lives on in the common use of augmentless aorist forms to express prohibitions (‘don’t do that’ = *mā tat kārṣiḥ*; see the injunctive below).

The aorist system, like the present system, comprises a number of different stem formations. But whereas each verbal root is generally associated with one and only one present stem, a given verbal root may be associated with several different aorist stems. Moreover the *phonological shape* of a root is of greater importance in determining the stems that it can form in the aorist system than in the present system. The major modes of aorist stem formation are:

- the *sigmatic* aorists:
 - the simple sigmatic aorist or *s-aorist* (*SiC*);
 - the *iṣ-aorist*;
 - the *siṣ-aorist*;
 - the *sa-aorist* (*Ksa*);
- the *root* aorist;
- the *thematic* aorist (*aÑ*);
- the *reduplicated* aorist (*CaÑ*); and
- the *passive* aorist (*CiÑ*).

Some of these formations are reserved for specific syntactic functions. Thus, just as the suffix *yaK* forms an impersonal or passive present stem, so too the suffix *CiÑ* forms an impersonal or passive aorist. Similarly, just as the suffix *ÑiC* forms a causative root that

can be conjugated in the present system, so too the suffix *CaṂ* forms a causative aorist. Whether a particular root takes a particular aorist formation, however, is otherwise largely determined by its phonological shape.

Pāṇini groups all of the aorist forms together firstly under the abstract tense-aspect-mood marker *luṇ* (*Aṣṭādhyāyī* 3.2.110), which is always replaced with the suffix *Clī* (*Aṣṭādhyāyī* 3.1.43). This general suffix of the aorist is then substituted as needed to form the aorist stems discussed below. The *default* form is the *s*-aorist (*Aṣṭādhyāyī* 3.1.44).

The *endings* of the aorist are the secondary endings of both the *parasmaipadām* and *ātmanēpadām*. The only major point to note in connection with the aorist endings is the third person plural. The *thematic* aorist conjugations (those formed with *Ksa* and *aṂ*) take *-an* in the *parasmaipadām* and *-anta* in the *ātmanēpadām*. (The root aorist of $\sqrt{bhū}$, which is athematic, also takes the ending *-an*.) The *athematic* aorist conjugations, however, take the ending *-uḥ* in the *parasmaipadām* and *-ata* in the *ātmanēpadām*.

The aorist, as an indicative past tense, always features the past tense augment *aT* (= *á-*). The augment is added before the root, but after all of the verbal prefixes. In case the root begins with a vowel, the augmented form of the root is represented by *vṛddhiḥ* of that vowel.

§22.1. The sigmatic aorists

The most common forms of the aorist feature the aorist marker *s*, which appears between the root and the endings. There are, however, a number of different ways to form this aorist—which is called the *sigmatic* or *sibilant* aorist because of this marker—depending partly on the phonological shape of the verbal root:

- the *s*-aorist,
- the *iṣ*-aorist,

- the *siṣ*-aorist, and
- the *sa*-aorist.

The *s*-aorist is the default aorist formation, and is formed by the addition of the suffix *s* (Pāṇini's *siC*) directly to the verbal root. The default pattern of vowel gradation for this form is lengthened grade (*vṛddhiḥ*) in the *parasmaipadām* and zero grade in the *ātmanēpadām*. However, verbal roots that end in the vowels *i*, *ī*, *u* and *ū* take full grade (*guṇāḥ*) in the *ātmanēpadām*. Verbs that end in a long *ā* turn this into *i* or *ī* in the *ātmanēpadām* (in the *parasmaipadām* such verbs usually form another aorist).

The *endings* of the *s*-aorist are the regular secondary endings for athematic verbs, including *-uḥ* in the third person plural *parasmaipadām* and *-ata* in the third person plural *ātmanēpadām*. However, because these endings are added directly onto a stem characterized by *s*, a number of *sandhi* changes, and pseudo-*sandhi* changes, occur:

- between the verbal root and endings that consist of a single phoneme (i.e., *-s* of the 2sg.*parasmai.* and *-t* of the 3sg.*parasmai.*) an augment *-i-* is inserted, so that the endings of the 2sg. and 3sg. *parasmai.* are effectively *-iḥ* and *-it* respectively;
- before the ending *-dhvam* of the 2pl.*ātmanē.*, the aorist marker *s* is lost, and in case the *s* would have been retroflexed, the ending becomes *-dhvam*;
- before endings that begin with *t* or *th* stop, the aorist marker *-s-* is lost in two circumstances:
 - if the sound preceding *s* is a *consonant*; and
 - if the sound preceding *s* is a *short vowel* (as in the *ātmanēpadām* of certain vowel-final roots).

NOTE: Regarding the insertion of the augment *ī*: this is a relatively new feature of the *s*-aorist, which begins to appear in the *Atharvaveda* and, with some regularity, in the *Brāhmaṇa* texts. The

older form of the *s*-aorist was simply (e.g.) *ánaiḥ*, *ájaiḥ*, *ákāḥ*, *ápāk*, etc. The augment *i* was introduced from the *iṣ*-aorist (see below).

Regarding the loss of *s/ṣ* before *-dhvam*, this is a normal (although rare) *sandhi* phenomenon, according to which the *s/ṣ* is voiced due to regressive assimilation of voicing. The voiced dental sibilant (call it *z* if you like) disappears without any visible effect, but the voiced retroflex sibilant (call it *ṣ*) almost always produces retroflexion in the following dental stop, and hence the outcome *-ḍhvam*.

Regarding the loss of *s* after the *r* of a verbal root, this is likely not a *sandhi* phenomenon at all, but the appearance of root aorist forms in the paradigm of the *s*-aorist.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ápākṣīt</i>	<i>ápāktām</i>	<i>ápākṣuḥ</i>
<i>madhyamapurusaḥ</i>	<i>ápākṣīḥ</i>	<i>ápāktam</i>	<i>ápākta</i>
<i>uttamapurusaḥ</i>	<i>ápākṣam</i>	<i>ápākṣva</i>	<i>ápākṣma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ápakta</i>	<i>ápakṣātām</i>	<i>ápakṣata</i>
<i>madhyamapurusaḥ</i>	<i>ápakthāḥ</i>	<i>ápakṣāthām</i>	<i>ápagḍhvam</i>
<i>uttamapurusaḥ</i>	<i>ápakṣi</i>	<i>ápakṣvahi</i>	<i>ápakṣmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ánaiṣīt</i>	<i>ánaiṣtām</i>	<i>ánaiṣuḥ</i>
<i>madhyamapurusaḥ</i>	<i>ánaiṣīḥ</i>	<i>ánaiṣtam</i>	<i>ánaiṣta</i>
<i>uttamapurusaḥ</i>	<i>ánaiṣam</i>	<i>ánaiṣva</i>	<i>ánaiṣma</i>

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ánēṣṭa</i>	<i>ánēṣātām</i>	<i>ánēṣata</i>
<i>madhyamapurusaḥ</i>	<i>ánēṣṭhāḥ</i>	<i>ánēṣāthām</i>	<i>ánēḍhvam</i>
<i>uttamapurusaḥ</i>	<i>ánēṣi</i>	<i>ánēṣvahi</i>	<i>ánēṣmahi</i>

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>vyájēṣṭa</i>	<i>vyájēṣātām</i>	<i>vyájēṣata</i>
<i>madhyamapurusaḥ</i>	<i>vyájēṣṭhāḥ</i>	<i>vyájēṣāthām</i>	<i>vyájēḍhvam</i>
<i>uttamapurusaḥ</i>	<i>vyájēṣi</i>	<i>vyájēṣvahi</i>	<i>vyájēṣmahi</i>

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ádita</i>	<i>ádiṣātām</i>	<i>ádiṣata</i>
<i>madhyamapurusaḥ</i>	<i>ádithāḥ</i>	<i>ádiṣāthām</i>	<i>ádiḍhvam</i>
<i>uttamapurusaḥ</i>	<i>ádiṣi</i>	<i>ádiṣvahi</i>	<i>ádiṣmahi</i>

The *iṣ*-aorist is, in origin, just the form that the *s*-aorist took when the verbal root takes the augment *iṭ* (i.e., if it is a *sēṭ* root). It uses the same endings as the *s*-aorist, but the vowel gradation is different: the augment *i* generally causes the root to enter the full grade, or *gunāḥ*, although roots ending in a vowel (and some roots with a penultimate *a*) take *vṛddhiḥ* in the *parasmaipadām*, just as in the *s*-aorist.

Note that the second and third person singular of the *parasmaipadām* are not **-iṣīḥ* and **-iṣīt*, but *-īḥ* and *-īt* (as noted above, these forms actually originated in the *iṣ*-aorist, and secondarily spread to the *s*-aorist).

NOTE: The roots that took this augment, as explained above, historically ended in a laryngeal consonant, which became *i* in interconsonantal position.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ábōdhīt</i>	<i>ábōdhiṣtām</i>	<i>ábōdhiṣuḥ</i>
<i>madhyamapurusaḥ</i>	<i>ábōdhīḥ</i>	<i>ábōdhiṣtam</i>	<i>ábōdhiṣta</i>
<i>uttamapurusaḥ</i>	<i>ábōdhiṣam</i>	<i>ábōdhiṣva</i>	<i>ábōdhiṣma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ábōdhiṣta</i>	<i>ábōdhiṣātām</i>	<i>ábōdhiṣata</i>
<i>madhyamapurusaḥ</i>	<i>ábōdhiṣthāḥ</i>	<i>ábōdhiṣāthām</i>	<i>ábōdhiḍhvam</i>
<i>uttamapurusaḥ</i>	<i>ábōdhiṣi</i>	<i>ábōdhiṣvahi</i>	<i>ábōdhiṣmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ápāvit</i>	<i>ápaviṣtām</i>	<i>ápaviṣuḥ</i>
<i>madhyamapurusaḥ</i>	<i>ápaviḥ</i>	<i>ápaviṣtam</i>	<i>ápaviṣta</i>
<i>uttamapurusaḥ</i>	<i>ápaviṣam</i>	<i>ápaviṣva</i>	<i>ápaviṣma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ápaviṣta</i>	<i>ápaviṣātām</i>	<i>ápaviṣata</i>
<i>madhyamapurusaḥ</i>	<i>ápaviṣthāḥ</i>	<i>ápaviṣāthām</i>	<i>ápaviḍhvam</i>
<i>uttamapurusaḥ</i>	<i>ápaviṣi</i>	<i>ápaviṣvahi</i>	<i>ápaviṣma</i>

In a few verbs (*√ram* ‘besport,’ *yam* ‘control,’ *√nam* ‘bow,’ and those ending in *-ā*), the augment *-s-* (*sak*) is added between the root and the augment *-i-*. This form is therefore often called the “*sis*-aorist.” The root stays in its full grade form (*guṇāḥ*), and only the *parasmaipadām* is used. In the *ātmanēpadām* of these verbs, the *s*-aorist is used instead.

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āyāsīt</i>	<i>āyāsiṣṭām</i>	<i>āpaviṣata</i>
<i>madhyamapurusaḥ</i>	<i>āyāsīḥ</i>	<i>āyāsiṣṭam</i>	<i>āyāsiṣṭa</i>
<i>uttamapurusaḥ</i>	<i>āyāsiṣam</i>	<i>āyāsiṣva</i>	<i>āpāviṣma</i>

	<i>ēkavacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ānamṣīt</i>	<i>ānamṣiṣṭām</i>	<i>ānamṣiṣata</i>
<i>madhyamapurusaḥ</i>	<i>ānamṣīḥ</i>	<i>ānamṣiṣṭam</i>	<i>ānamṣiṣṭa</i>
<i>uttamapurusaḥ</i>	<i>ānamṣiṣam</i>	<i>ānamṣiṣva</i>	<i>ānamṣiṣma</i>

§22.2. The *sa*-aorist (*Ksa*)

Another aorist paradigm, using the suffix *-sa*, is used for the following types of verbs (*Aṣṭādhyāyī* 3.1.45):

- those ending in *ś*, *ṣ*, *s* or *h*;
- those that have a medial *i*, *ī*, *u*, *ū*, *r*, or *ṛ*;
- those that do not take the augment *iṭ*.

Hence roots that take this form include \sqrt{dis} “point out,” \sqrt{vis} “enter,” \sqrt{lih} “lick,” \sqrt{dub} “milk,” and so on. (Not $\sqrt{drś}$ “see,” which takes the *s*-aorist instead.)

In these forms, the root always stands in the zero grade. The endings *-an* and *-anta* of the third person plural are used instead of the endings *-uḥ* and *-ata*.

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ádikṣat</i>	<i>ádikṣatām</i>	<i>ádikṣan</i>
<i>madhyamapurusaḥ</i>	<i>ádikṣaḥ</i>	<i>ádikṣatam</i>	<i>ádikṣata</i>
<i>uttamapurusaḥ</i>	<i>ádikṣam</i>	<i>ádikṣāva</i>	<i>ádikṣāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ádikṣata</i>	<i>ádikṣātām</i>	<i>ádikṣanta</i>
<i>madhyamapurusaḥ</i>	<i>ádikṣathāḥ</i>	<i>ádikṣatham</i>	<i>ádikṣadhvam</i>
<i>uttamapurusaḥ</i>	<i>ádikṣi</i>	<i>ádikṣāvahi</i>	<i>ádikṣāmahi</i>

Four verbs that end in *h* (\sqrt{dub} “milk,” \sqrt{dih} “smear,” \sqrt{lih} “lick,” and \sqrt{guh} “hide”) optionally take the regular *s*-aorist endings before *ātmanēpadām* endings that begin with a dental (that is to say, the **entire** suffix of the *sa*-aorist is optionally deleted in such environments, see *Aṣṭādhyāyī* 7.3.73):

- \sqrt{dub} 3rd person singular *ātmanēpadām*: *ádihukṣata* or *ádugdha*
- \sqrt{dub} 2nd person singular *ātmanēpadām*: *ádihukṣathāḥ* or *ádugdhāḥ*
- \sqrt{dub} 2nd person plural *ātmanēpadām*: *ádihukṣadhvam* or *ádugdhvam*

§22.3. The root aorist

The *root aorist* refers to an aorist form in which the endings are added directly to the verbal root. In Classical Sanskrit, this form is only available for a small class of verbs — five that end in *-ā* ($\sqrt{dā}$, $\sqrt{dhā}$, $\sqrt{sthā}$, $\sqrt{pā}$, and $\sqrt{gā}$, the last of which is a substitution of \sqrt{gam} “go” in certain contexts), and $\sqrt{bhū}$ — and only in the *parasmaipadām* (*Aṣṭādhyāyī* 2.4.77). (These same roots use the *s*-aorist in the *ātmanēpadām*.) But in the Vedas forms from other roots, and *ātmanēpadām* forms, are attested.

The third-person plural ending in *-uḥ* for roots endings in *-ā*, before which this vowel is lost; for $\sqrt{bhū}$, the ending is *-an*, before which *bhū* becomes *bhuv-*.

	<i>ēkavacanē</i>	<i>dvivācanē</i>	<i>bahuvācanē</i>
<i>prathamapurusaḥ</i>	<i>ādāt</i>	<i>ādātām</i>	<i>āduḥ</i>
<i>madhyapurusaḥ</i>	<i>ādāḥ</i>	<i>ādātām</i>	<i>ādāta</i>
<i>uttapurusaḥ</i>	<i>ādām</i>	<i>ādāva</i>	<i>ādāma</i>

	<i>ēkavacanē</i>	<i>dvivācanē</i>	<i>bahuvācanē</i>
<i>prathamapurusaḥ</i>	<i>ābhut</i>	<i>ābhūtām</i>	<i>ābhuvan</i>
<i>madhyapurusaḥ</i>	<i>ābhūḥ</i>	<i>ābhūtām</i>	<i>ābhūta</i>
<i>uttapurusaḥ</i>	<i>ābhūvam</i>	<i>ābhūva</i>	<i>ābhūma</i>

§22.4. The thematic aorist (*aN*)

The thematic aorist is formed by a suffix *-a-* (Pāṇini's *aN*) added to root in the zero grade. The root $\sqrt{dṛś}$, and roots ending in the vowel *-ṛ*, take *guṇāḥ* instead (*Aṣṭādhyāyī* 7.4.14). It has both *parasmaipadām* and *ātmanēpadām* forms, but not all roots can take both. Following Pāṇini we can think of three classes of roots that take this form:

- those that take the *a*-aorist in both the *parasmaipadām* and *ātmanēpadām*, like $\sqrt{sṛ}$ “go,” $\sqrt{sās}$ “order,” and $\sqrt{ṛ}$ “go”;
- those that take it in the *parasmaipadām* and only **optionally** in the *ātmanēpadām*, like \sqrt{lip} “smear,” \sqrt{sic} “sprinkle,” and $\sqrt{hṛ}$ “call”;
- those that take it in the *parasmaipadām* and **not** in the *ātmanēpadām*, like $\sqrt{puṣ}$ “nourish,” $\sqrt{śuṣ}$ “dry out,” and \sqrt{dyut} “shine.”

The thematic aorist is very similar to the imperfect of thematic verbs, especially those in class 6, which also appear in the zero grade. One difference, however, is that the imperfect uses the present stem, which in some cases is formed by nasal infixation, whereas the aorist stem never has a nasal infix. Contrast:

- \sqrt{sic} “sprinkle” $\rightarrow \acute{a}\text{-}si\tilde{n}c\text{-}a\text{-}t$ “he sprinkled” (imperfect)
- \sqrt{sic} “sprinkle” $\rightarrow \acute{a}\text{-}sic\text{-}a\text{-}t$ “he sprinkled” (aorist)

There are two verbs that form their thematic aorist stems by reduplication: \sqrt{vac} “speak” and \sqrt{pat} “fly.” In both cases the root syllable appears in the zero grade:

- $\sqrt{vac} + aN \rightarrow \acute{a}\text{-}va\text{-}vc\text{-}a\text{-} \rightarrow \acute{a}v\tilde{o}ca\text{-}$
- $\sqrt{pat} + aN \rightarrow \acute{a}\text{-}pa\text{-}pt\text{-}a\text{-} \rightarrow \acute{a}pa\tilde{p}ta\text{-}$

A few other verbs have idiosyncratic *a*-aorist formations:

- \sqrt{as} “throw” + *aN* $\rightarrow \acute{a}stha\text{-}$
- $\sqrt{s\acute{a}s}$ “teach” + *aN* $\rightarrow \acute{a}s\acute{i}\tilde{s}a\text{-}$
- \sqrt{nas} “perish” + *aN* $\rightarrow \acute{a}n\tilde{e}\acute{s}a\text{-}$

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapuruṣaḥ</i>	<i>ávidat</i>	<i>ávidatām</i>	<i>ávidan</i>
<i>madhyamapuruṣaḥ</i>	<i>ávidaḥ</i>	<i>ávidatam</i>	<i>ávidata</i>
<i>uttamapuruṣaḥ</i>	<i>ávidam</i>	<i>ávidāva</i>	<i>ávidāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ávidata</i>	<i>ávidētām</i>	<i>ávidanta</i>
<i>madhyamapurusaḥ</i>	<i>ávidathāḥ</i>	<i>ávidēthām</i>	<i>ávidadhvam</i>
<i>uttamapurusaḥ</i>	<i>ávidē</i>	<i>ávidāvahi</i>	<i>ávidāmahi</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ásarat</i>	<i>ásaratām</i>	<i>ásaran</i>
<i>madhyamapurusaḥ</i>	<i>ásaraḥ</i>	<i>ásaratam</i>	<i>ásarata</i>
<i>uttamapurusaḥ</i>	<i>ásaram</i>	<i>ásarāva</i>	<i>ásarāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>ásarata</i>	<i>ásarētām</i>	<i>ásaranta</i>
<i>madhyamapurusaḥ</i>	<i>ásarathāḥ</i>	<i>ásarēthām</i>	<i>ásaradhvam</i>
<i>uttamapurusaḥ</i>	<i>ásarē</i>	<i>ásarāvahi</i>	<i>ásarāmahi</i>

§22.5. The reduplicated aorist (*caṅ*)

The reduplicated aorist, formed with the suffix *caṅ*, forms verbs with a *causative* meaning as well as verbs that are conjugated in the tenth class in the present system. The stem-forming suffix *caṅ* thus corresponds, in the aorist system, to the stem-forming suffix *ṆiC* (technically *ṆiC* + *śaP*) in the present system. The roots *√śri* “resort to,” *√dru* “melt,” and *√sru* “run” (as liquid) have a non-causative meaning in this tense. Generally the root takes the zero grade, but roots that end in *ṛ* take *guṇāḥ*, and roots that have a medial *ṛ* have the option of taking zero grade or *guṇāḥ* (see below).

The reduplicated syllable (*abhyāsaḥ*) is formed similarly to third-class presents, with two exceptions: an *a* and *ā* in the root syllable become *i* in the reduplicated syllable, and

the *length* of the vowel in the reduplicated syllable is adjusted to conform to a prosodic template. The reduplicated syllable and root syllable should either fit the template $\sim\sim$ (heavy-light), or failing that, $\sim\sim$ (light-heavy). Verbs with a medial r can take both forms, depending on whether they take *gunāḥ*. Here are some examples:

- $\sim\sim$ (heavy-light)
 - $\sqrt{dru} + Ca\dot{N}$ “melt” $\rightarrow \acute{a}dudruva-$
 - $\sqrt{kṣip} + Ca\dot{N}$ “throw” $\rightarrow \acute{a}cikṣipa-$
 - $\sqrt{jan} + Ca\dot{N}$ “be born” $\rightarrow \acute{a}jijana-$
 - $\sqrt{bhid} + Ca\dot{N}$ “break” $\rightarrow \acute{a}bibhida-$
 - $\sqrt{kṛ} + Ca\dot{N}$ “do” $\rightarrow \acute{a}cikara-$
 - $\sqrt{vṛdh} + Ca\dot{N}$ “grow” $\rightarrow \acute{a}vīvṛdha-$ (but see below)
 - $\sqrt{vṛt} + Ca\dot{N}$ “turn” $\rightarrow \acute{a}vīvṛta-$ (but see below)
- $\sim\sim$ (light-heavy)
 - $\sqrt{rakṣ} + Ca\dot{N}$ “guard” $\rightarrow \acute{a}rarakṣa-$
 - $\sqrt{vṛdh} + Ca\dot{N}$ “grow” $\rightarrow \acute{a}vavardha-$ (but see above)
 - $\sqrt{vṛt} + Ca\dot{N}$ “turn” $\rightarrow \acute{a}vavarta-$ (but see above)

	<i>ēkavacanē</i>	<i>dviivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āśīśriyat</i>	<i>āśīśriyatām</i>	<i>āśīśriyan</i>
<i>madhyamapurusaḥ</i>	<i>āśīśriyaḥ</i>	<i>āśīśriyatam</i>	<i>āśīśriyata</i>
<i>uttamapurusaḥ</i>	<i>āśīśriyam</i>	<i>āśīśriyāva</i>	<i>āśīśriyāma</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>āśīśriyata</i>	<i>āśīśriyētām</i>	<i>āśīśriyanta</i>
<i>madhyamapurusaḥ</i>	<i>āśīśriyathāḥ</i>	<i>āśīśriyēthām</i>	<i>āśīśriyadhvam</i>
<i>uttamapurusaḥ</i>	<i>āśīśriyē</i>	<i>āśīśriyāvahi</i>	<i>āśīśriyāmahi</i>

§22.6. The passive aorist (*CiN*)

The passive aorist is formed with *CiN*, i.e., the suffix *-i* added onto a root that takes *Ṇ-vṛddhi*. This form is called the “passive aorist” because it is taught in an impersonal and passive sense (*Aṣṭādhyāyī* 3.1.66), although there are a number of cases when it is used actively.

- *ākāri* (*√kr*) “it was done”
- *ājani* (*√jan*) “it was produced”
- *āvadhi* (*√vadh*) “it was killed”
- *ādarsi* (*√dṛś*) “it was seen”
- *abhyādhāyi* (*√dhā*) “it was expressed”
- *ābōdhi* (*√budh*) “it was realized”
- *āvāci* (*√vac*) “it was said”
- *anvābhāvi* (*anu-√bhū*) “it was experienced”

§22.7. The injunctive

The injunctive is just an aorist form with an augment. It is primarily used with the prohibitive particle *mā* to express a prohibition.

§23. The futures

The future is a verbal form that refers to the future (“what will happen,” *bhaviṣyat*). Sanskrit has two such forms: one, called *lṛt* by Pāṇini, is like the other *lakāras* in that it involves the addition of a stem-forming suffix (*vikaraṇaḥ*) to a verbal root (*dhātuḥ*) followed by the personal endings; the other, called *luṭ*, can be thought of as a verbal use of an agent noun. The former, which I will “the simple future” or just “the future,” is used much more often than the latter.

§23.1. The future (*lṛt*)

The simple future is formed by adding the stem-forming suffix *syá* to the root (*Aṣṭādhyāyī* 3.1.33), which is generally in the *full grade* (*guṇāḥ*). Many verbs take the augment *i* (*iṭ*) between the root and the suffix *syá*, and hence the future suffix in these verbs can be thought of as *iṣyá*.

NOTE: Of roots ending in vowels, none of those ending in *ā*, *i*, and *ī*, and all of those ending in *r* and *ṛ* take the augment; those ending in *u* or *ū* must be learned on a case-by-case basis. Those ending in consonants must be learned on a case-by-case basis as well.

For verbs that do not take the augment *i*, a number of *sandhi* changes might occur between the root and the suffix:

- Voicing assimilation:
 - $\sqrt{\text{labh}} + \text{sya} [+ ti] \rightarrow \text{lapsyáti}$ “will receive”
 - $\sqrt{\text{pad}} + \text{sya} [+ ti] \rightarrow \text{patsyáti}$ “will occur”
 - $\sqrt{\text{budh}} + \text{sya} [+ ti] \rightarrow \text{bhōtsyáti}$ “will become aware”
- RUKI:
 - $\sqrt{\text{bhaj}} + \text{sya} [+ tē] \rightarrow \text{bhakṣyátē}$ “will partake”

- $\sqrt{sprṣ} + sya [+ ti] \rightarrow sprakṣyāti$ “will touch”

The *padām* (*parasmaipadām* or *ātmanēpadām*) is the same as that of the present tense for any given verb.

The *endings* are the same as those of the present tense as well.

Here are a number of examples of the third-person singular of the future from verbal roots of various shapes. The full paradigm can be formed on the analogy of the present.

- Vowel-final roots (no *i*)
 - $\sqrt{dā} + sya [+ ti] \rightarrow dāsyāti$ “will give”
 - $\sqrt{sthā} + sya [+ ti] \rightarrow sthāsyāti$ “will stand”
 - $\sqrt{gai} + sya [+ ti] \rightarrow gāsyāti$ “will sing”
 - $\sqrt{i} + sya [+ ti] \rightarrow ṛsyāti$ “will go”
 - $\sqrt{ji} + sya [+ ti] \rightarrow jṛsyāti$ “will prevail”
 - $\sqrt{nī} + sya [+ ti] \rightarrow nṛsyāti$ “will lead”
 - $\sqrt{śru} + sya [+ ti] \rightarrow śrōsyāti$ “will hear”
- Vowel-final roots (with *i*)
 - $\sqrt{bhū} + sya [+ ti] \rightarrow bhaviṣyāti$ “will become”
 - $\sqrt{kṛ} + sya [+ ti] \rightarrow kariṣyāti$ “will do”
 - $\sqrt{hṛ} + sya [+ ti] \rightarrow harīṣyāti$ “will take”
- Consonant-final roots (no *i*)
 - $\sqrt{prach} + sya [+ ti] \rightarrow prakṣyāti$ “will ask”
 - $\sqrt{vac} + sya [+ ti] \rightarrow vakṣyāti$ “will say”
 - $\sqrt{tyaj} + sya [+ ti] \rightarrow tyakṣyāti$ “will take”

- $\sqrt{srj} + sya [+ ti] \rightarrow srakṣyāti$ “will create”
- $\sqrt{sprś} + sya [+ ti] \rightarrow sprakṣyāti$ “will touch”
- $\sqrt{dṛś} + sya [+ ti] \rightarrow drakṣyāti$ “will see”
- $\sqrt{pad} + sya [+ ti] \rightarrow patsyāti$ “will occur”
- $\sqrt{ad} + sya [+ ti] \rightarrow atsyāti$ “will each”
- $\sqrt{bhid} + sya [+ ti] \rightarrow bhitsyāti$ “will break”
- $\sqrt{dah} + sya [+ ti] \rightarrow dhakṣyāti$ “will burn”
- $\sqrt{dub} + sya [+ ti] \rightarrow dhōkṣyāti$ “will milk”
- $\sqrt{krudh} + sya [+ ti] \rightarrow krōtsyāti$ “will get angry”
- $\sqrt{yudh} + sya [+ ti] \rightarrow yōtsyāti$ “will fight”
- $\sqrt{budh} + sya [+ ti] \rightarrow bhōtsyāti$ “will become aware”
- $\sqrt{vṛt} + sya [+ ti] \rightarrow vartsyāti$ “will turn”
- $\sqrt{labh} + sya [+ tē] \rightarrow lapsyātē$ “will receive”
- $\sqrt{man} + sya [+ tē] \rightarrow maṁsyātē$ “will think”
- $\sqrt{kram} + sya [+ tē] \rightarrow kramsyāti$ “will step”
- $\sqrt{dviṣ} + sya [+ ti] \rightarrow dvēkṣyāti$ “will hate”
- $\sqrt{viṣ} + sya [+ ti] \rightarrow vēkṣyāti$ “will enter”
- Consonant-final roots (with *i*)
 - $\sqrt{pat} + sya [+ ti] \rightarrow patiṣyāti$ “will fly”
 - $\sqrt{granth} + sya [+ ti] \rightarrow granthiṣyāti$ “will knot”
 - $\sqrt{gam} + sya [+ ti] \rightarrow gamiṣyāti$ “will go”
 - $\sqrt{śubh} + sya [+ ti] \rightarrow śōbbhiṣyāti$ “will shine”
 - $\sqrt{has} + sya [+ ti] \rightarrow hasiṣyāti$ “will laugh”

- $\sqrt{śams} + sya [+ ti] \rightarrow śamsiśyāti$ “will praise”

§23.2. The periphrastic future (*luṭ*)

The “periphrastic future” *luṭ* is so called because it is composed of an agent noun in *-tr* (see below) and the inflected forms of the copula \sqrt{as} . (There are only *parasmaipadām* forms.) However, the copula is only used in the first and second person, and the agent noun is only inflected for number in the third person. The agent noun generally takes *i* in those cases where the simple future also takes *i*, with one important exception: roots ending in *-r*, which necessarily take the augment in the simple future, do not take it in the periphrastic future. The accent is on the final syllable of the agent noun.

It is more rare than the simple future, and it is said to be used “not with reference to the present day” (*anadyantanē luṭ*, *Aṣṭādhyāyī* 3.3.15).

	<i>ekaṣvacanē</i>	<i>dviṣvacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>kartā</i>	<i>kartārau</i>	<i>kartāraḥ</i>
<i>madhyamapurusaḥ</i>	<i>kartāsi</i>	<i>kartāsthaḥ</i>	<i>kartāstha</i>
<i>uttamapurusaḥ</i>	<i>kartāsmi</i>	<i>kartāsvaḥ</i>	<i>kartāsmaḥ</i>

§24. Secondary verbs (*sanādiḥ*)

Secondary verbs are those which are derived not from a simple, unanalyzeable verbal root (*dhātuh*), but from a verbal root that has been formed from other elements. Those elements may include other *verbal roots*, *nominal stems*, and *suffixes*. We can in general distinguish secondary verbs into two main classes:

- Deverbal verbs (those formed from other verbs):
 - The causative (*NiC*)

- The desiderative (*saN*)
- The intensive (*yaN*)
- Denominative verbs (those formed from nominal stems):
 - Denominative verbs proper (*KyaN*)
 - Verbs formed with denominal prefixes (*cv*)

§24.1. The causative

The causative refers to a verb that is formed from an existing verbal root (here referred to as the “simple verb”) by the addition of a suffix that Pāṇini calls *ṆiC* that expresses the cause (*hētuh*) whereby the agent of the simple verb is made to perform the action of that verb.

Sanskrit grammarians refer to the action of having someone else do something as “employing” (*prayōjanam*). The cause, or as I will refer to it, the **causer**, is therefore the **employing agent** (*prayōjakakarṭṛ*) of the causative verb, while the agent of the simple verb, the **causee**, is the **employed agent** (*prayōjyakarṭṛ*) of the causative verb.

Causative verbs can therefore be considered **valency-increasing** because they add an argument, namely the causer, to the argument structure of the verb. Thus, with the addition of a causative suffix, intransitive verbs (valency 1) become transitive (valency 2), and transitive verbs (valency 2) become ditransitive (valency 3).

English, and every other language, also has “causative alternations,” or ways in which an expression involving a causer alternates with an expression without a causer. Here are a few examples:

- The tree **falls** (*vrkṣaḥ patati*).
He **fells** the tree (*vrkṣam pātayati*).

[Morphological alternation]

- The cake **bakes** (*purōḍāśas tapati*).
He **bakes** the cake (*purōḍāśam tāpayati*).

[Unmarked alternation]

- The tree **stands** (*vr̥kṣas tiṣṭhati*).
He **stands** the tree **up** (*vr̥kṣam sthāpayati*).

[Phrasal alternation]

- He **eats** (*bhukṭē*).
He **feeds** him (*taṁ bhōjayati*).

[Lexical alternation]

As the translations above suggest, Sanskrit expresses such alternations **morphologically**, that is, by using a form of the verb that is explicitly marked as causative through the suffix *ṆiC*.

In the suffix *ṆiC*, the marker-letter (*anubandhaḥ*) *C* means that the accent of the causative base is on the final syllable, and the marker-letter *Ṇ* means that the root will undergo a particular kind of vowel gradation, namely *Ṇ-vṛddhiḥ*). This requires the following changes (I leave off the suffix *i* in this presentation but give the root in the form it would take before a vowel) :

- *vṛddhiḥ* in the case of a final vowel (for exceptions see below);

- $\sqrt{kṛ}$ “do” → *kār*
- $\sqrt{śru}$ “hear” → *śrāv*
- \sqrt{i} “go” → *āy*
- $\sqrt{nī}$ “lead” → *nāy*
- $\sqrt{mr̥}$ “die” → *mār*

- \sqrt{hr} “take away” $\rightarrow hār$
- $\sqrt{ddhiḥ}$ in the case of a medial vowel *a*:
 - \sqrt{pat} “fall” $\rightarrow pāt$
 - \sqrt{pad} “occur” $\rightarrow pād$
 - \sqrt{pac} “cook” $\rightarrow pāc$
 - \sqrt{khan} “dig” $\rightarrow khān$
 - $\sqrt{śap}$ “curse” $\rightarrow śāp$
 - \sqrt{ram} “play” $\rightarrow rām$ (also *ram*; see below)
- particular to the causative is the **cancellation** of $\sqrt{ddhiḥ}$ in a list of verbal roots that are taught with the marker *m* in the *dhātupāṭhaḥ*, as well as some others that end in a nasal, all of which are given here for reference (*Aṣṭādhyāyī* 6.4.92):
 - \sqrt{gam} “go”
 - $\sqrt{śram}$ “become tired”
 - \sqrt{dam} “(become) tame”
 - $\sqrt{śam}$ “become quiet”
 - \sqrt{tam} “gasp”
 - $\sqrt{ghaṭ}$ “fit”
 - \sqrt{vyath} “fear”
 - \sqrt{prath} “spread”
 - $\sqrt{mrāḍ}$ “rub”
 - \sqrt{krap} “pity”
 - \sqrt{tvar} “hurry”
 - \sqrt{jvar} “burn”

-
- $\sqrt{naṭ}$ “dance”
 - $\sqrt{śrath}$ “kill”
 - \sqrt{van} “act”
 - \sqrt{jval} “shine”
 - $\sqrt{smṛ}$ “remember”
 - $\sqrt{dṛ}$ “respect”
 - $\sqrt{śrā}$ “boil”
 - $\sqrt{jñā}$ “know”
 - \sqrt{cal} “move”
 - \sqrt{mad} “rejoice”
 - \sqrt{dhvan} “sound”
 - \sqrt{mad} “rejoice”
 - \sqrt{dal} “cut”
 - \sqrt{val} “cover”
 - \sqrt{skhal} “skip”
 - \sqrt{trap} “be ashamed”
 - $\sqrt{kṣai}$ “wane”
 - \sqrt{jan} “be born”
 - $\sqrt{jṛ}$ “get old”
 - $\sqrt{rañj}$ “dye”
 - $\sqrt{glā}$ “fade”
 - $\sqrt{snā}$ “wash”
 - \sqrt{van} “cherish”
 - $\sqrt{phaṇ}$ “approach”

- a handful of roots insert a nasal (Pāṇini's *num*) rather than taking *vṛddhiḥ* by *Aṣṭādhyāyī* 7.1.61 and the following rules:
 - \sqrt{labh} “obtain” $\rightarrow lambh$
 - \sqrt{rabh} “begin” $\rightarrow rambh$
 - \sqrt{radh} “cook” $\rightarrow randh$
 - \sqrt{jabh} “snap” $\rightarrow jambh$
- *guṇāḥ* of all other roots;
 - \sqrt{bbid} “split” $\rightarrow bhēd$
 - \sqrt{budh} “awaken” $\rightarrow bōdh$
 - $\sqrt{tṛp}$ “be satisfied” $\rightarrow tarp$
 - $\sqrt{dṛś}$ “see” $\rightarrow dars$
 - \sqrt{tud} “hit” $\rightarrow tōd$
- except roots that end either in *two consonants* or a long vowel followed by a consonant, which are not subject to vowel gradation in the first place.
 - \sqrt{cumb} “kiss”
 - $\sqrt{jīv}$ “live”
 - $\sqrt{kṛīḍ}$ “play”

All roots ending in *ā*, as well as a few others, appear in the causative with an **augment** (*āgamaḥ*) interposed between the final vowel of the root and the causative suffix. The default augment is *p* (*Aṣṭādhyāyī* 7.3.36):

- $\sqrt{sthā}$ “stand” $\rightarrow sthāp$
- $\sqrt{dā}$ “give” $\rightarrow dāp$

- $\sqrt{dhā}$ “place” → $dhāp$
- $\sqrt{mā}$ “measure” → $māp$
- $\sqrt{hā}$ “abandon” → $hāp$
- $\sqrt{hrī}$ “be ashamed” → $hrēp$
- $\sqrt{vlī}$ “press down” → $vlēp$
- $\sqrt{ṛ}$ “go” → arp

Three verbs which end in vowels and therefore would take the usual $\sqrt{ddhiḥ}$ strengthening instead replace their i -vowel with $ā$ and thus take the augment p (*Aṣṭādhyāyī* 6.1.48, *Aṣṭādhyāyī* 6.1.57):

- \sqrt{ji} “conquer” → $jāp$
- $adhi$ - \sqrt{i} → $adhyāp$
- $\sqrt{krī}$ “buy” → $krāp$
- \sqrt{smi} “smile” → $smāp$

Another common augment is y (*Aṣṭādhyāyī* 7.3.37), especially with those roots that are taught as ending in long diphthongs (indeed the y can be considered part of the root in these cases rather than an augment):

- $\sqrt{hvā}$ or $\sqrt{hvē}$ “call” → $hvāy$
- $\sqrt{sā}$ or $\sqrt{sō}$ “conclude” → $sāy$
- $\sqrt{pā}$ “drink” → $pāy$

The augment $ṣ$ is used with the verb $\sqrt{bhī}$ “be afraid” in the meaning of “terrify” or “be scary,” forming the causative root $\sqrt{bhīṣ}$ *Aṣṭādhyāyī* 6.1.56.

Two further special cases deserve notice. The root \sqrt{ruh} “ascend” can either make its causative form as $\sqrt{rōh}$ or $\sqrt{rōp}$ (*Aṣṭādhyāyī* 7.3.43). The root \sqrt{han} “strike” makes its causative form as $\sqrt{ghāt}$ (*Aṣṭādhyāyī* 7.3.32).

NOTE: The pattern of vowel gradation in the causative is based on two aspects of Proto-Indo-European. First, the forms from which the Sanskrit causative were derived featured the vowel **o* rather than an **e*, and in accordance with Brugmann’s Law, an ablauting (i.e., morphologically alternating) vowel **o* became a long *ā* in Sanskrit if and only if that **o* appeared in an **open** syllables (i.e., if it was followed by one and only one consonant within the word). Hence we have, e.g., *pātāyati* from **potéyeti*, but *darśāyati* from **dorkéyeti*. Secondly, many roots ended with a **laryngeal** consonant that was lost in Sanskrit, but which made the root syllable **closed** for the purposes of Brugmann’s Law. That is why we have, e.g., *śamāyati* from **komHéyeti*, *damāyati* from **domHéyeti*, and so on. A few roots that did not actually end in a laryngeal consonant in Proto-Indo-European, such as \sqrt{gam} (**gǵom*) were nevertheless remodelled on the analogy of roots like $\sqrt{śam}$, \sqrt{dam} , etc. which did.

Presence or absence of the causative suffix. Once the root has been strengthened as described above, it **never changes** in any causative form. What does change, however, is whether a particular form exhibits the suffix of the causative, namely *-ay-* (the *gunāḥ* form of *i*), or whether the suffix is deleted. Compare, for example, the infinitive *kārayitum* “to cause to do” and the past passive participle *kāritaḥ* “caused to do.” The causative suffix is deleted in the latter but not the former.

The deletion of the causative suffix is covered by two relatively simple rules, *Aṣṭādhyāyī* 6.4.51 and *Aṣṭādhyāyī* 6.4.52. These rules say that **the causative suffix is deleted before an *ārdhādhātukaḥ* suffix that does not take the augment *i*, as well as before the past passive and past active participle suffix.** Hence:

- the suffix is **retained** throughout the **present system** of verbs, which is formed throughout with *sārvadhātukaḥ* suffixes;
- it is **retained** in the conjugational future tense and the conditional;

- it is **retained** before most primary suffixes (*kr̥t*) that begin with a consonant, before which the augment *i* appears, hence:
 - *tumun* (infinitive): *kārayitum, śrāvayitum, dāpayitum*
 - *Ktvā* (converb): *kārayitvā, śrāvayitvā, dāpayitvā*
 - *luṭ* (periphrastic future): *kārayitā, śrāvayitā, dāpayitā*
 - *tavya* (future passive participle): *kārayitavyaḥ, śrāvayitavyaḥ, dāpayitavyaḥ*
- it is **deleted** before those primary suffixes that begin with a vowel or the consonant *y*, hence:
 - *LyaP* (converb): *saṁskārya, ādāpya*
 - * **However**, if the converb suffix is preceded by a short vowel and a single consonant, then the causative suffix is retained (*Aṣṭādhyāyī* 6.4.56): *praṇamayya, avagamayya, praśamayya*, etc.
 - *KyaP* and *NyaT* (future passive participle): *kāryaḥ, śrāvyaḥ, dāpyaḥ*
- it is **deleted** in the past passive participle and past active participle (*niṣṭhā*), hence:
 - *Kta* (past passive participle): *kāritaḥ, śrāvitaḥ, dāpitaḥ*
 - *KtavatU* (past active participle): *kāritavān, śrāvitavān, dāpitavān*
- it is **deleted** in the passive of the present system, i.e., before the stem-forming suffix *yaK*, hence:
 - *kāryatē, śrāvyaṭē, dāpyatē*

The present system. Causative verbs are used in all of the tenses and moods of the present system, including the present (*laṭ*), imperfect (*laṇ*), optative (*liṇ*), and imperative (*lōṭ*). The present stem is formed by adding the suffix *-āya-* (i.e., the causative suffix *i* = *NiC*, followed by the present-stem forming suffix *a* = *ŚaP*, which induces *guṇāḥ* of the causative

suffix). The exact same suffix is used in the tenth present class of verbs, which are therefore formally identical to the causative.

The future system. Causative verbs form their future by adding *-iṣya* to the causative stem: *kārayiṣyati*, *śrāvayiṣyati*, *dāpayiṣyati*.

The perfect system. Causative verbs use the periphrastic perfect. The form used in the periphrastic perfect is a verbal noun formed by adding *-ām* onto the causative base with *-ay-* (*Aṣṭādhyāyī* 6.4.55), hence *kārayām cakāra*, *bhāvayām cakāra*, *dāpayām cakāra*, etc.

The aorist system. Causative verbs use the reduplicated aorist.

§24.2. The desiderative (*saN*)

The “desiderative” refers to the fact that the agent desires to do the action expressed by the verb *Aṣṭādhyāyī* 3.1.7. Sanskrit has a number of closely-related desiderative forms, exemplified here using *√ji* “conquer”:

- a conjugated verbal form, formed with the suffix *sa* (*saN*):
 - *jīgīṣati* “he wants to conquer”
- an action noun, formed with the suffix *sā*:
 - *jīgīṣā* “the desire to conquer”
- an agent noun, formed with the suffix *su*:
 - *jīgīṣuḥ* “one who wants to conquer”

As these examples show, the verbal and nominal forms share a stem, which is characterized by reduplication and a final *s*. The rules for reduplication are the same as those of the present (a *u* or *ū* in the root gives *u* in the reduplicant, but otherwise the vowel of the reduplicant is *i*). However, a number of roots form the desiderative in a slightly irregular

way, and their forms ought to be memorized. This includes the following long-vowel roots:

- $\sqrt{dā} + sa [+ ti] \rightarrow dītsati$ “wants to give”
- $\sqrt{dhā} + sa [+ ti] \rightarrow dhītsati$ “wants to place”
- $\sqrt{mā} + sa [+ ti] \rightarrow mītsati$ “wants to measure”
- $\sqrt{mī} + sa [+ ti] \rightarrow mītsati$ “wants to destroy”

As well as the following other roots:

- $\sqrt{āp} + sa [+ ti] \rightarrow īpsati$ “wants to obtain”
- $\sqrt{rabh} + sa [+ tē] \rightarrow rīpsatē$ “wants to begin”
- $\sqrt{labh} + sa [+ tē] \rightarrow līpsatē$ “wants to take”
- $\sqrt{dambh} + sa [+ ti] \rightarrow dhīpsati$ or $dhīpsati$ “wants to deceive”
- $\sqrt{śak} + sa [+ ti] \rightarrow śīkṣati$ “wants to be able, learns”
- $\sqrt{pat} + sa [+ ti] \rightarrow pītsati$ “wants to fall”
- $\sqrt{pad} + sa [+ tē] \rightarrow pītsatē$ “wants to occur”
- $\sqrt{jñap} + sa [+ tē] \rightarrow jñīpsati$ “wants to command”
- $\sqrt{muc} + sa [+ tē] \rightarrow mōkṣatē$ “wants to be free” (or $mūmukṣatē$)

NOTE: Some of these forms can be explained as remodeled stems arising from a reduplicant followed by a zero-grade root, e.g., $*pī-pt-sa- \rightarrow pītsa-$, $*śī-śk-sa- \rightarrow śīkṣa-$, etc.

Generally the root appears in the zero grade, except of course when it is followed by the augment i (iT), which induces $gunāḥ$. Roots that end in the vowels i and u lengthen this vowel, and roots that end in r change it to $īr$ or, after labels, to $ūr$:

- $\sqrt{kr} + sa [+ ti] \rightarrow cikīrṣati$ “wants to do”

- $\sqrt{śru} + sa \text{ [+ } ti \text{]} \rightarrow śusrūṣati$ “wants to listen, obeys”
- $\sqrt{śri} + sa \text{ [+ } ti \text{]} \rightarrow śisrīṣati$ “wants to adhere”

§24.3. The intensive

The intensive (sometimes also called the frequentative) is another secondary verb form that indicates the action of the verb is performed repeatedly, concentratedly, or intensely (*samabhihāraḥ*, *Aṣṭādhyāyī* 3.1.22). It is easily recognized from its **heavy reduplication**, discussed below. Any root that has a single vowel (i.e., is monosyllabic) and begins with a consonant can form an intensive; this excludes tenth-class verbs (which are technically considered not to be monosyllabic) as well as most roots beginning with vowels (see Kātyāyana on 3.1.22 for exceptions).

The intensive is formed by combining (a) one of three forms of “heavy reduplication” with (b) one of two present stem forming suffixes (*vikaraṇaḥ*). The combination is relatively free, i.e., either form of the present stem may take any form of reduplication. The options for (b) are:

- a **thematic** verb, formed with the suffix *-ya-* with the root in the **zero grade** (*yaN̄*), which is used exclusively in the *ātmanēpadām*;
- an **athematic** verb, formed with a zero suffix (*yaN̄luk*), which is used exclusively in the *parasmaipadām* (very few *ātmanēpadām* forms are found even in the Veda).

The thematic *ātmanēpadām* form uses the regular thematic *ātmanēpadām* endings. Apart from the reduplication, roots undergo exactly the same changes that they undergo before the suffixes *yaK* (of the present passive) or *ŚyaN* (of fourth-class presents). One exception is that verbs that end in *r̥* substitute *rī* rather than *ri* before the suffix (*Aṣṭādhyāyī* 7.4.27).

The athematic *parasmaipadām* form uses the same endings, and indeed the same alternation between strong and weak forms of the verbal stem, that are found in third-class

presents. That is to say, the athematic forms use the strong (*guṇāḥ*) form in the singular of the present and the imperfect, and the first person and third person singular of the imperative, and the weak form (zero-grade) everywhere else. There is one major distinction, however: in the singular, it is generally possible to use the linking-vowel *i* (*iDāgamaḥ*) between a **final consonant** of the root and the **initial consonant** of the singular ending, and in such cases, the root syllable remains in the weak form (*Aṣṭādhyāyī* 7.3.87). Here, then, is a paradigm of the athematic *parasmaipadām* form and, for completeness, the thematic *ātmanēpadām* form:

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>vēvētti, vēvidīti</i>	<i>vēvittāḥ</i>	<i>vēvidati</i>
<i>madhyapurusaḥ</i>	<i>vēvētsi, vēvidīṣi</i>	<i>vēvitthāḥ</i>	<i>vēvitthā</i>
<i>uttapurusaḥ</i>	<i>vēvēdmi, vēvidīmi</i>	<i>vēvidvāḥ</i>	<i>vēvidmāḥ</i>

	<i>ēkavacanē</i>	<i>dvivacanē</i>	<i>bahuvacanē</i>
<i>prathamapurusaḥ</i>	<i>vēvidyātē</i>	<i>vēvidyētē</i>	<i>vēvidyántē</i>
<i>madhyapurusaḥ</i>	<i>vēvidyāsē</i>	<i>vēvidyēthē</i>	<i>vēvidyādhvē</i>
<i>uttapurusaḥ</i>	<i>vēvidyē</i>	<i>vēvidyāvahi</i>	<i>vēvidyāmahi</i>

The characteristic **heavy reduplication** of the intensive is formed in one of the following ways.

The **preferred option** is to reduplicate using a template, CaC (where C represents a consonant), that is made from the verbal root. The first consonant is, as usual, a “reduced” (i.e., phonologically unmarked) copy of the initial consonant of the root, observing the constraints well-known from other types of reduplication (no conjunct consonants, no aspirates, and no velar consonants — although one form of this reduplication allows ve-

lar consonants in rare circumstances). The vowel of the reduplicant is the *guṇāḥ* vowel *a*. The final consonant of the reduplicant then **first consonant segment of the syllabic nucleus** of the root. You can think of this in the following way: (a) put the root into the *guṇāḥ* or full-grade form, so that the vowel *a* will appear between the initial (onset) consonants and any final (coda) consonants; (b) take as the reduplicant a reduced form of the initial (onset) consonant, followed by the vowel *a*, followed by the *first consonant* after this vowel. In most cases, when the vowel of the root is *i*, *ī*, *u*, *ū*, *ṛ* or *ṝ*, then this process can be summarized by saying: **reduplicate with a *guṇāḥ* form of the root**. Here are some examples:

- \sqrt{vid} “know” (template $(v)ay$) $\rightarrow v\bar{e}vid-$
- \sqrt{ni} “lead” (template $(n)ay$) $\rightarrow n\bar{e}n\bar{i}-$
- \sqrt{kr} “do” (template $(k)ar$) $\rightarrow car\bar{k}r-$
- $\sqrt{kruś}$ “become angry” (template $(kr)av$) $\rightarrow cōkruś-$
- $\sqrt{śru}$ “hear” (template $(śr)av$) $\rightarrow śōśru-$
- $\sqrt{bhū}$ “become” (template $(bh)av$) $\rightarrow bhōbhū-$
- \sqrt{hu} “offer” (template $(h)av$) $\rightarrow jōhu-$
- $\sqrt{vṛt}$ “turn” (template $(v)ar$) $\rightarrow var\bar{v}ṛt-$
- \sqrt{car} “walk” (template $(c)ar$) $\rightarrow carcar-$
- \sqrt{cal} “walk” (template $(c)al$) $\rightarrow calcal-$
- \sqrt{krand} “scream” (template $(kr)an$) $\rightarrow caṅkrand-$
- \sqrt{han} “kill” (template $(h)an$) $\rightarrow jaṅghan-$
- \sqrt{gam} “go” (template $(g)am$) $\rightarrow jaṅgam-$
- \sqrt{nam} “bow” (template $(n)am$) $\rightarrow nannam-$
- \sqrt{bhram} “roam” (template $(bhr)am$) $\rightarrow bambhram-$

NOTE: A number of forms show a nasal in the reduplicant that is not obviously there in the root (*Aṣṭādhyāyī* 7.4.86): *janjap-* from \sqrt{jap} “mutter,” *janjabh-* from \sqrt{jabh} “yawn,” *janḡab-* from \sqrt{gab} “enter into,” *dandaś-* from $\sqrt{daś}$ “bite,” and *dandab-* from \sqrt{dab} “burn,” among others. In most of these cases the medial *a* of the root is in fact the reflex of a vocalized $*\eta$ or $*m$, so that the template of the reduplicant is in fact *Can* or *Cam* (for the nasal, compare the forms *daṁśaḥ* “biting,” *daṁbhayati* “shines,” *jambhaḥ* “tusk,” and the Prakrit verb *jampai* “talks”).

In the thematic intensive, the form of the reduplicant is not determined by the root itself, but the root as modified by the following suffix *yaN̄*. Hence, for roots of the form *Cā* or *Cṛ*, the thematic intensive will form the modified stem *Cīyá-* and *Crīyá* after the reduplication, and the reduplication will use the *guṇāḥ* form of the vowel *i*, i.e., *ē*:

- $\sqrt{kṛ}$ “do” → *cēkrīya-*
- $\sqrt{kṛ}$ “scatter” → *cēkīrya-*
- $\sqrt{dā}$ “give” → *dēdīya-*
- $\sqrt{ghrā}$ “smell” → *jēghrīya-*
- \sqrt{svap} “sleep” → *sōṣupya-*

You may have noticed that this mode of reduplication is only used when it would result in a reduplicant of the form *CaC* where the second consonant is either a nasal (*n*, *m*) or a semivowel (*y*, *v*, *r*, *l*). When there is no nasal or semivowel as the first consonant segment of the full-grade root, this mode of reduplication is not possible. Instead, the reduplicant is formed with a long *ā* instead. This also happens to a number of roots with the vowel *ṛ*, which also allow the earlier kind of reduplication:

- \sqrt{svap} “sleep” → *sāsvap-* (but thematic *sōṣupya-* above)
- $\sqrt{vaś}$ “wish” → *vāvaś-*
- $\sqrt{śvas}$ “breathe” → *śāśvas-*
- \sqrt{vad} “speak” → *vāvad-*

- \sqrt{dhr} “carry” $\rightarrow dādhṛ-$
- $\sqrt{dr̥}$ “split” $\rightarrow dādr̥-$

NOTE: In fact the earlier language very rarely allows the preferred template CaC to be formed even from roots with a final stop consonant: hence *badbadh-* and *badbādh-* from $\sqrt{bādh}$ “press into.”

The above processes of reduplication result in a reduplicant that is **prosodically heavy** but still consists of a single syllable (which ends either with a long vowel or a consonant). There is another process of reduplication available to certain verbs in the intensive that similarly results in a prosodically heavy reduplicant, but in this case the reduplicant consists of **two** syllables. The process is simple: take the prosodic template *CaC*, discussed above, and then add the linking-vowel *i* (if the root begins with a conjunct consonant) or *ī* (if the root begins with a simple consonant). This option is available for all roots that contain the vowel *r̥* (*Aṣṭādhyāyī* 7.4.91):

- \sqrt{vrt} “turn” (template *(v)ar*) $\rightarrow varīvṛt-$
- $\sqrt{vr̥dh}$ “grow” (template *(v)ar*) $\rightarrow varīvr̥dh-$
- $\sqrt{kr̥}$ “do” (template *(k)ar*) $\rightarrow carīkr̥-$
- $\sqrt{mr̥j}$ “wipe” (template *(m)ar*) $\rightarrow marīmr̥j-$

A number of roots — most of which would have formed their template as *Can* — take a version of this reduplication, whereby the reduplicant is *Canī-* (*Aṣṭādhyāyī* 7.4.84):

- $\sqrt{dhvam̐s}$ “perish” (template *(dhv)an*) $\rightarrow danīdhvas-$
- \sqrt{skand} “leap” (template *(sk)an*) $\rightarrow canīskad-$
- $\sqrt{bhram̐ś}$ “fall” (template *(bhr)an*) $\rightarrow barībhraś-$
- $\sqrt{śram̐ś}$ “fall” (template *(śr)an*) $\rightarrow sanīśras-$
- $\sqrt{vañc}$ “become crooked” (template *(v)an*) $\rightarrow vanīvac-$

- \sqrt{pad} “occur” (irregular) \rightarrow *panīpad-*
- \sqrt{pat} “fly” (irregular) \rightarrow *panīpat-*
- \sqrt{gam} “go” (irregular) \rightarrow *ganīgam-*

Finally, we can note that in this final type of reduplication, the original velar consonant of the root is sometimes retained in the reduplicant, such as *ganīganti* (from \sqrt{gam}), *karīkarti* (\sqrt{kr}), *kanikrantti* (\sqrt{krand}), *kaniṣkantti* (\sqrt{skand}). See *Aṣṭādhyāyī* 7.4.91 for further exceptions.

To summarize we can list the available intensive forms of the third person singular of \sqrt{kr} “do” in the present tense: *carkarti*, *carkarīti*, *carīkarti*, *carīkarīti*, *karīkarti*, *karīkarīti*, and *cēkrīyatē*.

§25. Denominal verbs

Denominal verbs are verbs which are formed on the basis of a nominal stem (*prātipadikam*). There are two general strategies of forming verbs from nominal stems: one turns the nominal stem into a **verbal prefix** (*gatiḥ*, see below), which can then be used with other verbs; the other turns the nominal stem into a **verbal stem** by means of a stem-forming suffix (*vikaraṇaḥ*).

§25.1. Compounded verbs (*cvi*)

The suffix *cvi* can be added onto a nominal stem in order to convert it into a verbal prefix (*gatiḥ*), by *Aṣṭādhyāyī* 1.4.61. The condition for using *cvi* is that whatever is referred to by the nominal stem ‘becomes something that it was not before,’ i.e., it undergoes a change of state (*Aṣṭādhyāyī* 5.4.50: *abhūtatadbhāvē kṛbhvastyōgē saṃpadyakartāri cviḥ*). Pāṇini restricts such prefixes to use with the verbal roots \sqrt{kr} ‘do,’ $\sqrt{bhū}$ ‘become,’ and \sqrt{as} ‘be.’

In terms of their form, such prefixes substitute *i* in place of a stem-final *a* or *ā* (*Aṣṭādhyāyī* 7.4.32).

- *śuklikarōti* ‘he makes white, he whitens’ (something that was not white before: *śukla-* ‘white’)
- *śuklibhāvati* ‘it becomes white’
- *dirghībhāvati* ‘it becomes long’ (*dirgha-* ‘long’)
- *bhasmikṛtaḥ* ‘made into ashes’ (*bhasman-* ‘ashes’)

Note the very common forms *svī-√kr* and *aṅgī-√kr*, both of which mean “accept,” and are formed by *cvi* from *sva-* and *aṅga-* respectively. Similarly formed (although technically not with *cvi*) is *ūrī-√kr* “accept.”

§25.2. Denominative verbs (*nāmadhātavaḥ*)

Like English, Sanskrit allows nominal stems to be used as verbs (i.e., to take the person-number-tense endings of the present system) by adding a *present stem forming suffix* to the nominal stem. The resulting forms are called **denominatives**. They are quite diverse in their formation and in their meaning. If *x* represents the meaning of the underlying nominal stem, the resulting denominative verb could have a range of meanings (from Wikipedia, with some additional notes):

- to make (something) into *x* (resultative / transitive);
- to become *x* (resultative / intransitive);
- to treat (something) like *x* (similative / transitive);
- to act like *x* (similative / intransitive);
- to perform *x* (performative);

The reason for distinguishing transitive and intransitive versions of various denominative meanings is because these meanings are often produced by different suffixes in Sanskrit. Transitive denominatives tend to take *parasmaipadām* endings, while intransitive denominatives tend to take *ātmanēpadām* endings. Note the following pairs:

- *sīthila-* adj. “loose”
 - *sīthilayati* “he makes (something) loose” (resultative / transitive)
 - *sīthilāyatē* “it becomes loose” (resultative / intransitive)
- *kaluṣa-* adj. “turbid”
 - *kaluṣayati* “he makes (something) turbid” (resultative / transitive)
 - *kaluṣāyatē* “it becomes turbid” (resultative / intransitive)

Most denominative suffixes involve the element *-ya-* added onto a nominal stem. When the nominal stem ends in *a*, we can distinguish three types of denominative suffixes, exemplified in turn:

- *-aya-*, with either *parasmaipadām* endings (*ṆiC*) or *ātmanēpadām* endings (*ṆiṆ*);
- *-īya-*, with *parasmaipadām* endings (*KyaC*); or
- *-āya-*, with *ātmanēpadām* endings (*KyaṆ*).

-aya- (*ṆiC/ṆiṆ*). This suffix should already be familiar from the causative and tenth-class verbs. It is added onto a relatively small set of nominal stems, and its meaning is usually transitive and resultative (to make something *x* or to endow something with *x*), and in these senses takes *parasmaipadām* endings. In a very few cases the resulting verb takes *ātmanēpadām* endings (see *Aṣṭādhyāyī* 3.1.20 and *Aṣṭādhyāyī* 3.1.21 and *Aṣṭādhyāyī* 3.1.24).

- *muṇḍa-* adj. “bald” → *muṇḍáyati* “he shaves” (resultative / transitive)

- *miśra*- adj. “mixed” → *miśráyati* “he mixes” (resultative / transitive)
- *ślakṣṇa*- adj. “soft” → *ślakṣṇáyati* “he softens” (resultative / transitive)
- *lavana*- adj. “salty” → *lavañáyati* “he salts” (resultative / transitive)
- *vrata*- n. “vow” → *vratáyati* “he vows” (resultative / transitive)
- *vastra*- n. “clothing” → *vastráyati* “he wears” (resultative / transitive)
- *hala*- n. “plough” → *haláyati* “he ploughs”
- *kala*- m. “the die *kali*” → *kaláyati* “he rolls *kali*”
- *kṛta*- n. “the die *kṛta*” → *kṛtáyati* “he rolls *kṛta*”
- *tūsta*- n. “dreadlocks” → *tūstáyati* “he wears dreadlocks”
- *rūpa*- n. “form” → *rūpáyati* “he discerns”
- *varṇa*- m. “description” → *varṇáyati* “he describes”

-*ya*- (*yaK/KyaC/KyaṆ*). We can treat these suffixes together when they come after a nominal stem ending in a consonant, because the consonant of the stem is retained. They are typically performatives, which tend to take *ātmanēpadām* endings when they primarily affect the agent himself/herself, and *parasmaipadām* endings when they primarily affect someone else (*Aṣṭādhyāyī* 3.1.19, *Aṣṭādhyāyī* 3.1.15).

- *bhīṣaj*- m. “(medical) treatment” → *bhīṣajyāti* “he treats” (*yaK*)
- *kaṇḍū*- f. “itch” → *kaṇḍūyātē* “he itches” (*yaK*)
- *manas*- n. “mind” → *manasyāti* “he is minded” (*yaK*)
- *duvās*- n. “reverence” → *duvasyāti* “he reveres” (*yaK*)
- *namas*- n. “reverence” → *namasyāti* “he reveres” (*KyaC*)
- *tapas*- n. “penance” → *tapasyātē* “he performs penance” (*KyaṆ*)
- *varivās*- n. “honor” → *varivasyāti* “he honors” (*KyaC*)

-īya- (*KyaC*). This suffix, which replaces the final *a* of a nominal stem with *ī*, primarily has a desiderative meaning (to desire *x*) when intransitive (*Aṣṭādhyāyī* 3.1.8 and a simulative meaning (to treat someone like *x* when transitive (*Aṣṭādhyāyī* 3.1.10)):

- *putra-* m. “son”
 - *putriyati* “he desires a son” (*KyaC*, desiderative intransitive)
 - *putriyati* “he treats (someone) like a son” (*KyaC*, simulative transitive)
- *prāvāra-* m. “cloak”
 - *prāvāriyati* “he desires a cloak” (*KyaC*, desiderative intransitive)
 - *prāvāriyati* “he uses as a cloak” (*KyaC*, simulative transitive)

The sense of “desiring *x*” is also found in the suffix *kāmyaC*, e.g., *putrakāmyati* “he desires a son,” which transparently builds denominatives from a compound noun *x-kāmaḥ* “desire for *x*.”

-āya- (*KyaṢ/KyaÑ*). This is the **most common** desiderative suffix. It has resultative and performative meanings, both transitive (generally with *parasmaipadām* endings, using the suffix *KyaṢ*) and intransitive (generally with *ātmanēpadām* endings, using the suffixes *KyaṢ* and *KyaÑ*). In the resultative (but not performative) meanings, a final consonant of a stem is usually lost, and the preceding vowel is lengthened.

- *lōhita-* adj. “red” → *lōhitāyatē* “he becomes red” (*KyaṢ*, resultative intransitive)
- *sumanas-* adj. “well-disposed” → *sumanāyatē* “he becomes well-disposed” (*KyaÑ*, resultative intransitive)
- *śaśvat-* adj. “eternal” → *śaśvāyatē* “he becomes eternal” (*KyaÑ*, resultative intransitive)
- *śīghra-* adj. “quick” → *śīghrāyatē* “he becomes quick” (*KyaÑ*, resultative intransitive)

- *karuṇā-* adj. “compassion” → *karuṇāyatē* “he becomes compassionate” (*KyaṢ*, resultative intransitive)
- *kṛpā-* f. “pity” → *kṛpāyatē* “he take pity” (*KyaṢ*, resultative intransitive)
- *nidrā-* f. “sleep” → *nidrāyatē* “he sleeps” (*KyaṢ*, performative intransitive)
- *śabda-* m. “sound” → *śabdāyatē* “he makes a sound” (*KyaṨ*, performative intransitive)
- *vaira-* n. “hostility” → *vairāyatē* “he is hostile” (*KyaṨ*, performative intransitive)
- *kalaha-* m. “quarrel” → *kalahāyatē* “he quarrels” (*KyaṨ*, performative intransitive)

The most productive meaning of this suffix, however, is an intransitive simultative (“to act like *x*”). In this meaning, the final consonant of a nominal stem is usually lost, and the preceding vowel is lengthened.

- *druma-* m. “tree” → *drumāyatē* “it acts as a tree” (*KyaṨ*, simultative intransitive)
- *rājan-* m. “king” → *rājāyatē* “he acts like a king” (*KyaṨ*, simultative intransitive)
- *apsaras-* f. “apsaras” → *apsarāyatē* “she is like an *apsaras*” (*KyaṨ*, simultative intransitive)
- *śyēna-* m. “hawk” → *śyēnāyatē* “it acts like a hawk” (*KyaṨ*, simultative intransitive)

§26. Verbal prefixes (*gātih*)

Sanskrit has several classes of indeclinable words (*avyayāni*)—words that do not change their form based on their grammatical category. One important class of such words can be called *verbal prefixes*, so called because they occur before, and modify the meaning of, verbal forms.

Pāṇini actually distinguishes between several categories of verbal prefixes. The smaller category is called *upasargāḥ* or “preverbs.” These are basically unanalyzeable particles.

There are about twenty of them, and nearly all of them are familiar from other Indo-European languages. Many of these preverbs are also used in a different syntactic function, namely, as adpositions (*karmaṣṭhānīyāni*). The larger category, which includes preverbs, is called *gātiḥ* in Pāṇini's technical terminology. We will refer to it as "verbal prefixes" in general, since it includes the preverbs alongside a wide range of other words—mostly indeclinables—that immediately precede a verbal form and either modify its meaning or, in a few cases, supply its primary meaning.

§26.1. Preverbs (*upasargāḥ*)

The smaller category of *preverbs* is taught as a list beginning with *prá*. Hence they are called *prādi* "[the list which] begins with *pra*" (mentioned in *Aṣṭādhyāyī* 1.4.58). When they are used with verbs, they receive the technical term "preverb" (*upasargāḥ*) according to *Aṣṭādhyāyī* 1.4.59. But they are also all considered verbal prefixes (*gātiḥ*), which has consequences for the accentuation of prefixed forms.

As to their *meaning*, the general senses of all of the prefixes have been listed below. In many cases, however, the preverb can change the meaning of the verb entirely. As to their *form*, prefixes will sometimes trigger the application of certain phonological or morphological rules in the following verbal form. One important example is the selection of the converb ending: verbs with a prefix (*gātiḥ*) take the converb ending *ya* (*LyaP*), as opposed to *tvā* (*Ktvā*), which is only used for unprefixes verbs.

Preverbs can also **combine** with each other. Usually no more than three preverbs are to be found on any one form. There is a strong tendency towards certain orders of preverbs. The preverb *á*, for example, is almost always *closest* to, or *most interior to*, the verb. For a study of preverb ordering, see the dissertation of Julia Papke.

For the retroflexion of a root-initial *s* or *n* by a trigger in a preverb, see the discussion of retroflexion in internal *sandhi* above.

- *prá* “forth”
- *pārā* “away, beyond”
- *ápa* “away”
- *sám* “together with”
- *ánu* “after”
- *áva* “down”
- *nīḥ* “out of, away from”
- *duḥ* “bad, difficult”
- *vī* “apart, in different directions”
- *ā* (taught as *āN* by Pāṇini) “near, in this direction”
- *nī* “down”
- *ādhi* “over”
- *āpi* “close, near”
- *āti* “beyond”
- *sú* “good”
- *úd* “up”
- *ābhi* “towards”
- *prāti* “against”
- *pári* “around”
- *úpa* “close by”

§26.2. Other verbal prefixes

A wide range of other indeclinable forms can be used as verbal prefixes. Here is a selection:

- *ālam* (*Aṣṭādhyāyī* 1.4.64)
- *tirāḥ* (*Aṣṭādhyāyī* 1.4.71) “disappearance”
- *sāt* (*Aṣṭādhyāyī* 1.4.63)
- *āsat* (*Aṣṭādhyāyī* 1.4.63)
- *antār* (*Aṣṭādhyāyī* 1.4.65) under certain circumstances
- *purās* (*Aṣṭādhyāyī* 1.4.67) “in front of”
- *āstam* (*Aṣṭādhyāyī* 1.4.68) “setting”
- *āccha* (*Aṣṭādhyāyī* 1.4.69)

A number are only used with *kṛ* (following *Aṣṭādhyāyī* 1.4.72):

- *sākṣāt*
- *hástē*

§26.3. “Honorary prefixes” (*Cvi*)

Most nominal stems can be turned into a verbal prefix by adding a suffix that Pāṇini calls *Cvi* (*Aṣṭādhyāyī* 1.4.61). He assigns this suffix the sense of “becoming something which it was previously not.” The prefixes so formed are used only with the verbs $\sqrt{kṛ}$ and $\sqrt{bhū}$, which mean “make [something] *x*” or “become *x*.” The suffix *Cvi* replaces the final *-a* or *-ā* of a nominal stem with the long vowel *-ī* (*Aṣṭādhyāyī* 7.4.32).

- *śukla-* “white” → *śuklikarōti* “he makes white, whitens”; *śuklibhāvati* “it becomes white”

- *ghaṭa-* “pot” → *ghaṭīkarōti* “he turns [something] into a pot”; *ghaṭībhavati* “it becomes a pot”
- *sānūni gandhaḥ surabhīkarōti* .
 “The scent makes fragrant the peaks.” (*Kumārasambhavaḥ* 1.19)

§27. The infinitive

The infinitive is an indeclinable verbal noun that is primarily used as the *complement* of another verb or an adjective, similar to the “to” infinitive in English (“he is able *to read*,” “he wants *to read*,” etc.).

The infinitive of all verbs is formed directly from the verbal root by the addition of the suffix *tumUN*, i.e., *-tum* with full grade of the verbal root and an accent on the first syllable of the resulting form. The only variable in the formation of the infinitive in *-tum* is whether the root takes the augment *iT* before such an ending or not. As noted above, the rules for the augment *iT* are one of the trickiest parts of Sanskrit grammar, and generally they should be known inductively.

Here are some verbs that do not take the augment:

- Most roots ending in vowels, *apart from* *ū* and *ṛ*:
 - $\sqrt{dā}$ “give” → *dātum*
 - $\sqrt{jñā}$ “know” → *jñātum*
 - $\sqrt{jī}$ “conquer” → *jētum*
 - $\sqrt{nī}$ “lead” → *nētum*
 - $\sqrt{śru}$ “hear” → *śrótum*
 - $\sqrt{smṛ}$ “remember” → *smārtum*

- \sqrt{tyaj} “abandon” $\rightarrow tyáktum$
- \sqrt{bhuj} “enjoy” $\rightarrow bhóktum$
- \sqrt{vac} “speak” $\rightarrow váktum$
- $\sqrt{śak}$ “be able” $\rightarrow śáktum$
- \sqrt{vid} “find” $\rightarrow véttum$
- \sqrt{han} “kill” $\rightarrow hántum$
- \sqrt{tap} “heat” $\rightarrow táptum$
- \sqrt{labh} “obtain” $\rightarrow lábdhum$
- \sqrt{ram} “enjoy” $\rightarrow rántum$
- \sqrt{gam} “go” $\rightarrow gántum$
- $\sqrt{dṛś}$ “see” $\rightarrow dráṣṭum$
- \sqrt{vah} “carry” $\rightarrow vóḍhum$

Roots that optionally take the augment:

- \sqrt{sah} “put up with” $\rightarrow sódhum$ or $sáhitum$
- $\sqrt{sū}$ “give birth” $\rightarrow sótum$ or $sávitum$
- $\sqrt{iṣ}$ “desire” $\rightarrow éṣṭum$ or $éṣitum$
- $\sqrt{sās}$ “discipline” $\rightarrow śástum$ or $śásitum$

Most other roots do take the augment:

- Most roots ending in the vowel \bar{u} or \bar{r} :
 - $\sqrt{bhū}$ “become” $\rightarrow bhávitum$

- √*lū* “cut” → *lāvitum*
- √*khād* “eat” → *khāditum*
- √*ikṣ* “see” → *préṣitum*
- √*vad* “speak” → *vāditum*
- √*grab* “grasp” → *grābītum* (with special lengthening of the augment)

There are two primary usages of the infinitive. The first, and most common, is as a complement to a verb (*Aṣṭādhyāyī* 3.4.65: these include √*sak* “be able, *potere*” √*arh* “be deserving, *debere*” √*iṣ* “want, *volere*”, √*sah* “be capable,” √*jñā* “know,” √*rabh* or *upa-kram* “begin”) or adjective (adjectival forms of all of the preceding as well as *samartha-* “capable”) or the indeclinable *ālam* “enough, sufficient, capable”:

- *rāmaḥ śatrūñ jētum ālam* “Rāma is capable of conquering his enemies”
- *rāmaḥ śatrūñ jētum samarthaḥ* “id.”
- *rāmaḥ śatrūñ jētum śaknōti* “id.”
- *tad vaktum na śaknōmi* “I am not able to say that.”
- *sā jñātum icchatī* “She wants to know.”
- *āsītum arhasi* “You ought to sit down.”
- *kavī racitum ārabhatē* “The poet begins to compose.”
- *na nivāritum śahantē* “They are not capable of resisting.”

The infinitive is not marked for agreement with either an agent or a patient; it inherits its construction from the form that governs it. That is, if an infinitive is governed by a verb in the *karmāṇi prayōgāḥ*, it should be understood as referring to the *patient* of the verbal action:

- *rāmaḥ śatrubbir jētum na śakyatē* “Rāma cannot be conquered by his enemies”

- *tad vaktum nēṣyatē* “That is not desired to be said.”
- *bētir na nivāritum śakyatē* “The missile cannot be resisted.”

This restriction means that the construction cannot shift from the main verb to its infinitive complement, i.e., you cannot literally say “he does not want this to be said,” and instead you must say “by him this is not wanted to be said” (*tēna nēdam vaktum iṣyatē*).

One other use of the infinitive is to express the *purpose* with which an action is undertaken by a particular agent (*Aṣṭādhyāyī* 3.3.10). As in the previous case, the agent of the infinitive is identical with the agent of the verbal form that governs it:

- *bhōktum vrajati* “He is going to eat.”

§28. The converb

Sanskrit has a verbal form called a “converb” that is unfamiliar to speakers of Indo-European languages but identical in function to certain forms in Dravidian languages (such as the Tamil *viṇaiyeccam*). European grammar have come up with various names: “gerunds” (Müller, Whitney, Macdonell, followed by Deshpande, the Goldmans, and Maurer); “absolutives” (Shulman and Priya Hart, Ruppel); “continuatives” (George Hart); as well as “adverbial,” “indeclinable,” or “conjunctive participles.” To avoid confusion with other forms, and align with the emerging literature in linguistic typology, I call these forms “converbs.”

Converbs are **non-finite** verbal forms. They do not express the categories of person, number, tense, or diathesis, and accordingly they are *uninflected*. In this sense they are similar to “infinitives” (*tumUN*). Similarly both converbs and infinitives (in normal circumstances) must be used with another verbal form. And similarly both converbs and infinitives are “controlled” by this other verbal form, which supplies the *agent* for both. (Note that the requirement is for the verbal predicate to have the same *agent* as the con-

verb, not the same *subject*.) Whereas infinitives are generally the **complement** of another verb, however, converbs are **adverbial modifiers** of another verb. A verb without its infinitive complement is incomplete; a verb without a converb is not. Since they are *adverbial*, converbs (and the phrases they govern) answer the question “how” the agent performs the action expressed by the main verb. Pāṇini’s rule (*Aṣṭādhyāyī* 3.4.21) says that converbs are used to express the **temporally prior** of two actions that have the same agent. Hence they can generally be translated, at least at a first pass, as “having *xed*.” Adverbial clauses in English (“after having...,” “when...,” “once...”) will generally be good translation options.

Converbs are, like infinitives, essentially agentless verbs, and they can take any of the arguments or modifiers that the corresponding verb form can take, except those that express the agent. They can also be used *in sequence*, i.e., a single sentence may have more than one converb phrase. The converbs are typically not connected with *ca*.

- *āprcchya gataḥ* “Having taken his leave, he left.”
- *matvā prativakti* “Having thought, he responds.”
- *bhūtaṁ dṛṣtvā trasati* “Having seen a ghost, he is afraid.”
- *lēkhaṁ likhivā gatā* “Having written a letter, she left.”
- *rājyaṁ mantriṇi ārōpya sukhaṁ anubhavati* “Having made over the kingdom to his minister, he experiences pleasure.”

NOTE: The requirement of having the same agent is relaxed in cases of metonymy, e.g., *taṁ dṛṣtvā hṛdayaṁ dravati* “my heart melts when I see him” (the agent of *dravati* is not the same as the agent of *dṛṣtvā*, but the former is located inside the latter).

Note that multiple converbs can be used in a sentence:

- *pathikō grāmaṁ prāpya tatraiva uṣitvā prātaḥ buddhvā sāmagrīm samādāya niragāt .*
“The traveller reached the village, stayed the night there, woke up in the morning, gathered his belongings and left.”

Sanskrit has a number of converb forms. The most common one is formed with the suffixes *-tvā* (*Ktvā*) and *-ya* (*LyāP*), which are in complementary distribution with each other. Another, formed with *-am* (*NamUL*), is used less frequently in Classical Sanskrit, but is common in Vedic prose.

§28.1. *-tvā* (*Ktvā*)

This suffix is used when the verbal root is not prefixed. (When a verbal prefix, or *gātiḥ*, appears, the suffix *-ya* is used instead.) The suffix is added onto the **zero grade** of the root (as indicated by the marker *K*); if the root is capable of undergoing *samprasāraṇam*, it does. See the discussion of vowel gradation. The accent is on the suffix.

- $\sqrt{kr} + tvā \rightarrow kṛtvā$ “having done”
- $\sqrt{yā} + tvā \rightarrow yātvā$ “having gone”
- $\sqrt{prach} + tvā \rightarrow pr̥ṣtvā$ “having asked” (with *samprasāraṇam*)
- $\sqrt{vac} + tvā \rightarrow uktvā$ “having said” (with *samprasāraṇam*)

Because the suffix begins with a consonant, the augment *i* (*iT*) will be added between the root and the suffix in some verbs. Fewer roots take the augment with *-tvā* than they do with the infinitive suffix *-tum*: hence *bhāvītum*, but *bhūtvā*. Most roots ending in vowels do not take this augment, the one exception being $\sqrt{śi}$ “lie,” which forms *śayītvā*. Among the roots ending in consonants, recall that some *always* take the augment: all of those that are “superheavy” and therefore not susceptible to vowel gradation (including roots with a long vowel followed by a consonant, such as $\sqrt{jīv}$ “live” and $\sqrt{sēv}$ “serve,” as well as roots with two final consonants, such as \sqrt{cumb} “kiss” and \sqrt{majj} “sink”); and those that end in retroflex consonants ($\sqrt{paṭh}$ “read”), voiceless aspirate stops (\sqrt{likh} “write”), or the sound *li* (\sqrt{mil} “meet”).

Generally a root goes into the full grade, or *gunāḥ*, when it takes the augment *i*. Consider

varitvā from \sqrt{vrt} “turn.” But there are several important exceptions. Roots that start with a consonant, have the vowel *i/i* or *u/ū*, and end in a consonant other than *y* or *v* have the option of taking *gunāḥ* or not before the augment; the same option extends to the roots $\sqrt{kṛṣ}$ “grow thin,” $\sqrt{mṛṣ}$ “put up with,” and $\sqrt{tṛṣ}$ “be thirsty” (*Aṣṭādhyāyī* 1.2.25):

- $\sqrt{dyut} + tvā \rightarrow dyutitvā$ or $dyōtitvā$ “having shone”
- $\sqrt{tṛṣ} + tvā \rightarrow tṛṣitvā$ or $tarṣitvā$ “having felt thirst”

A short but important list of verbs always takes zero grade before the suffix, namely, \sqrt{rud} “cry,” \sqrt{vid} “know,” $\sqrt{muṣ}$ “steal,” \sqrt{grab} “grasp,” $\sqrt{mṛd}$ “delight,” and \sqrt{gudh} “cover,” $\sqrt{kliṣ}$ “afflict,” \sqrt{vad} “speak,” and \sqrt{vas} “stay (in a place).” Of these roots, note that \sqrt{grab} exceptionally takes *ī* rather than *i* as its augment.

- $\sqrt{grab} + tvā \rightarrow gr̥bitvā$ “having grasped”
- $\sqrt{vad} + tvā \rightarrow uditvā$ “having spoken”
- $\sqrt{vas} + + tvā \rightarrow uṣitvā$ “having stayed”

§28.2. *-ya* (*LyāP*)

This suffix is used when the verbal root has any prefix (*gātiḥ*), including but not limited to a preverb (*upasargāḥ*). It, too, is added to the **zero grade** of the root (but see the complications below). If the weight of the verbal root itself is *light*, that is, if it has a short vowel that is not followed by a consonant, then the augment *t* (*tuK*) is added between the verbal root and the suffix. The accent is on the syllable before the suffix, as indicated by the marker *L*.

- $adhi + \sqrt{kṛ} + ya \rightarrow adhikṛ̐tya$ “having made the topic”
- $va + \sqrt{gāh} + ya \rightarrow vagāhya$ “having plunged into”
- $pari + \sqrt{prach} + ya \rightarrow paripṛ̐cchya$ “having inquired”

Verbs that end in *-am* or *-an*, which would generally form their zero grade by simply dropping the nasal (i.e., not those verbs, like $\sqrt{śram}$, \sqrt{dam} , and \sqrt{kram} , which historically ended in a laryngeal and formed their zero grade by lengthening the vowel before the nasal), have the option of counting either as “light roots,” by dropping the nasal and taking the suffix *-tya*, or “heavy roots,” by keeping the nasal and taking the suffix *-ya*:

- $ava + \sqrt{gam} + ya \rightarrow avagátya$ or $avagámya$ “having understood”
- $pra + \sqrt{nam} + ya \rightarrow praṇátya$ or $praṇámya$ “having bowed”

The augment *i* (*iṭ*) is never used before this suffix. There are, however, a number of complications regarding the gradation of the root that ought to be noted. The root standardly appears in the zero grade, with *samprasāraṇam* if applicable, as shown above. But roots that end in a long *-ā* (or *-ai*) do not take their standard zero-grade form in *-i* or *-ī*. Rather, they retain their long *-ā* vowel (*Aṣṭādhyāyī* 6.4.69):

- $vi + \sqrt{jñā} + ya \rightarrow vijñāya$ “having discerned”
- $niḥ + \sqrt{mā} + ya \rightarrow nirmāya$ “having created”

Among **causative** verbs, those in which the root ends in a short vowel followed by a consonant, like \sqrt{gam} , keep the causative suffix *-áy-* before the suffix *()*, while all others drop it:

- $ava + \sqrt{gam} + ay + ya \rightarrow avagamáyya$ “having caused to understand”
- $pra + \sqrt{tṛ} + ay + ya \rightarrow pratárya$ “having caused to advance”

§28.3. *-am* (*NamUL*)

The suffix *NamUL* is, parallel to *Ktvā* and *LyaP*, used to form a converb. A root lengthened by *N-vṛddhi* takes the suffix *-am*. When it does occur, it is often repeated in a distributive sense (*vīpsāyām*).

The accent is on the syllable before the suffix (due to the *anubandha* *L*).

- $\sqrt{kṛ} + \text{NamUL} \rightarrow káram$ “having done”
- $\sqrt{smṛ} + \text{NamUL} \rightarrow smáram$ “having remembered”
- $\sqrt{pā} + \text{NamUL} \rightarrow páyam$ “having drunk”

§28.4. Negating the converb

The converb, as an indeclinable, is considered a *nominal* form, and therefore it is not negated with the proclitic particle *na*, but rather with the nominal prefix *a-* (before consonants) and *an-* before vowels.

- *akṛtvā* “without having done”
- *anuktvā* “without having said”
- *aparipṛcchya* “without having inquired”

Chapter 4

Indeclinables

§29. Particles

Indeclinable words, which are called *nipātāḥ* (“exceptions”) and *avyayāni* (“indeclinables”), are words that do not change their form according to grammatical categories like gender, number, case, or person. They can be classified into several categories, but the in classification adopted here, they are twofold:

- **particles**, or indeclinable words that are used *on their own* to modify the meaning of a phrase or clause; and
- **adpositions**, or indeclinable words that are used *with a nominal complement* (*upapadam*).

What distinguishes particles from other indeclinables, such as adverbs (*kriyāviśeṣaṇāni*), is that they “indicate” certain aspects of the meaning, or syntax, of the *phrase* or *clause* to which they are attached. In Sanskrit they are often called *dyōtakāni* or “indicators” of the meaning of a syntactically-connected unit of speech, such as a phrase or clause, rather

than “expressors” (*vācakāni*) of a meaning of their own.

NOTE: Particles are also sometimes called *vākyālaṅkārah*, “ornaments of a sentence”: I suspect that this phrase means not that the particles are meaningless verse-fillers, as it is often taken to mean, but rather that the particles slightly change the sense of the entire phrase or clause (*vākyam*) in which they occur.

Speijer (§394) categorized the use of particles under two general headings: *modality* and *connection*. I am not convinced that this categorization can be sustained, but the use of the particles will be discussed in detail below.

The *position* of particles within the clause tells us what unit of speech the particle is connected with. Many Sanskrit particles are *postpositive*, that is, they occur *after* another word, and cannot occur at the beginning of a sentence. It is important to bear phrase structure in mind: a phrase will often consist of multiple words, and a postpositive particle connected with that phrase will very often appear not at the end of the entire phrase, but after the first word in the phrase. For example:

- *pallavāḥ puṣpāni ca mṛdūni* “shoots and soft flowers”

Here we have two noun phrases, one consisting of a single noun (*pallavāḥ*) and the other consisting of a noun with an adjective (*puṣpāni mṛdūni*). The particle *ca* is syntactically connected with the second phrase, but rather than following the *entire* phrase, it follows the *first* word in the phrase.

When a postpositive particle connects with an entire clause, it usually appears in the second position of the clause. This is sometimes called *Wackernagel’s Position* after Jacob Wackernagel, who discovered evidence across several Indo-European languages for the tendency to put either unaccented or weakly-accented words immediately after the first accented word in a clause.

A few particles are not only postpositive but *enclitic* as well, which means that the parti-

cle has no accent of its own, and forms a single phonological and accentual unit with a preceding word (its *host*). Sanskrit also has one *proclitic* particle, namely *na*, which forms a single phonological unit with the word a following word.

Despairing of a coherent classification of particles based either on their syntax or on their usage, I present them below in an alphabetical list.

§29.1. *āpi*

This is an **enclitic** particle, added primarily onto **phrases**, which has the force of **inclusion** (*samuccayah*).

Its most general usage is to mark its host phrase as included in, or added to, something else. That “something else” is implied by the discursive context. In this sense it corresponds closely to the English words “also” or “too.”

- *tēnāpi praśnaḥ prṣṭaḥ* “He too asked a question”
 - “He” is included (*samuccitaḥ*) in the set of people who have asked a question.
- *sūrya udēty api* “The sun also rises”
 - “Rising” is included in the set of things that the sun does.
- *sō 'py āgacchati* “He is coming, too.”
 - “He” is included in the set of people who are coming.

Closely related to this inclusive sense of *āpi* is another sense, which we might call **inclusion contrary to expectation**, which corresponds closely to one usage of the English word “even.” In many cases, only context can tell us whether the expectation of non-inclusion is present, and thus whether *āpi* should be translated as “even” instead of “also.”

- *sō 'py āgaccati* “Even he is coming.”

- If there is an expectation that “he” would not come, *āpi* tells us that “he” is included in the set of people who are coming, contrary to this expectation.
- *sāpi jānāti* “Even she knows.”
- If there is no expectation that “she” would not know, *āpi* tells us that “she” is included in the set of people who know, contrary to this expectation.

The inclusive force of *āpi* is present in one of its most common usages, namely, as a marker of **polarity**, including especially negative polarity:

- *na śabdō ’pi śrutaḥ* “Not even a sound was heard.”
- *sō svaṁ nāmāpi na smṛtavān* “He couldn’t even remember his name.”

Note here that *āpi* can be added to the interrogative pronoun to give it an indefinite, rather than interrogative, force: hence *kō ’pi* (m.), *kāpi* (f.), and *kīmapi* (n.) mean “someone” or “something.” These pronouns are often found in negative sentences as polarity markers:

- *tēna na kimcic chrutam* “He didn’t hear anything.”

Another very common usage of *āpi* is to give phrases or clauses a **concessive** force.

- *sa rājā dhanavān āpi nārthibhyō dadāti* “That king, although he is wealthy, does not give to those in need.”

It is also used, especially with numbers, to indicate the sum or totality of a set:

- *saptāpy ṛṣayaḥ* “[all] seven sages”
- *trayō ’pi kālāḥ* “[all] three times”

As its accent indicates, *āpi* is not a true enclitic, and hence it can stand at the beginning of a sentence. When it does so, however, it obviously does not modify the meaning of a

phrasal host, because there is nothing that precedes it. Rather, it turns the entire clause into a question:

- *api sandēśo mē dr̥ṣṭō bhavatā* “Did you see my message?”

§29.2. *iva*

This is a **postpositive** and **enclitic** particle, connected primarily with **phrases**, which indicates that the phrase with which it is connected serves as the standard (*upamānam*) of **comparison** *upamā*. The standard introduced by *iva* has the same syntactic role in the sentence as the target of comparison (*upamēyam*), and thus if the latter is the nominative case, the former will be, and so on.

- *naur iva bhūś cacāla* “the earth shook like a ship” (*Buddhacarita* 1.21)
- *ālakṣyaraśanā rējē sphuradvidyud iva kṣapā* “[The women] whose girdles became momentarily visible were like the night flashing with lightning” (*Buddhacarita* 4.33)
 - The target (*upamēyam*) is the women, and the standard (*upamānam*) is a two-word phrase, “the night flashing with lightning” (*sphuradvidyut kṣapā*); *iva*, as a postpositive particle, appears after the first word of the phrase.

§29.3. *ēvā*

This is a **postpositive** particle, connected primarily with **phrases**, which has the force of **exclusion** (*vyavacchēdaḥ*), or **restriction** (*avadhāraṇam*).

The philosopher Dharmakīrti formulated two senses of *ēvā*:

1. *anyayōgavyavacchēdaḥ* “the exclusion of a connection [between whatever is predicated of the subject under discussion and a contextually-determined set of other possible subjects]”

- *pārtha ēva dhanurdharaḥ* “Arjuna *alone* is an archer” → “It is not the case that anyone besides Arjuna is an archer”
2. *ayōgavyavacchēdaḥ* “the exclusion of a lack of connection” [between the subject under discussion and what is predicated of it]:
- *caitrō dhanurdhara ēva* “Caitra is indeed an archer” → “It is not the case that Caitra does not have the quality of being an archer”
 - *nīlaṃ sarōjaṃ bhavaty ēva* “The lotus is *surely* blue” → “It is not the case that the lotus is not blue” (actually considered to be a case of *atyantāyōgavyavacchēdaḥ* “exclusion of an absolute lack of connection,” which I follow Jonardan Ganeri in assuming to be subsumed under the general case of *ayōgavyavacchēdaḥ* at least regarding its logical form).

Insofar as it expresses the *exclusion* of either a connection between something and a set of other things, or the lack of a connection between something and another thing, the particle *ēvā* depends on context: specifically, the connection, or lack thereof, must either be supplied or presumed from the discursive context:

1. In the sentence *pārtha ēva dhanurdharaḥ*, we know from context that what is excluded by *ēvā* is the connection between being an archer and *the other four Pāṇḍava brothers*, not all other things in the universe.
2. The sentence *caitrō dhanurdhara ēva* would only be produced against the background of a doubt about whether Caitra is an archer or not. The lack of a connection between Caitra and being an archer is thus discursively salient, and the particle *ēvā* excludes this lack of connection.

NOTE: For further details on the properties of *ēvā*, see J. Ganeri, “Dharmakīrti’s Semantics for the Particle *eva*,” pp. 101–115 in Shoryu Katsura (ed.), *Dharmakīrti’s Thought and Its Impact on Indian and Tibetan Philosophy*: Vienna: Austrian Academy of Sciences, 1999.

A few further examples:

- *bhōgā na bhuktā vāyam ēva bhuktāḥ* (*Vairāgyasatakam*) “Pleasures were not consumed [by us]; rather, it is we who have consumed.”
- What is excluded by *ēvā* is the connection between “being consumed” and anything other than “us” (*vāyam*).

ēvā is often used, in the *anyayōgavyavacchēdaḥ* sense above, in *identifications*:

- *sa ēva rāmaḥ* “he is that very Rāma”
- *yad ēva śrutam tad ēva paśyāmi* “I now see the very thing that I had heard about”
- *navavadhū makaranda ēva* “The newly-married bride was none other than Makaranda”

ēvā is also used, in the *ayōgavyavacchēdaḥ* sense, in affirming something when a doubt about it is either raised or implied. Here it functions as an affirmative particle, and can be seen as giving emphasis to something, but it is important to remember that affirmation and emphasis are *derived* from the more basic sense of exclusion, in this case against the background of an implicit or explicit doubt or negation.

- *satyam ēva* “That is indeed true” (although one might have presumed that it was not)
- *ibaiṣa rājā* “The king is right here” (although one might have presumed that he was not)

With past participles, *ēvā* often has the *ayōgavyavacchēdaḥ* sense, i.e., that it is not the case that the action has not taken place. Hence when it follows a past participle, it can

very often be translated as “already”:

- *tārūṇyaṁ gatam ēva* (*Vairāgyaśatakam* 46): “my youth has already gone away.”

§29.4. *ca*

This is a **postpositive** and **enclitic** particle, connected with both **phrases** and **clauses**, which has the force of **coordination**. *ca* coordinates two or more elements, similar in function to the English word “and.” As an enclitic particle, however, *ca* must follow its host.

NOTE: *ca* derives, like Latin *que* and Greek $\tau\epsilon$, from Indo-European **k₂e*, and corresponds to its cognates in both form and function.

ca may follow *every* element that is coordinated, or it may only follow the *last* such element. Hence X-*ca* Y-*ca*, and X Y-*ca*, are both acceptable usages.

Here are some examples of *ca* as a **phrasal** particle, where it coordinates two or more noun phrases, or adjective phrases, or adverbial phrases:

- *prītā ca bhitā ca babbhūva dēvi* “The queen was both pleased and frightened” (*Buddhacaritam* 1.29)
- *taṁ ... snēhēna bhāvēna ca ... saṁvardhayām ātmajavad babbhūva* “They raised him like a son, with love and affection.” (*Buddhacaritam* 2.19)
- *striyaṁ tasyāś ca cēṭīm paśyāmi* “I see a woman and her servant”

§29.5. *tāvat*

This is a **postpositive** particle, connected with **clauses**, which signals that the clause will be contrasted with another, subsequent clause. It therefore is similar in function to English “on the one hand” and Greek $\mu\acute{\epsilon}\nu$.

NOTE: The particle *tāvāt* is identical with the neuter nominative-accusative singular of the adjectival stem *tāv-ant-*; carefully distinguish between its use as an adjective and as a particular.

§29.6. *tu*

This is a **postpositive** particle, connected with **clauses**, which has the force of **contrast**. As a clausal particle, it almost always occurs in the second (or “Wackernagel’s”) position.

tu is often added onto the words *āpi*, *pāram* and *kīm* to form non-enclitic markers of contrast, similar to the English word “but.”

- *śṛṇōmi kīmtu na draṣṭuṁ śaknōmi* “I hear it, but I’m not able to see it.”

§29.7. *na*

This is a **prepositive** particle, connected with both **phrases** and **clauses**, which **negates** that with which it is construed.

§29.8. *pūnar*

As a particle, this word is **postpositive**, and combines with **clauses**. It is the counterpart to *tāvāt*, and hence introduces a new idea—usually in contrast to the clause modified by *tāvāt*—and can often be translated as “on the other hand.”

NOTE: Distinguish the use of *pūnar* as a particle (*vākyālaṅkāraḥ*) from the use of *pūnar* as an adverb (*kriyāviśeṣaṇam*). In the latter case it means “again” or “repeatedly.”

§29.9. *mā*

This is a **prepositive** particle, connected with **clauses**, which **negates** the verbal predicate with which it is connected. In contrast to *na*, *mā* is used primarily to negate verbs in the imperative (*ḥt*) and in the injunctive, an augmentless form of the aorist.

- *mā bhaiṣīḥ* “Don’t be afraid”
- *mā bhūt* “May it not happen” ☒ “God forbid”

§29.10. *vā*

This is a **postpositive** and **enclitic** particle, connected with both **phrases** and **clauses**, which has the force of **disjunction**. It corresponds closely to the English word “or,” with the difference that, like *ca*, *vā* is an enclitic particle and must come *after* the element it coordinates, or more precisely, after the first accented member of the coordinated phrase or clause.

NOTE: *vā* is cognate with Latin *ue*, but in my reading, it can be used for both inclusive and exclusive disjunction, in contrast to what is commonly said about Latin *ue* (and *uel*). The exclusive sense probably predominates, although both senses will be exemplified below.

vā, exactly like *ca* may follow *every* element that is coordinated, or it may only follow the *last* such element. Hence *X-vā Y-vā*, and *X Y-vā*, are both acceptable usages.

Here are some examples of *vā* as a **phrasal** particle, where it coordinates two or more noun phrases, or adjective phrases, or adverbial phrases:

- *mṛtyur vā pāṇḍityam vā* “Either death or scholarship.”
 - This is clearly an exclusive use of *vā*.
- *trayaḥ puruṣān paśyāmi, caturō vā* “I see three or four people”
 - Here *vā* represents inclusive disjunction.

§29.11. *sma*

This is a **postpositive** and **enclitic** particle, connected with **clauses**, that is most commonly use to give a verbal form that would otherwise refer to the present tense (e.g., a present-

tense verb or participle) a reference to past time. When used in this way, it regularly follows the verb that it “converts,” effectively, to a past-tense form.

- *tataḥ praṇētā vadati sma tasmai* “Then his leader said to him” (*Buddhacarita* 3.59)

§29.12. *hē*

This is a **vocative** particle, generally used before a vocative noun, to get the listener’s or reader’s attention. It is relatively neutral in terms of politeness.

§29.13. *rē*

This is a **vocative** particle. It has a somewhat *impolite* or *casual* tone.

§30. Adpositions (*karmappravacanīyāḥ*)

“Adposition” is what I will call an indeclinable word that *takes a nominal complement* in a specified case. These words, which are called *karmappravacanīyāḥ* in Sanskrit, are similar to *prepositions* in European languages (like *to*, *for*, *by means of*, etc.) and *postpositions* in Hindi, Gujarati, etc. (e.g., *mēm*, *kē liyē*, etc.). They are called adpositions because in Sanskrit they can occur either before or after the nominal phrase that they govern.

In terms of their form and meaning, the adpositions are largely identical to the preverbs. That is to say, the same indeclinable word can be used as a preverb (e.g., *prāti-vartatē*) and as an adposition (e.g., *grhām prāti*). The entire phrase (AP or “adpositional phrase”) will usually have an adverbial meaning within the clause in which it occurs.

§30.1. *ālam*

“**enough**”. Takes a complement in the **instrumental** case (तृतीया विभक्तिः). Expresses the sense of “enough.” Unlike most other *karmappravacanīyāḥ*, the phrase governed by *ālam*

it is usually the predicate in a sentence.

- *alam ativistarēṇa* “Enough of this going on and on” = “I have gone on long enough”
- *alam khēdēna* “We’ve had suffering enough”

NOTE: Carefully distinguish the use of *alam* as a *karmapravacanīyaḥ* from its use with an infinitive to mean “capable of.”

§30.2. *ā*

“up to, as far as, since”. Takes a complement in the **ablative** case (पञ्चमी विभक्तिः), signifying an inclusive limit (*abhiṣṭhāṇa*) or an exclusive limit (*maryādā*), according to *Aṣṭādhyāyī* 2.1.13. This word generally comes *before* its complement.

- *ā janmanaḥ* “since birth”

§30.3. *prāti*

“towards”. Generally takes a complement in the **accusative** case (द्वितीया विभक्तिः) and expresses the ideas of (1) motion towards something (“towards *x*”), (2) reference or respect (“as far as *x* is concerned,” “with reference to *x*”).

- *gatvaikaṁ saśucā grhaṁ prati padam* “Having, in her suffering, taken a single step in the direction of her house” (*Subhāṣitaratnakōśa*).
- *sarvadēvanamaskāraḥ kēśavam prati gacchati* “Reverence done to all of the gods makes its way to Kēśava” (*Mahāsubhāṣitasanṅgraha*).

NOTE: Distinguish the use of *prāti* as a *karmapravacanīyaḥ* from its use as a preverb (*upasargaḥ*).

§30.4. *sahá*

“with”. Takes a complement in the **instrumental** case (तृतीया विभक्तिः). Expresses accompaniment, or an action that is done with another person.

- *rāmō lakṣmaṇēna saha vanam gacchati* “Rāma goes to the forest *with Lakṣmaṇa*.”
- *sarasō mahīṣaiḥ saha āgacchanti* “They are coming out of the lake *with the buffalos*.”

Chapter 5

Derivational Suffixes

§3I. Derivation

Derivation refers to the process of forming words on the basis of other words. This chapter will only treat of *nominal* derivation, that is, the process of forming nominals; the formation of verbs, including denominal verbs (those formed from an existing nominal base) and deverbal verbs (those formed from an existing verbal base), is treated in the chapter on verbal morphology.

Derivation in Sanskrit is straightforward. The process begins with a *base* (*aṅgam*) to which is added an *suffix* (*pratyayah*). The affix will sometimes induce additional changes in the base, either in terms of vowel gradation or accent. Pāṇini's names for these affixes contain diacritics (*anubandhaḥ*) that represent the gradational and accentual properties of the resulting nominal form.

In a number of cases, the suffix is a *null* suffix: nothing is actually added to the base, although the base might be modified by the suffix in some way, but as a result of the addition of such a suffix, the base becomes a declinable nominal form.

§32. Primary derivational suffixes (*kṛt*)

Primary derivatives are those that are formed directly from verbal roots (*dhātuh*). The suffixes that are added to verbal roots are called *kṛt*, and hence primary derivatives are often called *kṛdantam* “ending in a *kṛt* suffix.”

In most cases, primary nominal derivatives have a *meaning* that is composed of (a) the meaning of the verbal root, (b) the particular thematic role that the suffix is associated with, representing a participant in the action of the verb, and (c) some additional component of meaning, related to time, aspect, and so on.

For adjectives formed from a verbal *stem* (participles), see the section on verbs. The following sections only discuss adjectives formed directed from a verbal *root*. They can also be called “participles,” because they are adjectival forms derived from verbal roots that often function as verbs in a sentence.

§33. Past verbal adjectives (*niṣṭhā*)

Pāṇini calls two sets of closely-related forms, those formed with the suffix *Ktāḥ* and those formed with the suffix *KtāvātU*, by the common designation *niṣṭhā*. These are both generally **past** verbal adjectives, in that they refer to an action that occurred prior to the time in which the statement is made. Hence they can be called “past participles” (*bhūtē kṛdantāni*).

The difference between them is the thematic roles (*kāraṇāṇi*, see below) to which they refer. *Ktāḥ*, which is often called the “past passive participle,” can refer to one the following three:

1. the *patient* (*kārma*) of a transitive (*sakarmakaḥ*) verb;

2. the *agent* (*kartṛ*) of an intransitive (*akarmakaḥ*) verb (and sometimes of transitive verbs as well); and
3. the *verbal action* itself (*bhāvāḥ*).

By contrast, *KtāvatU*, which is often called the “past active participle,” can only refer to:

1. the *agent* (*kartṛ*), either of a transitive or intransitive verb.

Thus it is more accurate to think of *Ktāḥ* as an *absolute* form, and *KtāvatU* as a standard *active* form, of the past verbal adjective.

NOTE: Many languages have *nominative-accusative* patterns of alignment, according to which the agent of a transitive verb, or an intransitive verb, takes one form (the *nominative*), and the patient of a transitive verb takes another form (the *accusative*). Some languages, however, have *ergative-absolute* patterns of alignment, where the agent of an intransitive verb and the patient of a transitive verb take the same form (the *absolute*) while the agent of a transitive verb takes another (the *ergative*).

Sanskrit, like many of the modern Indic languages such as Hindi, exhibits a split between the two patterns of alignment. Whenever finite verb forms are used, the alignment pattern is *nominative-accusative*. Whenever non-finite verb forms, such as participles, are used, the alignment pattern is *ergative-absolute*. This more or less maps on to the distinction between past and non-past, since non-finite verb forms are very commonly used with reference to past time, and finite verb forms, by contrast, are typically used to refer to the present, or to hypothetical situations.

§33.1. The past passive participle (-tā-)

The form that Pāṇini calls *Ktāḥ*, that is, -tā-, is the primary form of what is often called the “past passive participle” or “p.p.p.” (Everything that is said in this section will apply equally to the form in -nā-, discussed below, which is a substitute for *Ktāḥ* after certain verbs.) This form is called the “past passive participle” for the following reasons:

- it is generally used in reference to the *past* (*bhūte*);
- it is commonly used in reference to the patient of a transitive verb (*karmāṇi prayōgāḥ*, see below), which is similar to *passive* constructions in English; and
- it is an adjectival form of a verb (a *participle*).

NOTE: The initial *K* of *Ktāḥ* is an *anubandhaḥ*, that is, a marker that is not part of the form itself, but conveys information about its accentual and gradational properties. The *K* marker indicates that the form to which it is added does not undergo *guṇāḥ*, and therefore remains in the zero grade (or in some cases undergoes changes in order to reach the zero grade).

However, it can also be used of the *agent* of an intransitive verb. Pāṇini outlines the use of *Ktāḥ* as follows:

- It can refer to the *patient* (*kārma*) of a verb (i.e., of a transitive verb, since only such verbs have patients in the first place), according to *Aṣṭādhyāyī* 3.4.70. This is the most common use of the suffix. Some examples:
 - $\sqrt{dā} + tā \rightarrow dattā-$ “given”
 - $\sqrt{kṛ} + tā \rightarrow kṛtā-$ “done”
 - $\sqrt{dṛś} + tā \rightarrow dṛśtā-$ “seen”
 - $\sqrt{kṛī} + tā \rightarrow kṛītā-$ “bought”
- It can refer to the *verbal action* (*bhāṇvāḥ*) in the case of intransitive verbs, also according to *Aṣṭādhyāyī* 3.4.70. Some examples:
 - $\sqrt{ās} + tā \rightarrow āsitā-$ “sitting down”
 - $\sqrt{sī} + tā \rightarrow sayitā-$ “lying down”
- It can refer to the *agent* (*kartṛ*) in the case of intransitive verbs, according to *Aṣṭādhyāyī* 3.4.72. But in addition to intransitive verbs, Pāṇini lists a number of other verbs, which are either treated as transitive in the *Aṣṭādhyāyī* or could possibly be

transitive with certain verbal prefixes (*upasargāḥ*), in order to ensure that *Ktāḥ* can be used to refer to the agent in the case of those verbs as well. The complete list is: verbs of movement (*gatyarthāḥ*), √*śliṣ* “embrace,” √*śī* “lie down,” √*sthā* “stand,” √*ās* “sit,” √*vas* “dwell,” √*jan* “be born,” √*ruh* “mount,” and √*jṛ* “grow old.” Some examples:

- *rāmō vanam gataḥ* .
“Rāma went to the forest” (√*gam*)
- *sītā śayitā* .
“Sītā laid down” (√*śīN*)
- *upāsītō gurum dēvadattaḥ* .
“Dēvadatta served his teacher (√*ās*)
- *udayagirim adhirūdhaḥ sūryaḥ* .
“The sun ascended the eastern mountain” (√*ruh*)
- It can be used to refer to the *beginning* of an action, with reference to either the agent or the patient, according to *Aṣṭādhyāyī* 3.4.71.
 - *prabbukta ṛdanam dēvadattaḥ* .
“Devadatta has started to eat his rice.” (√*bhuj*)
 - *prabbuktam ṛdanam dēvadattēna* .
id.

NOTE: See Speijer §360.

It is also worth noting that *Ktāḥ* generally refers to an action in the past, but in several cases, it is more salient that the *consequences* of that action have continued into the present, and hence the form refers to the present. For example:

- *aḥam iha sthitaḥ* .

“I *have stood* here” → “I am (standing) here” ($\sqrt{sthā}$)

cf. Greek statives like ἔστηκα “I am standing”

- *sō mṛtaḥ* .

“He *has died*” → “He is dead” ($\sqrt{mṛ}$)

- *sā śaktā* .

“She is capable” ($\sqrt{śak}$)

In general, however, the form in *Kṛtāḥ* only refers the action to the past in the vaguest terms. When used **predicatively**, it can often be translated by a range of English past tenses depending on the context, for example:

- *ōdanam bhuktam dēvadattēna* .

translating it as an *active* sentence in English:

- “Dēvadatta ate the rice.”
- “Dēvadatta has eaten the rice.”
- “Dēvadatta had eaten the rice.”

and as a *passive* sentence in English:

- “The rice was eaten by Dēvadatta.”
- “The rice has been eaten by Dēvadatta.”
- “The rice had been eaten by Dēvadatta.”

NOTE: See Speijer §361.

Regarding the **formation** of the verbal adjective in *-tā-*, we can say that:

- i. the suffix is added *directly* to the verbal root;

- a) some roots take the augment *-i* between the root and the affix, which in certain cases is lengthened to *-ī*; see the section on *sēṭ* and *anīṭ* roots for more;
2. the root stands in its *weakest* or *zero-grade* form (see the section on vowel gradation above); that is to say:
 - a) there is no *guṇāḥ* or *vṛddhiḥ* of the root vowel;
 - b) the root undergoes *samprasāraṇam* if it is subject to it;
 - c) for certain roots ending in *-am* or *-an*, the stem to which *-tá-* is added ends in *-a* (since *a*, from an earlier vocalic **m̥* or **n̥*, is the “zero grade” of the sequence *am*);
 - d) for other roots ending in *-am* or *-an*, the stem to which *-tá-* is added takes the form *-ām* or *-ān* (these are roots which historically ended in a nasal followed by a laryngeal);
 - i. an exception is *√jan* “be born,” which takes the form *jā-* before the suffix;
 - e) if the root is taught as ending in a long vowel, that probably represents a laryngeal-final root, and such roots generally end in *-ī* or *-i* in the weakest grade (representing **-H*).

In the feminine, the affix *-tá-* simply has a long vowel, thus *-tā-* (formed with the feminine suffix *ṭāP*).

Several examples of *Ktāḥ* affixed to roots with different phonological shapes follow.

- *Ktāḥ* after a root ending in a vowel:
 - *√kr̥* → *kṛtāḥ* “done”
 - *√nī* → *nītāḥ* “led”

- $\sqrt{śru} \rightarrow śrutāḥ$ “heard”
- $\sqrt{bhū} \rightarrow bhūtāḥ$ “become”
- *Ktāḥ* after a root ending in a consonant:
 - $\sqrt{tyaj} \rightarrow tyaktāḥ$ “abandoned”
 - $\sqrt{muc} \rightarrow muktāḥ$ “abandoned”
 - $\sqrt{vṛdh} \rightarrow vṛddhāḥ$ “grown”
 - $\sqrt{naś} \rightarrow naṣṭāḥ$ “destroyed”
- *Ktāḥ* after a root subject to *samprasāraṇa*, including roots ending in *-am*:
 - $\sqrt{prach} \rightarrow prṣṭāḥ$ “asked”
 - $\sqrt{vyadh} \rightarrow viddhāḥ$ “pierced”
 - $\sqrt{svap} \rightarrow suptāḥ$ “slept”
 - $\sqrt{gam} \rightarrow gatāḥ$ “gone”
 - $\sqrt{yaj} \rightarrow iṣṭāḥ$ “sacrificed”
- *Ktāḥ* after roots that historically ended in a **-nH* or **-mH*:
 - $\sqrt{śam} \rightarrow śāntāḥ$ “quieted”
 - $\sqrt{kam} \rightarrow kāntāḥ$ “beloved”
 - $\sqrt{dhvan} \rightarrow dhvāntāḥ$ “sounded”
- *Ktāḥ* after roots that historically ended in a laryngeal *without* a preceding nasal:
 - $\sqrt{gai} \rightarrow gītāḥ$ “sung”
 - $\sqrt{pā} \rightarrow pītāḥ$ “drunk”
 - $\sqrt{sthā} \rightarrow sthitāḥ$ “stood”
 - $\sqrt{dhā} \rightarrow hitāḥ$ “placed”

- *Ktāḥ* after *sēṭ* roots:
 - $\sqrt{kamp} \rightarrow kampitāḥ$ “shaken”
 - $\sqrt{pat} \rightarrow patitāḥ$ “fallen”
 - $\sqrt{grab} \rightarrow grbitāḥ$ “taken”
 - $\sqrt{prath} \rightarrow prathitāḥ$ “spread”

Finally, mention must be made of the **substitution** of *-tā-* by *-nā-* after certain roots. Pāṇini teaches this substitution in the following cases (8.2.42–44):

- roots ending in the consonant *-d*:
 - $\sqrt{bbid} + Ktā [+am] \rightarrow bhinnām$ “[it was] broken”
 - $\sqrt{chid} + Ktā [+am] \rightarrow chinnām$ “[it was] cut off”
- roots that had a semivowel (*l*, *r*, or *v*) followed by a laryngeal in Indo-European, which in synchronic terms includes:
 - roots ending in *-lā* (**-lH*, where *C* stands for any consonant), e.g.:
 - $\sqrt{mlā} + Ktā [+am] \rightarrow mlānām$ “[it was] withered”
 - $\sqrt{glā} + Ktā [+am] \rightarrow glānām$ “[it was] tired out”
 - roots ending in *īr* or *ūr* (Indo-European **-rH*); note that this will always retroflex the following *n*), e.g.:
 - $\sqrt{stṛ} + Ktā [+am] \rightarrow stīṛṇām$ “[it was] strewn”
 - $\sqrt{pṛ} + Ktā [+am] \rightarrow pūrṇām$ “[it was] filled up”
 - a laundry-list of other verbs, most of which can be reconstructed as ending in **-uH* or **-iH* in the zero-grade in Indo-European:
 - $\sqrt{lū} + Ktā [+am] \rightarrow lūnām$ “[it was] cut” (Indo-European **luH-nóm*)

- $\sqrt{dhū} + Ktá [+am] \rightarrow dhūnám$ “[it was] shaken” (Indo-European $*d\bar{h}uH-nóm$)
- $\sqrt{li} + Ktá [+am] \rightarrow línám$ “[it was] dissolved” (Indo-European $*liH-nóm$)

a few other roots, which are generally taught as ending in $-j$, and which change this $-j$ to $-g$ before the suffix $-ná-$ (these roots are taught in the *Dhātupāṭha* with the prefix \bar{o} to indicate the substitution of ta by na):

- $\sqrt{vij} + Ktá [+sU] \rightarrow vignáh$ “[he was] shaken”
- $\sqrt{lag} + Ktá [+am] \rightarrow lagnám$ “[it was] stuck”
- $\sqrt{ruj} + Ktá [+am] \rightarrow rugṇám$ “[it was] destroyed”

§33.2. The past active participle (*KtávatU*)

Another verbal adjective can be formed by adding the suffix that Pāṇini calls *KtávatU*, i.e., $-távat-$, which can be considered a combination of $-tá-$ (the past verbal adjective) and $-vat-$ (the possessive suffix). It is declined exactly like stems in $-vat$, that is, with the stem $-vant-$ in the strong cases and $-vat-$ in the weak cases, and with the stem $-vatī-$ (*KtávatU* + *ŌiP*) in the feminine.

Like *Ktáh*, *KtávatU* refers to the past. Unlike *Ktáh*, it always agrees with the *agent* (*kartṛ*) of the verb, rather than with the *patient* (*kárma*). Although, as adjectives, they can be used to qualify a noun can be used in any gender, number, and case, they are most commonly used as **predicate adjectives**. Since intransitive verbs already reflect the agent in their $tá$ -participle, the $távat$ -participle is mostly used to refer to the agent of transitive verbs.

- *rāmō rāvaṇam hataṇvān* .
“Rāma has killed Rāvaṇa.”
- *sītā rāmam dṛṣṭavati* .
“Sītā has seen Rāma.”

- “The Pāṇḍavas have gone.”

“marked on its slopes with the footprints of Rāma, *which are to be worshiped by men.*”

(*Mēghadūtam* 12)

- “I absolutely need to go to another country” (*Pañcatantram* 167 (from Speijer))

One important point to be noted in this connection is the *kr̥tyah* of $\sqrt{bhū}$, and especially the form *bhavitavyam*. This is very often used in the *bhāvē prayōgāh*, or impersonal con-

struction, which means that the agent of the verbal action will be put into the instrumental rather than the nominative:

- *asmin latāmaṇḍapē saṁnīhitayā tayā bhavitavyam* .
 “she has to be close to this bower” (Śākuntalam 3 (from Speijer))

NOTE: See Speijer §357.

§34.1. *tavya* and *tavyaT*

Before these suffixes (*Aṣṭādhyāyī* 3.1.96), the root stands in the *full* grade. *SēT* roots take the augment *iT* in this form.

The difference between these two suffixes is simply that the accent is on the first syllable of the suffix in the case of *tavya*, whereas in the case of *tavyaT*, the *anubandha T* causes the final syllable to have a *svārīta* accent. Historically *tavyaT* derived from a suffix *-*tavīa*.

- $\sqrt{kr} + tavyaT [+am] \rightarrow kartavyam$ “[it is] to be done”
- $\sqrt{sthā} + tavya [+am] \rightarrow stātavyam$ “[one must] stand”
- $\sqrt{ji} + tavya [+am] \rightarrow jētavyam$ “[it is] to be conquered”
- $bhū + tavya [+am] \rightarrow bhavitavyam$ “[it] must be”
- $man + tavya [+sU] \rightarrow mantavyah$ “[it] is to be thought about”

§34.2. *yaT* and *NyaT*

These forms both involve a suffix -*ya-*. The difference is that *yaT* induces full grade of the root syllable, whereas *NyaT* induces a gradational pattern that we have been calling *N-vṛddhi*, where the root takes the lengthened grade or *vṛddhiḥ* if it ends in a *vowel*, and the full grade or *guṇāḥ* if it ends in a consonant.

The suffix *yaT* is added:

- after most roots ending in a vowel (*Aṣṭādhyāyī* 3.1.97) apart from those in *r*, e.g., $\sqrt{dā}$, $\sqrt{śru}$;
- after most roots ending in a labial sound preceded by *a*, e.g., \sqrt{tap} , \sqrt{labh} , as well as a few other roots with a CVC pattern, such as $\sqrt{śak}$, \sqrt{sab} and (when not preceded by a preverb) \sqrt{gad} , \sqrt{car} , etc. (this specification is necessary because most roots ending in a consonant take the suffix *ṆyaT*);

ṆyaT is only taught for roots that end in the vowel *r* or a consonant.

Note that both *yaT* and *ṆyaT* are affixes beginning with the phoneme *y*, and they therefore fall under the scope of the special *sandhi* rule *Aṣṭādhyāyī* 6.4.79: before such a suffix, the *gunāḥ* and *vṛddhiḥ* vowels are replaced by their corresponding vowel + semivowel segments ($\bar{e} \rightarrow ay$, $\bar{o} \rightarrow av$, $ai \rightarrow āy$, $au \rightarrow āv$).

- $\sqrt{dā} + yaT [+am] \rightarrow dēyam$ “[it is] to be given” (for the substitution of the root-final \bar{a} with \bar{e} , see *Aṣṭādhyāyī* 6.4.65).
- $\sqrt{śru} + yaT [+am] \rightarrow śrāvyaṃ$ “[it is] to be heard”
- $\sqrt{kṛ} + ṆyaT [+am] \rightarrow kāryaṃ$ “[it is] to be done”

§34.3. *KyaP*

The root is in its “weakest” grade (see vowel gradation above). In addition, if the root by itself does not constitute a heavy syllable (i.e., if it ends in a short vowel), then the augment *-t-* is inserted between the root and the affix.

- $\sqrt{kṛ} + KyaP [+am] \rightarrow kṛtyám$ “[what is] to be done”
- $\sqrt{stu} + KyaP [+sU] \rightarrow stutyáḥ$ “[one who is] to be praised”
- $\sqrt{han} + KyaP [+sU] \rightarrow hatyáḥ$ “[one who is] to be killed”
- $\sqrt{sās} + KyaP [+sU] \rightarrow śisyáḥ$ “[one who is] to be taught”

§34.4. *anīyaR*

The root takes the full grade before this suffix, which is accented on the penultimate syllable (as indicated by the diacritic *R*):

- $\sqrt{kṛ} + anīyaR [+am] \rightarrow karaṇīyam$ “[it is] to be done”
- $\sqrt{bhū} + anīyaR [+am] \rightarrow bhavanīyam$ “[it is] to be”
- $\sqrt{vac} + anīyaR [+am] \rightarrow vacanīyam$ “[it is] to be spoken of”

NOTE: Note that while *anīyaR* usually requires *guṇa* of the root vowel, just as in the case of the *guṇa* of a root vowel before the present tense forming suffix *ŚaP*, *guṇa* does not take place if the root ends in (1) a long vowel followed by a consonant, or (2) two consonants.

§35. Agent nouns**§35.1. *NinI***

The root takes “*N-vṛddhi*” (see above). The form of the suffix is *-in-*. There is a small set of roots to which this suffix can be added, on its own, to form agent nouns:

- $\sqrt{grab} \rightarrow grāhī$ “grasper”

More commonly, this suffix is attached to a verbal root at the end of an *upapada* compound (see below) and has a habitual meaning (*tācchīlyē* “in the sense of having that as one’s habitual activity”). For example:

- $\sqrt{yaj} \rightarrow darśapūrṇamāsayājī$ “one who performs the darśapūrṇamāsa sacrifice”
- $\sqrt{krus} \rightarrow uṣṭrakraōṣī$ “given to making noises like a camel”

§35.2. *NvuL*

The root takes “*N-vṛddhi*” (see the section on vowel gradation above).

- $\sqrt{kṛ} \rightarrow kārakaḥ$ “doer”
- $\sqrt{hṛ} \rightarrow hārakaḥ$ “taker”

§35.3. *Lyu*

Taught in *Aṣṭādhyāyī* 3.1.134. The suffix *-ana-*, without any change in the stem. The closely-related suffix *LyuT* (see below) is identical in form, but has the sense of an instrument, or the verbal action, rather than an agent.

- $\sqrt{nand} \rightarrow nandanaḥ$ “that which makes rejoice, a son”
- $\sqrt{sādh} \rightarrow sādhanah$ “that which makes accomplished, a means”

§36. Action nouns

Action nouns are nouns which refer to the verbal action (*bhāvaḥ*) rather than to one or another of the participants in the action.

§36.1. *KtiN*

This is a suffix *-ti-* which is added to a root in the zero grade (as required by the *anubandha K*). It forms feminine verbal nouns. Because of the *anubandha N*, these derivatives are accented on the initial syllable. See *Aṣṭādhyāyī* 3.3.94 and following.

- $\sqrt{man-} + KtiN (+ sU) \rightarrow mātīḥ$ “thought, intelligence”
- $\sqrt{āp} + KtiN (+ sU) \rightarrow āptīḥ$ “attainment”
- $\sqrt{sādh} + KtiN (+ sU) \rightarrow siddhiḥ$ “accomplishment”
- $\sqrt{kram} + KtiN (+ sU) \rightarrow krāntīḥ$ “overcoming”

§36.2. *Lyuṭ*

The suffix *-ana-*, which is added to a root in the full grade, forms neuter verbal nouns that are accented on the syllable preceding the suffix. The same suffix is also used to form nouns expressive of an instrument (*karaṇam*) or location (*adhikaraṇam*) of a verbal action.

- $\sqrt{gam} + \text{Lyuṭ} (+ sU) \rightarrow gámanam$ “going”
- $\sqrt{kṛ} + \text{Lyuṭ} (+ sU) \rightarrow káraṇam$ “doing”
- $\sqrt{sās} + \text{Lyuṭ} (+ sU) \rightarrow sásanam$ “teaching”
- $\sqrt{paṭh} + \text{Lyuṭ} (+ sU) \rightarrow páṭhanam$ “reciting”
- $\text{adhi}\sqrt{i} + \text{Lyuṭ} (+ sU) \rightarrow adhyáyanam$ “studying”

§36.3. *GHaÑ*

The suffix *-a-*, which is added to a root in the full grade, forms masculine verbal nouns that are accented on the root syllables. The marker *GH* means that a root-final palatal is converted into the corresponding velar before the suffix (*Aṣṭādhyāyī* 7.3.52). The root goes into the full grade or *guṇáh*, unless it ends in a vowel, or has the vowel *a* followed by a single consonant, in which case it takes *vṛddhiḥ* (see *N-vṛddhiḥ*).

- $\sqrt{bhū} + \text{GHaÑ} (+ sU) \rightarrow bhāváḥ$ “going”
- $\text{vi}\sqrt{śiṣ} + \text{GHaÑ} (+ sU) \rightarrow viśēṣáh$ “difference”
- $\sqrt{paṭh} + \text{GHaÑ} (+ sU) \rightarrow pāṭháh$ “reciting”
- $\sqrt{yuj} + \text{GHaÑ} (+ sU) \rightarrow yōgáh$ “joining”
- $\sqrt{pac} + \text{GHaÑ} (+ sU) \rightarrow pākáh$ “cooking”
- $\sqrt{ruj} + \text{GHaÑ} (+ sU) \rightarrow rōgáh$ “sickness”

§37. Secondary derivational suffixes (*taddhitāḥ*)

A “secondary derivational suffix,” or *taddhitā* suffix, is one that is added onto an existing nominal stem (*prātipadikam*) in order to form a new nominal stem. The suffix, and thus the resulting form, generally expresses a relation to the meaning of the stem to which it is added.

We can distinguish the following types of *taddhitā* suffixes:

- feminine stem forming suffixes;
- abstract nouns; and
- possessive adjectives.

§38. Feminine stem forming suffixes (*strīpratyayāḥ*)

Gender in Sanskrit is partly inflectional (expressed through endings) and partly derivational (expressed through differences in the stem to which endings are added). One example of the *inflectional* expression of gender is the use of special endings when a word is used in the feminine: for instance, the adjective *śuciḥ*, meaning “pure,” can qualify a noun in the masculine or feminine gender, but the genitive form *śucyāḥ* is only used to qualify a noun in the feminine gender (whereas *śucēḥ* can be used to qualify either a masculine or feminine noun).

Gender being expressed *derivationally* are found when forms based on one stem are used in the masculine/neuter, and forms based on another stem are used in the feminine. To express this paradigmatic relationship, Sanskrit grammarians say that the feminine stem is formed by adding a *feminine stem forming suffix* (*strīpratyayaḥ*) onto the masculine/neuter stem (*Aṣṭādhyāyī* 4.1.3). (We could of course say the reverse, namely, that the mascu-

line/neuter stem is formed by adding a suffix onto the feminine stem, but it is generally more convenient to proceed in the other direction.)

The primary feminine stem forming suffixes are *ā* and *ī*, which Pāṇini teaches as the following:

- *āP*, a general term for the suffix *ā*, which actually includes three suffixes:
 - *ṬāP* (*Aṣṭādhyāyī* 4.1.4). The general suffix *ā*, used when the corresponding masculine/neuter stem ends in *a*.
 - *ḌāP* (*Aṣṭādhyāyī* 4.1.13). The suffix *ā*, which replaces the final *an* of a masculine/neuter stem.
 - *CāP* (*Aṣṭādhyāyī* 4.1.75). The suffix *ā*, but with a final *udāttaḥ* accent. Used in patronymics and metronymics, e.g., *kausalyā*.
- *ÑīP* (*Aṣṭādhyāyī* 4.1.5). The suffix *ī*, appended to a stem in *r* or *n*, as well as most stems ending in *t* (technically prescribed when the corresponding masculine/neuter stem is formed with a suffix that has the *anubandhas* *u*, *r*, or *l*, hence the present participle [*ŚatR*ₒ] and the possessive adjectives in *mat* and *vat* [*matUP*]), and to other stems in special circumstances.
 - *rājan-ÑīP* → *rājñī* “queen”
- *ÑīṢ* (*Aṣṭādhyāyī* 4.1.25). The suffix *ī*, with a final *udāttaḥ* accent. It is used with the augment *ān* (*ānUK*) to form *indrāñī*, *yavanāñī*, etc.
 - *gaura-ÑīṢ* → *gaur-ī* “white”
 - *sundara-ÑīṢ* → *sundarī* “beautiful”

One important rule is that words that end in *-aka-* in the masculine or neuter tend to form their feminines with *-ikā-* (*Aṣṭādhyāyī* 7.3.44):

- *kāraka-āP* → *kārikā*
- *sarvaka-āP* → *sarvikā*

§39. Abstract nouns

An important set of suffixes form *abstract nouns* from an existing nominal stem. Such derivatives can be translated, on a first pass, as “*x*-ness,” “being *x*,” and so on. But these nouns are very often used as predicates, especially in certain styles of Sanskrit. Hence they can often mean “the fact [that something] is *x*,” or “[something’s] being *x*.” In such constructions, these nouns very often take an adnominal modifier—usually expressed in the genitive case—to refer to the thing that possesses “*x*-ness,” or stated more simply, the thing that is said to be *x*.

- *tva* (*Aṣṭādhyāyī* 5.1.119). The suffix *-tvá-*, without any change in the stem. The resulting noun is neuter.
 - *nīla-tvá-* → *nīlatvám* “blueness,” *gaganasya nīlatvam* “the sky’s blueness, the sky’s being blue.”
- *tal* (*Aṣṭādhyāyī* 5.1.119). The suffix *-tá-*, without any change in the stem. The resulting noun is feminine.
 - *nīla-tá-* → *nīlatá* “blueness,” *gaganasya nīlatā* “the sky’s blueness, the sky’s being blue.”
- *ṣyaÑ* (*Aṣṭādhyāyī* 5.1.123). The suffix *-ya-*, which causes *vṛddhiḥ* of the initial syllable of the stem. The accent is on the initial syllable (due to *Ñ*). The resulting noun is neuter. There is a list (*gaṇaḥ*) of words to which this suffix can be added:
 - *śuklya-ṣyaÑ-* → *sáuklyam* “whiteness”
 - *dṛḍha-ṣyaÑ-* → *dárḍhyam* “firmness”

- *kṛṣṇa-ṣyañ-* → *kārṣṇyam* “blackness”
- *añ* (*Aṣṭādhyāyī* 4.1.83). The suffix *-a-*, with “*ñ*-vrddhi” of the stem (see vowel gradation). The resulting noun is neuter.
 - *gurú-añ-* → *gaúravam* “heaviness, seriousness”
 - *laghú-añ-* → *lāghavam* “lightness”

§40. Possessives

One important class of suffixes indicates that someone *possesses* that to which the suffix is added. Usually these suffixes refer to inalienable possession, wherein the possessed object comes to characterize the one who possesses it.

§40.1. *inI*

The suffix *-in-* (feminine *-inī-*). The final vowel of the stem is dropped before this suffix.

- *jñāna-inI-* → *jñānin-* “possessed of knowledge, knowledgeable, wise”
- *kuṭumba-inI-* → *kuṭumbin-* “one who possesses a family, a householder”

§40.2. *matUP* and *vatUP*

The suffix *-mat-* and *-vat-*. These suffixes are in *complementary distribution*: *vatUP* is used whenever the base to which the suffix is added ends in the vowel *a*, and *matUP* is used elsewhere. (Note that stems in *-n* take a form that ends in *-a* before *taddhita* suffixes.) These suffixes involve vowel gradation, and examples of their declension have been given above.

The feminine to both *matUP* and *vatUP* is formed by adding the feminine suffix *ñiP* to the weak form of the stem, thus *-matī-* and *-vatī-*.

- *dhana-vatUP* (+ *sU*) → *ghanavān* “wealthy”
- *śakti-matUP* (+ *sU*) → *śaktimān* “powerful”
- *ātma-vatUP* (+ *sU*) → *ātmavān* “self-possessed”
- *gō-matUP* (+ *sU*) → *gōmān* “rich in cows”

By *Aṣṭādhyāyī* 6.3.119, when the suffix *matUP* is used to form a name, the final vowel of the stem is lengthened:

- *padma-vatUP* (+ *sU*) → *padmāvatī*
- *amara-vatUP* (+ *sU*) → *amarāvatī*

Chapter 6

Syntax

§4I. The sentence

The **sentence** (*vākyam*) is the basic unit of discourse. It has been defined by Kātyāyana as that which contains a single verb (*ekatīṅ vākyam*, *Vārttikam* on *Aṣṭādhyāyī* 2.1.1), and by Jaimini as that which has a unitary meaning (*arthaikatvād ēkaṁ vākyam*, *Mīmāṃsā Sūtra* 2.1.46).

We can think of the sentence as consisting of two parts. Aristotle influentially distinguished the subject (*ὑποκείμενον*) of a proposition from its predicate (*λεγόμενον*). These components refer, in the most basic sense, to “what one is talking about” and “what one says about it,” respectively. (We should be careful to distinguish the *subject* of a proposition from the *subject* of a verb: although they often coincide, there are certain types of sentences in which they do not.)

A similar distinction was available to Indian thinkers. Mīmāṃsakas analyzed each sentence into two parts. One part, called the *uddēśyaḥ*, referred to something that was already known, while the other part, the *vidhēyaḥ*, conveyed some new information about it. They

can be translated loosely as “what is referred to” by the sentence in question and “what is laid down” regarding it. These categories map closely onto what linguistics now call the *TOPIC* and *FOCUS*. For our purposes, the *uddēśyaḥ* can be considered to be the “subject” of a sentence, and the *vidhēyaḥ* to be the “predicate.”

The **order** of words in a Sanskrit sentence is relatively free, since almost all of the information about the relationships between its constituent parts is expressed morphologically—that is, by the nominal and verbal suffixes. We can, however, make some broad generalizations, which pertain to particular types of sentences, discussed below.

§41.1. Nominal sentences

A *nominal sentence* is a sentence in which both the subject and the predicate are represented by *nominal* rather than *verbal* forms. This type of sentence is not possible in standard English, but it is extremely common in Sanskrit, where nominal forms—such as adjectives and participles—are frequently used as the predicate.

As in other types of sentences, the *subject* of a nominal sentence is in the nominative case (प्रथमा विभक्तिः). In Sanskrit, the *predicate* of a nominal sentence must agree with its subject in gender, number and case, and hence it will almost always appear in the nominative case as well.

Regarding the *order* of words in nominal sentences, there is a tendency in the earlier language for the predicate to precede the subject. However, both subject-predicate and predicate-subject orders are attested for all phases of the language.

- *katham samdēha ēvātra bhavataḥ* .
“How can you have any doubt in this matter?”
- *ahiṃsā ... dharma uttamaḥ* .
“Non-violence is the greatest *dharma*.”

§42. Semantic roles (*kāṛakāṇi*)

On a semantic level, Indian grammarians distinguished the main action of a sentence, or *kriyā*, from several different kinds of participants in the action, or *kāṛakāṇi*. Morphologically, the action is usually represented by a verbal form, and the participants are usually represented by nominal forms. The participants in the action are classified into one of the following types, which we may call semantic roles (or “thematic roles”):

- *karṭṛ* or **agent**: That which performs the action.
- *karma* or **patient**: That to which the action is done.
- *saṃpradānam* or **recipient**: That which receives or benefits from the action.
- *karaṇam* or **instrument**: That by means of which the action is performed.
- *adhikaraṇam* or **location**: That in which the action is performed.
- *apādānam* or **from-which** (there is not a good English term for this): That away from which the action is performed.

These *semantic* roles map onto *morphological* cases in predictable ways. Hence the *saṃpradānam* or recipient is represented by the *caturthī* or dative, the *karaṇam* or instrument is represented by the *trītiyā* or instrumental, the *adhikaraṇam* or location is represented by the *saptamī* or locative, and the *apādānam* is represented by the *pañcamī* or ablative.

In the case of the *karṭṛ* and *karma*, however, the assignment of case depends on which construction is used. See the section on agentive, patientive, and impersonal constructions for details.

§43. Case usages

This section will detail uses for the seven cases of Sanskrit (eight, including the vocative). Their formation is discussed in the chapter on nominal morphology.

§43.1. The nominative (*prathamā vibhaktiḥ*)

The primary use of the nominative case is the *subject* of a sentence. This includes the subject of a nominal sentence as well as the subject argument of a verb.

- *rāmō vanaṃ gacchati* .

“Rāma goes to the forest”

rāmaḥ is the subject of the verb *gacchati*.

- *ahimsā ēva dharmamārgaḥ* .

“It is **non-violence** that is the way of *dharmā*.” (*Pañcatantraḥ*, prose after 3.104)

The nominative is also used for the predicates of nominal sentences:

- *ahimsā ēva dharmamārgaḥ* .

“It is non-violence that is **the way of dharmā**.” (*Pañcatantraḥ*, prose after 3.104)

The nominative is similarly used for the predicate when a verb of being or becoming is expressed:

- *tadā na kaścid vimukhō babbhūva* .

“Nobody then was **looking the other way**” (*Aśvaghōṣa, Buddhacaritam* 2.10)

§43.2. The accusative (*dvitīyā vibhaktiḥ*)

The primary use of the accusative is the direct object of a verb. In this function it is usually mapped onto the *karma* or *patient* semantic role.

- *sa param padam āpnōti* .

“He obtains **the highest position**.”

(*Pañcatantraḥ* 1.316)

Note that verbs of motion are traditionally considered transitive and therefore take an accusative. But we may consider this usage to be an accusative of the **goal of motion** as well.

- *vanam gacchāmaḥ* .

“Let’s go **to the forest**.”

(*Pañcatantraḥ*, prose after 5.72)

Note also that several verbs are **ditransitive** (*dvikarmakaḥ*) and therefore take two accusative objects, generally one corresponding to a direct object and one corresponding to an indirect object in English:

- *suvarṇam rajatām gāḥ ca na tvām rājan vṛṇōmy aham* .

“I do not ask **you** for **gold, silver, or cows**, king.”

(*Mahābhārataḥ*, Speijer §46)

Sometimes the accusative is used as a secondary predicate after a verb of making:

- *ekaṁ bhūmipatiḥ karōti sacivaṁ rājyē pramāṇam* .

“The king makes one of his ministers **the authority** over the state.” (*Pañcatantra*, prose after 1.263)

The accusative is also used in adverbial expressions indicating an **extent** of time or space:

- *etāvanti dināni tvadīyam āsīt* .

“It was yours **for so many days**.”

(*Pañcatantraḥ*, from Speijer §54)

- *cakarṣa ha tasmād dēśād dhanūṁṣi aṣṭau* .

“He dragged him from that place **for eight bow-lengths**.”

(*Mahābhārataḥ*, from Speijer §54)

The accusative is also often used as the complement of adpositions (*karmappravacanīyaḥ*):

- *jānāmi dharmaṃ prati niścayaṃ tē* .
“I know your certainty regarding *dharmā*.” (Aśvaghoṣa, *Buddhacaritam* 9.14)
- *vyavasāyaṃ vinā na karma phalati* .
“Deeds do not come to fruition without **application**.” (*Pañcatantraḥ*, prose after 2.132)

§43.3. The instrumental (*tr̥tīyā vibhāktiḥ*)

The instrumental is used first of all to express an **instrument** (*karaṇam*) by means of which the action is done.

- *sāmnā ēva vilayaṃ yāti vidvēṣaprabhavaṃ tamaḥ* .
“It is only **through conciliation** that the darkness arising from hostility disappears.”
(*Pañcatantraḥ*, 1.411)

It is also used for the **agent** of the action in patient-oriented and impersonal constructions:

- *sarvā bhakṣitā rākṣasēna* .
“They were all eaten **by the Rākṣasa**.” (*Pañcatantraḥ*, prose after 5.79)

The instrumental is also used in a **sociative** sense, expressing accompaniment, usually as the complement of a noun or adposition:

- *mṛgā mṛgaiḥ saṅgam anuvrajaṃti* .
“Deer seek after company **with deer**.” (*Pañcatantraḥ*, 1.305)
- *spardhatē tridaśaiḥ saha* .
“He vies with **the gods**.” (*Pañcatantraḥ*, 5.59)

An idiomatic use of the instrumental is with the words *kim*, meaning “what is the use of...”, and *alam*, meaning “enough with...”:

- *kim vṛthā prayāsēna* .
 “What’s the use of **striving** in vain?” (Pañcatantraḥ, prose after 1.370)
- *alam sambhramēṇa* .
 “Enough **confusion**.” (Pañcatantraḥ, prose after 1.236)

§43.4. The dative (*caturthī vibhāktiḥ*)

The dative is used both for *arguments* of a verb (the **indirect object**) as well as a range of modifiers. The dative is assigned the *sampradānam* or “recipient” thematic role, and accordingly the core use of the dative is for a **recipient**, and more widely construed, as the one *to whom* something is given, told, or presented, or to whom something appears. In this sense it very often corresponds either to an indirect object in English, or a prepositional phrase with *to* or *for*:

- *vāsāṃsy ābhāraṇāni ca sītāyai śvaśurō dadua pitrē* .
 “Her father-in-law gave **Sītā** clothing and ornaments.” (Rāmāyaṇam, from Speijer §81)
- *tat tasyai kathayati* .
 “He tells it **to her**.” (Śākuntalam, from Speijer §81)
- *adarśayat pitrē sakhīm* .
 “She presented her friend **to her father**.” (Pañcatantraḥ, from Speijer §81)

The dative is used to express the **experiencer** with verbs of pleasing, in a construction like the Italian verb *piacere*.

- *eṣa tē rōcatē* .

“Do **you** like him?” (Lit. “Is he pleasing to you?”) (*Pañcatantra*)

The dative is also used for the **target** of certain feelings, especially anger and jealousy:

- *nṛpatis takṣakāya cukōpa* .
“The king felt anger **at Takṣa**.” (*Mahābhārataḥ*, from Speijer §83)

The dative is very often used to express the **purpose** of an action, especially with verbal nouns:

- *tvaratē mē manah saṅgrāmāvatāraṇāya* .
“My heart rushes **to participate in the battle**.” (*Vēṇīsamhāraḥ*, from Speijer §87)
- *gurus tu vidyādhigamāya sēvyatē* .
“But a teacher is served **in order to gain knowledge**.” (*Kām.*, from Speijer §87)
- *svayam ēvāhaṁ tadviṣayāya yāsyāmi* .
“I will go **to conquer him** myself.” (*Pañcatantraḥ*, prose after 3.115)

In the sense of **purpose** it can sometimes be used for the *goal of motion*:

- *kusumapurāya karabhakaṁ prēṣayāmi* .
“I will send Karabhaka **to Pāṭaliputra**.” (*Mudrārākṣasam*)
From Speijer §79.

An important use of the dative is to express that to which something *serves* or *conduces*. It is often the predicate in such constructions:

- *parōpakāraḥ puṇyāya, pāpāya parapiḍanam* .
“Helping others **leads to merit**, while harming other **leads to sin**.” (*Pañcatantraḥ*)
From Speijer §80.

§43.5. The ablative (*pañcamī vibhaktiḥ*)

The principal role assigned to the ablative case is that of the *apādānam*, or the fixed place from which motion takes place. Accordingly it is used for the origin or source of motion, and corresponds to prepositional phrases with *from* in English:

- *kṣitipatir āsthānamaṇḍapād uttasthau* .
“The king got up **from his audience hall**.” (*Kādambarī*, from Speijer §94)
- *niragān nagaryāḥ* .
“He went out **from the city**.” (*Kathāsaritsāgarah*, from Speijer §94)

This usage is extended to express the *source* of any activity.

An important subclass of the above is the so-called **ablative of cause** (*hētupañcamī*):

- *bhayād idam āha* .
“He said this **out of fear**.” (*Hitōpadēśaḥ*, from Speijer §102)
- *durmantrān nṛpatir naśyati* .
“**From bad counsel** a king is ruined.” (*Hitōpadēśaḥ*, from Speijer §102)

The ablative of **separation** is used especially with verbs meaning to “separate” (acc. from abl.):

- *tvaṃ piṅgalakāt taṃ viyōjayitum asamartha ēva* .
“You’re completely incapable of separating him **from Piṅgalaka**.” (*Pañcatantraḥ*, prose after 1.227)
- *durmantrān nṛpatir naśyati* .
“**From bad counsel** a king is ruined.” (*Hitōpadēśaḥ*, from Speijer §102)

The ablative is used to express that *in relation to which* something is compared, as well as

the complement of words like *para-* and *anya-* “other,” and the noun *varam* “the better.” In these cases it corresponds to an English propositional phrase with *than*.

- *vajrād api kaṭhōrāṇi mṛdūni kusumād api* .
“Harder even **than** adamant, yet softer even **than** a flower.” (*Uttararāmacaritam*)
- *rāmaḥ sītāyāḥ prāṇēbhyō 'pi priyō 'bhavat* .
“Rāma was dearer to Sītā **than** life itself.” (*Uttararāmacaritam* 6.32)

§43.6. The genitive (*saṣṭhī vibhaktiḥ*)

The genitive’s uses are largely **adnominal**, that is, a genitive will almost always modify another noun or nominal phrase. It is therefore used to express any **relation** (*sambandhaḥ*) between two noun phrases. Very often that relation is one of possession. For example:

- *kathāprabandhasya kidṛśaḥ paryantaḥ* .
“What is the end **of the** story like?” (*Uttararāmacaritam*, prose after 4.22)

Some verbs take a complement in the genitive, such as $\sqrt{\text{smṛ}}$ “remember.”

- *smara tasyā haṁsakathāyāḥ* .
“Remember **that** story **of the** goose.” (*Daśakumāracaritam*, from Speijer §120)

The genitive can be used to express the **agent** (*kartā*) or **patient** (*karma*) with a noun derived from a verb. These usages are similar to what, in Greek and Latin grammar, are called *subjective* and *objective* genitives respectively.

- *rūpasya hantrī* .
“[Old age], the destroyer **of** beauty.” (*Aśvaghōṣaḥ, Buddhacaritam* 3.30)
- *na marṣayiṣyati rākṣasakalatrapracchādanam bhavataḥ* .

“He won’t much like **your** hiding Rākṣasa’s wife.” (*Mudrārākṣasam*, from Speijer §115)

The genitive also tends to take over the functions of the dative in expressing the person *for whom* something happens, or who experiences something in a certain way:

- *rāmabhadrasya bahutaraprakārakaṣṭhō jīvalōkaḥ* .
“The world has become difficult in all kinds of ways **for Rāma**.” (*Uttararāmacaritam*, prose after 3.30)

§43.7. The locative (*saptamī vibhaktiḥ*)

The principal use of the locative is to express the *adhikaraṇam* or location in which an action occurs. However, it is often used not just as a modifier of a verb (i.e., in adverbial phrases), but as a modifier of nouns as well. For example:

- *asmin ... pradēśē bhūyāṁsa udgīthavidō vasanti* .
“**In this region** live many masters of the Veda.” (*Uttararāmacaritam*, 4.3)
- *rājagṛhē mēṣayūtham asti* .
“**In the palace** there is a flock of rams.” (*Pañcatantraḥ*, from Speijer §133)
- *abhramac ca pauraajānapadēṣu iyaṁ vārtā* .
“This report spread **among the townspeople**.” (*Daśakumāracaritam*, from Speijer §133)

The locatival sense is often metaphorical, and serves to indicate a **reference** (*viśayaḥ*) of a particular feature of quality:

- *vāci niyamaḥ* .
“**Restraint in speech**.” (*Uttararāmacaritam*, 4.2)

- *udgīthē kuśalā babhūvuh .*

“They were skilled in the Veda.”

(*Chāndōgyōpaniṣat*, from Speijer §142)

The vocative is very often used to express a **condition** (*nimittam*) for the rest of the sentence:

- *priyānāsē kṛtsnam kila jagad aranyam hi bhavati .*

“When a loved one is lost, they say, the whole world becomes a desert.”

(*Ut-*

tararāmacaritam, 4.30)

A specialization of the expression of condition is the use of the locative in expressions of time:

- *ṣaṇmāsābhyantarē vidhiniyōgād vidhavā bhaviṣyasi .*

“You will become a widow, on fate’s decree, **within six months.**”

(*Pañcatantraḥ*,

prose after 3.196)

§43.8. The vocative (*sambóddhanam*)

The vocative is used exclusively to get the attention of the listener (or reader). It is often combined with vocative particles such as *rē* or *hē*.

- *rē rē kirātāḥ dhāvata dhāvata .*

“Hey you foresters! Run away!”

(*Pañcatantraḥ*, prose after 1.451)

§44. The agentive, patientive, and impersonal constructions (*kartṛkarmabhāvaprayōgāḥ*)

Whenever a verbal form is used in Sanskrit, it is either used with reference to the **agent** (*kartṛ*) of the verbal action, or alternatively, with reference to either the **patient** (*karma*) of

the verbal action or the **verbal action** (*bhāvaḥ*) itself. When a form is used in reference to the agent, patient, and verbal action, we speak, respectively, of agentive, patientive, and impersonal constructions. These constructions correspond closely to active constructions (“He was driving the car”), passive constructions (“She was hit by a car”), and constructions with a “dummy” subject (“It’s raining”) in English, respectively.

The referent of a verb does not necessarily need to be expressed by a nominal or pronominal phrase in the same sentence; its expression by the verbal form is often sufficient, especially if the referent (whether the agent or patient of the verb) can be determined on the basis of context. However, in the agentive and patientive construction, the verbal form will agree with, and thus express the same grammatical categories, as the agent and patient, respectively:

- *tudyāmahē* “We are being hit”
- *vayam tudyāmahē* “We are being hit”

In the impersonal construction, by contrast, the verbal form will always express the categories of a “dummy” subject in the third person singular neuter:

- *anēna hasitam* “there was laughing done by him” = “he laughed”

In part, the choice of construction is limited by the lexical semantics of a given verb. Only *transitive* (*sakarmakaḥ*) verbs, i.e., those that can theoretically take a patient as one of their arguments in the first place, can be used in the *patientive* construction. Correspondingly, the *impersonal* construction is much more likely to be used with *intransitive* verbs. The primary alternation in construction, therefore, is between agentive, on the one hand, and patientive and impersonal, on the other. We can therefore distinguish between agentive and non-agentive forms of Sanskrit verbs. Every verbal form in Sanskrit is specified as to whether it expresses an agent or not.

These three constructions (*prayōgāḥ*) determine the *referent* of the verbal form and thus, if it is a finite form, its *subject*. We must distinguish between the *subject* as a syntactic category, which is one of a verb's core grammatical arguments, and that with which it agrees in person and number (and possibly other grammatical categories), from the *agent* as a semantic category, which simply refers to the participant who does the action associated with a verb. In the case of finite verbs, as well as with nominal sentences, the *subject* stands in the nominative case (*prathamā vibhāktiḥ*), and in Pāṇini's account of sentential syntax, this is because the nominative case is used for a participant that has already been expressed elsewhere in the sentence. Because of the possibility of non-agentive constructions in Sanskrit, the subject of a verb will very often *not* be the agent of the verbal action.

In the non-agentive constructions (patientive and impersonal), the agent of the verb may nevertheless be expressed, but if so, the agent must be expressed by an instrumental case-form (*tr̥tiyā vibhāktiḥ*).

If we take our verbal action, for example, to be the transitive verb \sqrt{tud} "strike," and our agent to be *adhyāpakaḥ* and our patient to be *śiṣyaḥ*, we can produce the following sentences:

- *adhyāpakaḥ śiṣyam tudati*: **agentive** construction (*kartāri prayōgāḥ*)
- *adhyāpakēna śiṣyaḥ tudyatē*: **passive** construction (*karmāṇi prayōgāḥ*)

For an intransitive verb such as \sqrt{has} , we do not have the option of using the *karmāṇi prayōgāḥ*, but we do have the option of using the *bhāvē prayōgāḥ*:

- *śiṣyō hasati*: **agentive** construction (*kartāri prayōgāḥ*)
- *śiṣyēṇa hasyatē*: **impersonal** construction (*bhāvē prayōgāḥ*)

Non-finite forms of verbs, including verbal adjectives, are also used either agentively or

not. Here are a few examples using verbal adjectives (*kṛt*):

- *kumbhakārō ghaṭasya kārakaḥ*: **agentive** construction (*kartāri prayōgāḥ*) “the potter is the maker of the pot” (using the suffix *Nvul*)
- *kumbhakārēṇa ghaṭaḥ kṛtaḥ*: **patientive** construction (*karmāṇi prayōgāḥ*) “the pot was made by the potter” (using the suffix *Ktaḥ*)
- *śiṣyēṇa hasitam*: **impersonal** construction (*bhāvē prayōgāḥ*) (using the suffix *Ktāḥ*)

§45. Subordinate clauses

A *subordinate clause* is a unit that has, internally, the same syntactic organization as a sentence, but which is embedded into another sentence—called the *matrix clause*—where it serves as either an adverbial or adjectival modifier. (*Complement clauses* are also embedded into a matrix clause, but because they stand in a different syntactic relationship to the matrix clause, and because they are generally formed differently from subordinate clauses in Sanskrit, they will be discussed separately below.) One way to think about clausal modifiers is that they tell us something about one of the noun phrases in the matrix clause (in the case of adjectival modifiers), or about the verbal action of the matrix clause itself (in the case of adverbial modifiers):

- He got on the bus *that was going to Madison*. (Adjectival modifier clause.)
- She rides her bike *when the weather is nice*. (Adverbial modifier clause.)

In Sanskrit, these kinds of subordinate clauses are all formed in more or less the same way: the subordinate clause involves a *relativizer*, a pronoun or adverb formed from the base *yá-*, and very often there is a *correlative* form in the matrix clause that is “relativized on.” The correlative form is typically a pronoun or an adverb formed from the base *tá-*. The form in the matrix clause that is “relativized on,” i.e. the form to which the relative clause refers, is called the antecedent or head of the relative clause.

Here is an example:

- *na sō 'sti pratyayō lōkē yaḥ śabdānugamād ṛtē .*

“There is no concept in the world that is not accompanied by a linguistic expression.”

(*Vākyapadīyam* of
Bhartṛhari)

- **Matrix clause:** *na sō 'sti pratyayō lōkē* (note correlative *saḥ*): “**that** concept does not exist in the world”
- **Subordinate clause:** *yaḥ śabdānugamād ṛtē* (note relative *yaḥ*): “**which** (concept) is apart from the accompaniment of a linguistic expression”
- **Relativized on:** the noun phrase *saḥ pratyayaḥ*

Here, as often, we have a *relative–correlative* pair, represented by the pronouns *yaḥ* and *saḥ*. The entire subordinate clause serves to characterize the nominal with which the correlative adjective *saḥ* is construed, which in this case is *saḥ pratyayaḥ*.

Note that the relative and correlative words will generally agree in their **gender** and **number** (if they are pronouns or adjectives). The **case** of each form, however, will depend on the role that it plays within its respective clause (either the relative clause or the matrix clause). Here are some examples:

- *yasya cētasi vartēthāḥ sa tāvat kṛtinām varaḥ .*

“In **whose** mind you might occur, **that person** is the best of those who do good deeds.”

(*Kumārasambhavaḥ* 6.18)

- *yasminn agnayē hōtram bhavati, tad agnihōtram .*

“**That in which** there is an offering to Agni is the *agnihōtram*.” (*Śābarabhāṣyaḥ* on 1.4.4)

Here is an example using adverbs:

- *yatra dāridryaṃ tatrāham* .
“Wherever poverty is, there I am.”
 - **Matrix clause:** *tatrāham* “there I am”
 - **Subordinate clause:** *yatra dāridryaṃ* “where poverty [exists]”
 - **Relativized on:** the adverbial phrase *tatra*
- *yadā sa dēvō jāgarti tadēdaṃ cēṣṭatē jagat* .
“When that deity is awake, then this world is in motion.”
 - **Matrix clause:** *tadēdaṃ cēṣṭatē jagat* “then this world is in motion”
 - **Subordinate clause:** *yadā sa dēvō jāgarti* “when that deity is awake”
 - **Relativized on:** the adverbial phrase *tadā*

§45.I. Restrictive relative clauses

In English grammar, a distinction is often drawn between “restrictive” and “nonrestrictive” relative clauses. These words refer to the function of the relative clause *vis-à-vis* the noun phrase that it modifies: a restrictive relative clause “restricts” the reference of the noun phrase to something rather more narrow than what it would mean on its own (“the men who drank the *sōma* became intoxicated,” where “the men who drank the *sōma*” refers to fewer people than “the men”), while a nonrestrictive relative clause does not substantially change the reference of its noun phrase (“Indra, who killed Vṛtra, drank the *sōma*”).

Whereas in English, these kinds of relative clauses are often distinguished by means of different relative pronouns (“who/that” vs. “who/which”) and sometimes by punctuation, in Sanskrit, there is no explicit way of drawing this distinction.

However, Sanskrit has “restrictive” relative clauses in another sense: the correlative form, and sometimes also the relative form, is qualified by the word *ēvā* in its sense of “exclusion

of a connection with anything else” (*anyayōgavyavacchēdaḥ*). These sentences mean that whatever is “relativized on” in the matrix clause must be given the interpretation supplied in the subordinate clause; all other interpretations are foreclosed. These constructions therefore “restrict” the meaning of whatever is relativized on in the matrix clause (e.g., a noun phrase, a temporal adverb, etc.) to precisely that which is specified in the subordinate clause. For example:

- *yád ēvā khām tād ēvā kām .*
 “Prajāpati is **precisely the same** as space.” (*Chāndōgya Upaniṣad*)
- *mṛtaḥ sa ēvāsti yaśō na yasya .*
 “**He alone** is dead who has no fame.” (*Mahāsubhāṣitasāṅgraha*)
- *tat tat karma kṛtam yad ēva munibhiḥ .*
 “I did **all of the very same rituals** that the sages did.” (*Vairāgyaśatakam* 6)

§45.2. Distributive relative clauses

The relative and correlative forms may be repeated in a distributive sense (*vīpsāyām*). The indefinite sense of such constructions is often underscored by the presence of an indefinite pronoun or adverb.

- *yadā yadā hi dharmasya glānir bhavati bhārata*

abhyutthānam adharmasya tadātmānam sṛjāmy aham

.
 “For **whenever** *dharma* is on the wane, Bhārata, and *adharma* is ascendant, I bring myself forth.” (*Bhagavadgītā*)
- *yad yad dhi kurutē kimcit tat tat kāmasya cēṣṭitam .*

“Every single thing one does is the work of Kāma.” (*Mahāsubhāṣitasāṅgraha*)

§45.3. Multiple relativizers

Unlike in English, where no more than one constituent of the matrix clause is relativized on, in Sanskrit it is not uncommon to see constructions involving two relative-correlative pairs. Some care must be taken to determine which correlative form each relative form refers to, as well as to distinguish between this type of construction and the aforementioned construction wherein relative forms are doubled.

It is very bad translation style, but in order to understand these constructions, it may be useful to translate the relative-correlative pairs with variables, e.g., x and y .

- *yad ēva rōcatē yasmai bhavēt tat tasya sundaram* .
 “If something pleases someone, he’ll think that it’s beautiful.” (*Hitōpadēśaḥ* 2.49)
 “ x would be beautiful to y if precisely that x is pleasing to y ,” i.e., (regardless of whether or not it actually is).
- *yasmāc ca yēna ca yadā ca yathā ca yac ca yāvac ca yatra ca śubhāśubham ātmakarma*

tasmāc ca tēna ca tadā ca tathā ca tac ca tāvac ca tatra ca kṛtāntavaśād upaiti

“From which, by which, when, how, how long, where, and what good or bad deeds one does, from that, by that, then, in that way, for that amount of time, and there one goes, according to fate.” (*Pañcatantraḥ* 2.19)

§46. Complement clauses

In Sanskrit, certain forms, both nominal and verbal, can take as a complement an arbitrarily long constituent—a phrase, a clause, or multiple clauses. These constituents are

usually marked as complements by the particle *iti*, which always *follows* the constituent.

§47. The syntax of participles

Participles are **verbal adjectives** and can therefore perform all of the same syntactic functions as adjectives. Here, however, we will spell out some of the main functions with examples, since in some cases, participles are used in ways that regular adjectives are not, and *vice versa*.

All participles are *adjectives* and therefore can always be seen as constituting part of a *noun phrase*. But participles are also *verbal forms*, and can also be seen as constituting part of a *verb phrase*. Whether one or the other of these roles is more prominent in a sentence will depend on context.

When used as part of a *noun phrase*, there are two options: the participle is either used **attributively**, that is, to qualify the noun that is the head of the phrase, or it is used **substantively**, that is, as the head of the noun phrase itself, replacing rather than qualifying the noun. The distinction between these two usages is not very vast, in syntactic terms, because the participle is either the head of the phrase itself, or an adnominal modifier of the head of the phrase. In both cases, the participle can be translated with a *relative clause* in English.

Here are some **attributive** usages:

- *tatrōdāsīnān munīn abravīt .*
“he told the sages *who were sitting* there.”
- *yājñavalkyaṃ vidvāṃsaṃ pr̥cchati .*
“he asks Yājñavalkya, *who is learned*.”
- *caturaḥ puruṣān paryaṅkaṃ bibhṛtaḥ paśyāmi.*

“I see four men *who are carrying a palanquin.*”

- *mama na rōdatī bhāryā.*

“I don’t have a wife *who cries after me.*”

- *tēna praśastō dharmō jñātaḥ.*

“He knew the *dharmā that is praised.*”

Here are some **substantive** usages that are closely related to the examples given above:

- *tatrōdāsīnān abravīt .*

“he told *those who were sitting there.*”

- *vidvāṁsaṁ prcchati .*

“he asks *the one who is learned.*”

- *paryaṅkaṁ bibhṛtaḥ paśyāmi .*

“I see *those who are carrying a palanquin.*”

- *mama na rōdatī .*

“I don’t have *someone who cries after me.*”

When used as part of a *verb phrase*, there are also two options: either the participle is used as the main **predicate** of the sentence, and hence as the head of the verb phrase, or it is used to introduce an **adverbial clause** that modifies the main verb phrase in some way. Note that present participles (i.e., those formed with the suffixes *ŚatR* and *ŚānaC*) can **never** be used as the main predicate of the sentence. This function is only available for past participles (i.e., *niṣṭhā*).

The second usage, where the participle is used as part of an adverbial clause, is equivalent to the *circumstantial participle*, as Greek textbooks call it, and it can have a variety of senses depending on the context, which can usually be translated by a subordinate clause in English: **temporal** (“when,” “as,” “while,” etc.); **concessive** (“although”), **causal** (“be-

cause”), **conditional** or **hypothetical** (“if”), etc. This adverbial function does not depend on how the participle is linked to the main sentence in syntactic terms: it may refer to someone or something that is mentioned or implied elsewhere in the sentence, *in any case*. Alternatively, the participle can even be used *without* reference to someone or something that is mentioned or implied elsewhere, a usage that we call *absolute* and describe below.

NOTE: Pāṇini includes this usage under the terms “characterization or cause of a verbal action” (*lakṣaṇahētvōḥ kriyāyāḥ, Aṣṭādhyāyī* 3.2.126).

Here are some examples of participles functioning as the head of **adverbial clauses**:

- *palāyantō hanyamānāḥ svargaṁ na gacchanti* .
 “they do not go to heaven, *because they are killed as they are fleeing*” (*Pañcatantra* 58, cited by Speijer)
palāyantaḥ temporal, and *hanyamānāḥ* causal
- *paṭhan rāmāyaṇaṁ naraḥ prētya svargē mahīyatē* .
 “*by reading the Rāmāyaṇam*, a man goes to heaven when he dies” (*Rāmāyaṇam* 1.1.99, cited by Speijer)
paṭhan causal
- *adhīyānō vasati* .
 “he is staying here *in order to study*” (*Kāśikā on Aṣṭādhyāyī* 3.2.126)
adhīyānaḥ causal
- *ajalpatō jānatas tē śirō yāsyati khaṇḍaśaḥ* .
 “*If you know it but do not say it*, your head will fly to pieces” (*Kathāsaritsāgaraḥ* 77.92, cited by Speijer)
ajalpataḥ and *jānataḥ* expressing a condition for the main action
- *bhō niṣiddhas tvaṁ mayānēkaśō na śṛṇōṣi* .

“Sir, *although I have tried to dissuade you multiple times*, you do not listen to me”
(*Pañcatantra* 304, cited by Speijer)

niṣiddhaḥ concessive

- *bhasmībhūtāḥ katham yūyam jīvanataḥ puna utthitāḥ* .

“How is it that you, after being turned into ashes, are standing alive once again?”
(*Kathāsaritsāgaraḥ* 12.11.106)

- *śayānā bhuñjatē yavanāḥ* .

“the Yavanas eat lying down”

(*Kāśikā* on *Aṣṭādhyāyī* 3.2.126)

śayānāḥ a participle of manner

§48. Absolute constructions

Sanskrit has two **absolute** constructions, by which a participial phrase can be used without a “pivot” (see above) linking it to the main clause. By far the most common is the **locative absolute**, in which the subject of a verbal action (either the agent or the patient) and an accompanying participle (either active or passive) is put into the locative case. The participle can be past or present. Pāṇini describes this use as “characterizing another verbal action” (*bhāvalakṣaṇam*, *Aṣṭādhyāyī* 2.3.37). It is regularly called *satisaptamī* because of the prevalent use of *sati*, the locative singular masculine/neuter of the present participle of the verb √as “be.” In fact *sati* is sometimes included in the construction even when another participle is used.

- *ētasmin mṛtē rājasutē kō ’rthō mamāsubhiḥ* .

“*now that this prince has died*, what use is my life to me?” (*Kathāsaritsāgara* 28.134, cited by Speijer)

- *karṇam dadāty abhimukhaṁ mayi bhāṣamāṇē* .

“*when I am speaking to her* she listens”

(*Śākuntala* 1, cited by Speijer)

- *rātrau dīpaśikhākāntir na bhānāv uditē sati* .

“it is at night that the lamp is beautiful, not *when the sun has risen*” (*Pañcatantra* 1.310, cited by Speijer)

The **genitive absolute** is used in much more limited circumstances. According to Pāṇini it is used when there is an additional sense of disregard (*Aṣṭādhyāyī* 2.3.38), although there is a range of interpretations of what this might mean. The standard example shows that the disregard is that of the agent of the principal action for the agent of the action expressed by the participle::

- *rudataḥ prāvṛjāt* .

“*notwithstanding their crying*, he renounced the world” (cited by Speijer)

Chapter 7

Nominal composition

§49. Introduction

In Sanskrit, a nominal can form a compound with another nominal (*Aṣṭādhyāyī* 2.1.4 *sahasupā*). Compound words can be quite large, but they are almost always analyzeable into *binary* constituents: that is, at any given level of analysis, a compound can be broken up into two parts, and these two parts must be related to each other in a specific way. This chapter will introduce the types of compounds and the relations that obtain between members of a compound.

An important concept when talking about compounds is that of the **head** and its **dependent**. The head of a compound is the word which determines the syntactic category of the compound as a whole. It can be defined more simply and straightforwardly in a negative way: the head is the word that is not subordinate to, or does not modify, any other word within the compound. The dependent word always modifies the head.

NOTE: In the Indian grammatical tradition, the head is called *pradhānam*, and the dependent is called *upasarjanam*.

Generally compounding one word with another entails the loss (*luk* in Pāṇini's terms) of the inflectional ending of the first word. The first word therefore appears in its **stem form**, although for certain types of nouns, the form used in compounds might be slightly different from the stem form (see note below). Since inflectional endings normally mark the relation between words, in their absence, word order becomes important for specifying the relationship. In Sanskrit compounds (as in English compounds), the head appears **to the right of** the dependent in the vast majority of cases. Sometimes, however, the first word retains its inflectional ending even when compounded with another word; these compounds are called *aluk-samāsaḥ*.

The following exceptions should be noted to the general principle that the form of a word in compound is identical to its stem form:

- stems in *-n* lose the final nasal and simply use the preceding vowel:
 - *balin-* “strong” → *bali-*
 - *karman-* “action” → *karma-*
 - *rājan-* “king” → *rāja-*
- words that have multiple stem forms generally use their *weakest* form:
 - *vidvāṁs-*, *viduṣ-* “scholar” → *viduṣ-*
 - *bhavant-*, *bhavat-* “you” → *bhavat-*
- pronouns (*sarvanāmāni*) often use a special form for the stem, generally (but not always) identical to the neuter nominative-accusative singular:
 - *tatparaḥ* ← *tat param yasya saḥ* “intent upon that”
 - *yusmadasmatpratyayaḥ* ← *yusmākam asmākam ca pratyayaḥ* “the idea of ‘you’ and ‘me’”
 - *kinnāmaḥ* ← *kim nāma yasya saḥ* “having what as his name?”

- *yatputraḥ* ← *yasya putraḥ* “the son of whom”

An exception to the above is *mahant-*, *mahat-*, which appears as *mahā-* when it is coreferential with the following word in a compound (either a *karmadhārayaḥ* or a *samānādhikarāṇabahuvrīhiḥ*); see *Aṣṭādhyāyī* 6.3.46.

- *mahājanaḥ* ← *mahāṁś ca sa janaś ca* “great people, the majority”
- *mahārājaḥ* ← *mahāṁś ca sa rājā ca* “great king”

When a word appears in its stem form in a compound, you will have to use word order and context in order to determine the categories that are usually expressed by the inflectional endings: the relationship with the following word, usually expressed as *case*; the number; and (in the case of adjectives) the gender.

Reference will be made in this section to the “analytic paraphrase” (*vigrahavākyaṃ*) that are the semantic equivalent of compound expressions. The analysis of compounds in Sanskrit typically proceeds by identifying what kind of compound it is, and then offering an equivalent expression in analytic terms. This strategy is used very often, for example, in Sanskrit commentaries. For details and plentiful examples, see Tubb and Boose, *Scholastic Sanskrit*.

§50. Endocentric compounds

Endocentric compounds are those wherein the *head* is actually a constituent of the compound. The general test for endocentricity is whether the referent of the compound as a whole can be described by one of its constituent terms: since a *bluejay* is a jay, a *checkerboard* is a board, and a *guest lecturer* is a lecturer, all of these expressions are endocentric; contrast these with the exocentric expressions *Blackbeard* (who is not a beard) or *skinhead* (who is not a head).

Under the general category of **endocentric** compounds we may distinguish the following subtypes:

- compounds wherein the *second* member is the head of the *first* member;
- compounds wherein the *first* member is the head of the *second* member; and
- compounds where the first and second member both serve as the head.

The second subtype is a passable approximation of what Indian grammarians call *avyayībhāvāḥ*, or “adpositional phrase compounds” (see below). The third describes what Indian grammarians call *dvandvāḥ*, or “coordinative compounds” (see below). The first corresponds to the large category of *tatpuruṣaḥ* compounds.

In all *tatpuruṣaḥ* compounds, the first member is the **dependent** of the second member, which is the **head**. The nature of that dependency, however, may differ across compounds, and accordingly **three** further subtypes of *tatpuruṣaḥ* compounds are distinguished:

- *vibhaktitātṭpuruṣaḥ*, wherein the relationship can be expressed by a *case suffix*;
- *karmadhārayaḥ*, wherein the two members are *coreferential* and the second qualifies the first; and
- *upapadatātṭpuruṣaḥ*, wherein the first member is a dependent argument of the second member, which is a verbal noun or adjective.

Each of these three subtypes admits of further subtypes, as will be discussed below.

§50.1. Case compounds

Case compounds (*vibhaktitātṭpuruṣaḥ*) are those in which the relationship between the head and the dependent can be expressed analytically as a relationship between two case-forms. What distinguishes these case compounds from coreferential compounds is that

the constituent words in a case compound *do not* refer to the same thing, but rather express a relationship between two different things.

In theory, the relationship between the two constituents can be expressed by *any* of the cases, since all of the cases can, in theory, express a relationship between two nouns. In practice, however, the genitive is by far the most common case for expressing a relationship between nouns — indeed, that is its primary grammatical function — and therefore the *ṣaṣṭhītatpuruṣaḥ* is the most common of these case compounds. Among the other cases, the nominative and the accusative are not generally used adnominally, but rather to mark core arguments of the sentence (the subject and the object, respectively). Adnominal usages of these cases, however, do occur, and therefore case compounds can be formed.

Nominative case compounds (*prathamātatpuruṣāḥ*) are, as noted above, quite uncommon, since the nominative case does not generally express an adnominal relationship. (As noted above, if the two words actually refer to the same thing, they are coreferential and hence the compound will not be considered a case compound, or *vibhaktītatpuruṣaḥ*, but a coreferential compound, or *karmadhārayaḥ*.) Nominative case compounds are allowed by *Aṣṭādhyāyī* 2.2.1 and *Aṣṭādhyāyī* 2.2.2, when compounding a word with another word expressing a part thereof. In the analytic expressions, the word expressing a part is in the *nominative*, and the word expressing that of which it is the part is in the *genitive*.

- *ardhapippalī* ← *ardham pippalyāḥ* “half of a black pepper”
- *pūrvakāyaḥ* ← *pūrvam kāyasya* “the forepart of the body”
- *uttarakāyaḥ* ← *uttaram kāyasya* “the top part of the body”

NOTE: This type of formation is necessary to account for the position of words within the compound. Other compounds involving a word for a part, such as *grāmārdhaḥ*, can be more straightforwardly analyzed as genitive case compounds.

Accusative case compounds (*dvitīyātatpuruṣāḥ*) are usually formed when a verbal adjective enters into a compound with an accusative object.

- *grāmagataḥ* ← *grāmaṁ gataḥ* “having gone to the village”
- *kṛṣṇasṛitaḥ* ← *kṛṣṇaṁ sṛitaḥ* “having taken refuge in Kṛṣṇa”

As can be seen from these examples, the verbal adjective is usually a past participle in *-ta* that expresses the *agent* of the action, which is often the case in verbs of motion, and the noun with which it is compounded is usually the *patient* of the action, which in the case of verbs of motion is generally the destination.

Instrumental case compounds (*tr̥tīyātatpuruṣāḥ*) are formed whenever a nominal form can take a modifier in the instrumental case, which might express *accompaniment*, *instrumentality*, or a *characteristic*, or, in the case that the head is a verbal adjective, the *agent* or *instrument* of the verbal action.

- *guḍamiśrāḥ* ← *guḍena miśrāḥ* “mixed with jaggery”
- *asikalahaḥ* ← *asibhiḥ kalahaḥ* “a fight with knives, a knife-fight”
- *māṣōnaḥ* ← *māṣēṇa ūnaḥ* “short by a gram”
- *yatnakṛtaḥ* ← *yatnēna kṛtaḥ* “produced with effort”
- *lakṣmaṇasahitaḥ* ← *lakṣmaṇēna sahitaḥ* “together with Lakṣmaṇa”

Dative case compounds (*caturthītatpuruṣāḥ*) are permitted by *Aṣṭādhyāyī* 2.1.36 when one noun is said to be “for the purpose of” another, and particularly when used with the words *arthaḥ* “purpose,” *baliḥ* “offering,” *hitaḥ* “beneficial,” *sukham* “pleasure,” and *rakṣitam* “protection.”

- *yūpadāruḥ* ← *yūpāya dāruḥ* “wood for a sacrificial post”
- *brāhmaṇārtham* ← *brāhmaṇēbhyō rtham* “for the sake of Brāhmaṇas”

- *kubērabaliḥ* ← *kubēāya baliḥ* “an offering to Kubēra”
- *gōbitam* ← *gōbhyō hitam* “beneficial to cows”
- *gōrakṣitam* ← *gōbhyō rakṣitam* “protection for cows”

Ablative case compounds (*pañcamītatpuruṣāḥ*) are permitted by *Aṣṭādhyāyī* 2.1.37, to express fear of something, and *Aṣṭādhyāyī* 2.1.38, when the latter word is a verbal adjective implying separation (although Pāṇini says that these are only rarely compounded). Furthermore, *Aṣṭādhyāyī* 2.1.39 allows certain ablative forms with an adverbial meaning to be compounded with a following verbal adjective.

- *vr̥kabhayah* ← *vr̥kēbhyō bhayah* “fear of wolves”
- *apētadōṣah* ← *dōṣēbhyō pētah* “free of faults”
- *svargapatitah* ← *svargāt patitah* “fallen from heaven”
- *kṛcchralabdhaḥ* ← *kṛcchrāl labdhaḥ* “obtained with difficulty”

Genitive case compounds (*ṣaṣṭītatpuruṣāḥ*) are the most common type of case compound. Most often they have a possessive meaning, although nearly any other type of relationship between the two nominal forms is possible. When the final word expresses a verbal action, the genitive is permitted in the sense of the patient.

- *rājapuruṣah* ← *rājñah puruṣah* “the king’s man”
- *daśābhētuḥ* ← *daśāyā bhētuḥ* “the cause of the condition”
- *ōdanabhōjanam* ← *ōdanasya bhōjanam* “the eating of rice”
- *dēvaguruḥ* ← *dēvānām guruḥ* “the teacher of the gods”

Locative case compounds (*saptamītatpuruṣāḥ*), like their corresponding analytic expressions, are used to express *location* and *reference*, as well as some expressions of *time*.

- *girigrāmaḥ* ← *giriṣu grāmaḥ* “a village in the mountains”

- *lalāṭalōcanam* ← *lalāṭe lōcanam* “eye in the forehead”
- *saṁvatsaradēyam* ← *saṁvatsarē dēyam* “to be given within [one] year”
- *sthālīpakvaḥ* ← *sthālyāṁ pakvaḥ* “cooked in a plate”
- *akṣapraṇāḥ* ← *akṣēṣu praṇāḥ* “skilled at dice”

In the **analytic paraphrase** (*vigrahavākya*) of such compounds, the first element is simply expressed in the appropriate case-form, followed by the second member, which is usually expressed in the nominative singular, as in the above example.

§50.2. Coreferential compounds

Coreferential compounds (*karmadhārayāḥ*) are those in which the two constituents refer to the same thing (*Aṣṭādhyāyī* 1.2.42 *tatpuruṣāḥ samānādhikaraṇāḥ karmadhārayāḥ*). This relationship is called “coreferentiality” (*sāmānādhikaraṇyam*). In these compounds, as endocentric compounds more generally, the *final member* is the head of the compound, which is modified by the first member. Hence the compound as a whole is inflected exactly in the same way as its final member, regardless of whether it is a noun or an adjective.

Generally, in the **analytic paraphrase** of such a compound, an anaphoric pronoun (such as *tād*, *idām*, or *adāḥ*) is employed in order to show that the two constituents describe the same thing, as shown in the examples below demonstrate.

One very common category of coreferential endocentric compounds is that in which the first constituent is an adjective. Although this is not made explicit in the analytic expression, the first constituent will almost always qualify the second—even if the second is also an adjective. Usually the most accurate translation is “*y* that is *x*.” In such cases the adjective takes its *basic* stem form, that is, it uses the masculine/neuter stem (e.g., *sundara-*) rather than a stem with a feminine suffix (e.g., *sundarī-*).

- *nīlōtpalam* ← *nīlam ca tad utpalam ca* “a lotus that is blue,” “blue lotus”
- *lōhitakṛṣṇaḥ* ← *lōhitaś ca sa kṛṣṇaś ca* “black that is red,” “reddish-black”
- *sajjanaḥ* ← *sañ ca sa janaś ca* “a person that is good,” “good person”
- *vicakṣaṇāstrī* ← *vicakṣaṇāś ca sā strī ca* “a woman that is clever,” “clever woman”

Another type involves two substantives that are combined. Once again, the first constituent qualifies the second.

- *brahmarākṣasaḥ* ← *brahmā ca sa rākṣasaś ca* “a Rākṣasa that is a Brahman”
- *rājarṣiḥ* ← *rājā ca sa ṛṣiś ca* “a sage that is a king,” “a royal sage”

A large number of coreferential compounds cannot be analyzed “in their own words” (hence they are said to be *asvāpadavigrahaḥ*, “not having an analytic paraphrase that uses the same words”), because their first member is a “bound form” which can only occur when followed by another form. This category includes the following:

- *nañtatpuruṣaḥ*, negative endocentric compounds;
- *prāditatpuruṣaḥ*, coreferential compounds beginning with a prefix, among which are counted the standard prefixes that are also affixed to verbal forms (*prādi*) as well as a few special prefixes that are only used for nouns, such as *ku*;

A *nañtatpuruṣaḥ* is simply formed by prefixing the negative suffix *nañ*, which generally takes the form *a-* before consonants and *an-* before vowels, to a nominal form. The resulting compound has the opposite meaning of the negated term, which may be either a noun or an adjective:

- *abrāhmaṇaḥ* ← *na brāhmaṇaḥ* “a non-Brāhmaṇa”
- *apitā* ← *na pitā* “a non-father”
- *anāraktaḥ* ← *nāraktaḥ* “not attached”

- *aprasaktaḥ* ← *na prasaktaḥ* “not relevant”

They are considered *karmadhārayāḥ* because the negative particle, although not inflected, directly modifies the head of the compound. As can be seen from these examples, the analytic expression generally employs the word *nañ* in its independent form, as the prepositional particle *na*.

The *prāditatpuruṣāḥ* are formed by prefixing one of the indeclinable prefixes (*prādi*, see verbal prefixes above) to the head. In some cases, they function exactly like adjectives, and are generally rendered as adjectives in an analytic paraphrase. These adjectives generally incorporate the indeclinable prefix.

- *supuruṣaḥ* ← *śōbbhanaḥ puruṣaḥ* “a good person”
- *atipuruṣaḥ* ← *atīśāyitaḥ puruṣaḥ* “a first-rate person”
- *durjanaḥ* ← *duṣṭō janaḥ* “a bad person”

Note that most of these prefixes are also used as the first element of “governing compounds” (*upapadatatpuruṣāḥ*), that is, as adverbial modifiers of the verbal action expressed the second member of the compound, when that is a verbal noun or adjective (see below). I discuss those compounds below. Here, we are concerned only with compounds wherein the two members are coreferential.

The prefix *ku* and its substitutes are used with a perjorative sense that is often paraphrased as *kutsitaḥ* “blamed, found fault with.”

- *kukaviḥ* ← *kutsitaḥ kaviḥ* “a bad poet”
- *kāpuruṣaḥ* ← *kutsitaḥ puruṣaḥ* “a bad person”
- *kaduṣṭraḥ* ← *kutsita uṣṭraḥ* “a bad camel”
- *kāmadhuraḥ* ← *kiñcin madhuraḥ* “slightly sweet”

§50.3. Governing compounds

While most compounds—except for *dvandvas* and, arguably, *karmadhārayas*—involve the “governing” of one word by another, the term “governing compound” (*upapadasamāsaḥ*, lit. “a compound involving a subordinate word”) is reserved for a special class of *tatpuruṣa* compounds, *wherein the relation of the head and its dependent cannot be expressed through a case-relationship between two independently-occurring nominal forms*, because *the head is a bound form which cannot occur outside of a compound*. A parallel in English is *chimney sweep*, since the word *sweep* is not used as an agent noun in its own right.

In the *Aṣṭādhyāyī*, such compounds are generally taught by specifying

1. the first member, or dependent (in the locative case), sometimes with additional specifications regarding the thematic role that the dependent has in relation to the action designated by the verbal root;
2. the second member, or head, which will always be a **bound form** (in the sense that it does not occur outside of such compounds) and will also be a **primary nominal derivative** of the verb, and hence is taught by Pāṇini as consisting of:
 - a) the verbal root (in the ablative case);
 - b) the primary derivational suffix (i.e., *kṛt*).

Because the head is a bound form, the analytic expression (*vigrahavākyaṃ*) corresponding to an *upapadasamāsaḥ* will usually take the form a sentence involving a conjugated verb. Examples will be given below.

- *vṛtragbnaḥ* ← *vṛtram hanti* “Vṛtra-slayer, slayer of Vṛtra”
- *sōmasut* ← *sōmam sunōti* “Sōma-presser, priest who presses the Sōma”

- *jaladaḥ* ← *jalam dadāti* “water-giver, cloud”

Since such compounds are the only context in which certain types of primary derivatives occur, I provide here a list of the most common primary derivational suffixes that are used to form *upapadasamāsāḥ*, along with examples.

- *aN* (*Aṣṭādhyāyī* 3.2.1). A very general suffix used to form compounds with *N*-gradation in the root.
 - *kumbha-* + *kr-* + *aN-* (+ *sU*) → *kumbhakāraḥ* “pot-maker” (= कुम्भं करोति)
- *aT* (*Aṣṭādhyāyī* 3.2.16). Another suffix that is simply *-a-*, but this one requires *guṇa* of the root. The effect is that the suffix is *-a-* with zero grade of the root. The feminines formed with this suffix use the suffix *ÑiP* (*Aṣṭādhyāyī* 4.1.14).
 - *puraḥ-* + *sr-* + *aT-* (+ *sU*) → *puraḥsaraḥ* “one who goes in front” (= पुरः सरति)
 - *śōka-* + *kr-* + *aT-* + *ÑiP* (+ *sU*) → *śōkakārī* “one who causes sorrow” (= शोकं करोति)
- *KhaL* (*Aṣṭādhyāyī* 3.3.126). The suffix *-a*, with *guṇa*, attached to roots when preceded by the indeclinable prefixes *īṣad*, *su*, and *duḥ*. **This suffix has a patientive meaning** by *Aṣṭādhyāyī* 3.4.70
 - *duḥ* + *tr-* + *KhaL* (+ *sU*) → *duṣṭaraḥ* “difficult to cross” (= तरितुमशक्यः)
 - *duḥ* + *labh-* + *KhaL* (+ *sU*) → *durlabhaḥ* “difficult to obtain” (= लब्धुमशक्यः)
- *ṬaK* (*Aṣṭādhyāyī* 3.2.8). Actually identical to *aT*, but taught after roots that historically ended in laryngeals. The effect is that the suffix is *-a-* with zero grade of the root. The feminines formed with this suffix use the suffix *ÑiP* (*Aṣṭādhyāyī* 4.1.14).
 - *sāman-* + *gai-* + *ṬaK-* (+ *sU*) → *sāmagāḥ* “*sāman*-singer” (= सामानि गायति)
 - *surā-* + *pā-* + *ṬaK-* + *ÑiP* (+ *sU*) → *surāpī* “drinker of wine” (= सुरां पिबति)

- *Ḍa* (*Aṣṭādhyāyī* 3.2.48). The suffix *a*, replacing the vowel and any consonants that follows; taught for the roots ending in nasals, like \sqrt{gam} and \sqrt{han} .
 - $pāra- + gam- + Ḍa- (+ sU) \rightarrow pāragah$ “one who goes to the furthest shore”
- *KhaC* (*Aṣṭādhyāyī* 3.2.38). Thus suffix induces the augment *mUM* ((*Aṣṭādhyāyī* 6.3.37)).
 - $priya + vad- + KhaC (+ sU) \rightarrow priyamvadah$ “one who speaks kindly”
- *KhaŚ* (*Aṣṭādhyāyī* 3.2.28). This suffix also causes the affixation of the augment *mUM*, but the root takes the form that it takes in the present system, i.e., reduplication and present-stem forming suffixes are used.
 - $jana- + ēj- + KhaŚ ((+ sU) \rightarrow janamējayah$ “making the people tremble”
 - $paṇḍita- + man- + KhaŚ ((+ sU) \rightarrow paṇḍitammanyah$ “one who thinks he is learned”
- *KviN* (*Aṣṭādhyāyī* 3.2.58). A zero affix, which causes the root to take its zero-grade form. Taught for a small class of words.
 - $rtu- + yaj- + KviN (+ sU) \rightarrow rtvik$ “one who sacrifices at the proper moment”
- *KviP* (*Aṣṭādhyāyī* 3.2.61). A zero affix, which causes the root to take its zero-grade form; in addition, if the root is a light syllable, the augment *t* is affixed to it in order to make the root-syllable heavy.
 - $śatru- + ji- + KviP (+ sU) \rightarrow śatrujit$ “victorious over enemies” (*śatrūñ jayati*)
- *Nvi* (*Aṣṭādhyāyī* 3.2.62). A zero affix, which causes the root to take its “Brugmann” form (induced by *N*).
 - $ardha- + bhaj- + Nvi (+ sU) \rightarrow ardhabbhāk$ “getting half a share” (*ardham bhajatē*)

§50.4. Adpositional compounds

Adpositional compounds are what I call *avyayībhāvaḥ*, compounds that “become indeclinable” and function as adverbs. Like many other adverbs, they take the form of a neuter singular nominal. In these compounds, the first member is usually an indeclinable word—often an adposition (*karmaṣṭhānīyaḥ*)—and the second word is a nominal form that functions as its dependent. Thus, in this type of compound, the first member is the syntactic head.

Sometimes such compounds can be analytically paraphrased as two independent words, that is, as a *karmaṣṭhānīyaḥ* governing a case-form of the dependent:

- *ābrahma* ← *ā brahmaṇaḥ* “starting from Brahma”

Most often, however, these compounds cannot be analytically paraphrased in their own words (*asvapadaṣṭhānaḥ*). This is because the indeclinable first member does not generally govern a case-form, or does not govern one in the given sense. *Avyayībhāvaḥ* compounds with *prāti*, for example, generally have a *distributive* sense, whereas as an adposition, *prāti* most often conveys the sense of a goal of motion.

- *pratidinam* ← *dinē dinē* “every day”

In many other cases, other paraphrases must be found:

- *yathāśakti* ← *śaktim anatikrāmya* “in proportion to one’s power”
- *upanadi* ← *nadyāḥ samīpē* “near the river”
- *anujyēṣṭham* ← *jyēṣṭhānupūrvvṇa* “in order of age”

§51. Coordinative compounds (*dvandvāḥ*)

Compounds that have multiple heads are called “coordinative” compounds or *dvandvāḥ*. There are two types of such compounds.

A **countable** or additive coordinative compound (*itarētaradvandvāḥ*) is one where the grammatical number of the resulting compound is a function of the grammatical number of each of its constituents. The grammatical gender of the compound as a whole is usually that of the final member of the compound.

- *rāma-* + *lakṣmaṇa-* → *rāmalakṣmaṇau* “Rāma and Lakṣmaṇa”
- *aśva-* + *gaja-* + *ratha-* → *aśvagajarathāḥ* “horses, elephants, and chariots”

The standard *analysis* (*vigrahaḥ*) of such compounds involves inserting the coordinating particle *ca* after each member, hence *rāmaś ca lakṣmaṇaś ca*, or *aśvāś ca gajāś ca rathāś ca*.

A **collective** coordinative compound (*samābhāradvandvāḥ*) refers to its constituents as forming a collective, and hence the compound as a whole has singular morphology. Usually these compounds are neuter.

- *jaṅgama-* + *sthāvara-* → *jaṅgamasthāvaram* “mobile and immobile”

The analysis of these kinds of compounds is identical to that of *itarētaradvandvāḥ*, except with the addition of *samābhāraḥ* or *samābhṛtaḥ*, hence *jaṅgamāni ca sthāvarāṇi ca samābhṛtāni*, or *jaṅgamāni ca sthāvarāṇi ca tēṣāṃ samābhāraḥ*.

§52. Exocentric compounds (*bahuvrīhiḥ*)

Exocentric compounds, in contrast to endocentric compounds, are those wherein the *head* is not a member of the compound. The compound as a whole gets its syntactic category from its head, and in many cases, it qualifies the head as an adjective, hence it

also receives its gender and number from its head. These compounds are thus “headless.” They will always **bold** fail the above-mentioned test of endocentricity: if x - y represents a compound, the answer to the question “is x - y either an x or a y ?” will be **no**. Thus, to use English examples, the following are exocentric: *skinhead* (not a head, but a person); *barefoot* (not a foot, but a person); *pale-faced* (not a face).

NOTE: As the last example shows, exocentric compounds in English often use the suffix *-ed*. This is not a past passive participle (there is no verb “pale-face”) but a compound-final suffix, which is called *samāsāntapratyayaḥ* in Sanskrit. Exocentric compounds in Sanskrit often use such suffixes as well, as noted below.

The Sanskrit term for these kinds of compound is *bahuvrīhiḥ*, which is, like *tatpuruṣaḥ*, an instance of the grammatical phenomenon it names: a *bahuvrīhiḥ* is not “a lot of rice,” but a *man* who has “a lot of rice.” In contrast to the preceding categories of compounds, the formation of exocentric compounds can be thought of as the formation of an adjectival *stem*.

Typically the constituents of an exocentric compound are *coreferential*, that is, they refer to the same thing. But there are exocentric compounds whose constituents are not coreferential (called *vyadhikaraṇabahuvrīhiyaḥ*), which will be exemplified below. They are also commonly analyzed using *relative clauses*, a strategy that will be followed in the analyses below; the relative pronoun supplies the *gender* and *number* of the head noun, which in these examples will always be cited in the nominative (*prathamā*) case.

- *bahur vrīhiḥ yasya saḥ* → *bahuvrīhiḥ* “one who has a lot of rice” (*samānādhikaraṇabahuvrīhiḥ*)
- *nīlaḥ kaṇṭhaḥ yasya saḥ* → *nīlakaṇṭhaḥ* “one whose neck is dark blue” (*samānādhikaraṇabahuvrīhiḥ*)
- *nīlam ambaram yasya saḥ* → *nīlāmbaraḥ* “one who wears a dark cloak” (*samānādhikaraṇabahuvrīhiḥ*)

- *vyastam viśvam yābhiḥ tāḥ* → *vyastaviśvāḥ* “those that have put the universe asunder” (*samānādhikaraṇabahuvrīhiḥ*)
- *mahān anubhāvaḥ yasya saḥ* → *mahānubhāvaḥ* “one whose dignity is great” (*samānādhikaraṇabahuvrīhiḥ*)
- *dattam sarvasvam yēna saḥ* → *dattasarvasvaḥ* “one who has given everything he owns” (*samānādhikaraṇabahuvrīhiḥ*)
- *cakraḥ pāṇau yasya saḥ* → *cakrapāṇiḥ* “one in whose hand there is a discus” (*vyadhihikaraṇabahuvrīhiḥ*)

The **gender** of the final word will sometimes change in a *bahuvrīhiḥ* compound. That is, a word that standardly appears in one gender might have to appear in another gender if it is final within a *bahuvrīhiḥ* compound that describes something or someone of that gender. This is a very useful way of recognizing *bahuvrīhiḥ* compounds, provided that you have actually learned the gender of the final noun!

- *dattāni ratnāni yēbhyaḥ tē* → *dattaratnēḥ* “[men] to whom jewels have been given” (*ratnam* is neuter)
- *pītam jalam yēna saḥ* → *pītajalaḥ* “[a man] by whom water has been drunk” (*jalam* is neuter)
- *mṛtāḥ narāḥ yasmin tat* → *mṛtanaram* “[a family] in which the men have died” (*narāḥ* is masculine)

How do we know what form a word will take at the end of a *bahuvrīhiḥ* compound if it is used in a gender different from the one with which it is usually associated? Masculine and neuter words usually use the same stem, so the only challenge is remembering the corresponding masculine or neuter endings, which may indeed be a challenge for classes of nouns that are typically associated with one gender (for instance nominal stems ending in *-s* are almost always neuter, and they have different forms in the nominative-accusative

of the masculine). Feminine words, however, usually use a different stem, formed with a feminine stem forming suffix (*strīpratyayaḥ*; see above). Going from a feminine to a masculine-neuter stem or *vice versa* is sometimes, but not always, as simple as shortening (*Aṣṭādhyāyī* 1.2.48) or lengthening the stem vowel:

- *citrā gauḥ yasya saḥ* → *citraguḥ* “[a man] who has a brindled cow” (*gauḥ* is feminine)
- *kausāmbiyā niṣkrāntaḥ* → *niṣkausāmbiḥ* “[a man] who has left Kauśāmbī” (*kausāmbī* is feminine)
- *dattā mālā yasmai saḥ* → *dattamālaḥ* “[a man] to whom a garland has been given” (*mālā* is feminine)
- *dattā hastaḥ yasyai sā* → *dattahastā* “[a woman] to whom a hand has been given” (*hastaḥ* is masculine)

No shortening takes place, however, if a feminine word is not formed with a feminine stem forming suffix:

- *atīkrāntā śrīḥ yasya saḥ* → *atīśrī* “[a man] who has great prosperity” (*śrīḥ* is feminine)

In general, however, one must know which of the feminine stem forming suffixes to use in order to convert a masculine/neuter stem into a feminine stem. There are only two common ones: *-ā-* and *-ī-*.

- *candra iva mukham yasyāḥ sā* → *candramukhī* “[a woman] whose face is like the moon” (*mukham* is neuter)

Some exocentric compounds have a word as their first member which is a “bound form,” in that it cannot typically be used as an independent word. There are several subvarieties of these compounds. One, called *prāḍibabuvrihayāḥ*, have a preverb as their first member. Since they cannot be expressed as independent words in the analysis of the compound, they are usually “expanded” into a form that can be used as an independent word.

- *utkaṇṭhaḥ* ← *unnataḥ kaṇṭhaḥ yasya saḥ* “one whose neck is uplifted” (almost always in anticipation)

Another variety of exocentric compounds with bound forms as first members are **negative** compounds (*nañbahuvrīhayaḥ*), which, as their Sanskrit name suggests, are formed with the negative particle *nañ*. This particle is usually expanded in the analytic phrase to a *nañ-tatpuruṣaḥ*, namely, *avidyamānaḥ* “non-existing.”

- *agrhaḥ* ← *avidyamānaḥ grhaḥ yasya saḥ* “one who has no home, homeless”

Finally, there are **sociative** compounds (*sahababuvrīhayaḥ*), whose first member can be *sa-*, which is expanded to *saha* with an instrumental case-form in the analytic expression, and often expressed with the verb *vartatē*.

- *samātāpitṛkaḥ* ← *saha mātāpitarau vartatē* “together with his mother and father” (for the form *mātāpitṛ-* see *Aṣṭādhyāyī* 6.3.25).

§53. Compound-final suffixes (*samāsāntapratyayāḥ*)

Under certain conditions, a suffix is added to the final member of a compound. Thus the stem of the word *on its own* may differ from its stem when it occurs at the end of a compound. These suffixes are called “compound-final” (*samāsāntāḥ*) (*Aṣṭādhyāyī* 5.4.68).

When the word *rājan-* “king,” *āhan-* “day” or *sākhi-* “friend” is final within a *tatpuruṣaḥ*, they become *rāja-*, *aha-*, and *sakha-* (*Aṣṭādhyāyī* 5.4.91), with a change to the masculine gender in the case of *āhan-* (normally neuter).

- *mahārājaḥ* ← *mahānś ca sa rājā ca* “great king”
- *brāhmaṇasakhaḥ* ← *brāhmaṇasya sakhā* “friend of a Brahmin”
- *uttamāhaḥ* ← *uttamañ ca tad ahaś ca* “the final day”

When *rātri-* “night” is preceded by the words *áhan-* “day,” *sarvá-* “entire,” a word for a part (e.g., *pūrvā-* “earlier”), a numeral, or the word *puṇya-*, then it becomes *rātra-* (*Aṣṭādhyāyī* 5.4.87) with a change to the masculine gender; similarly the word *áhan-* becomes *ahna-* under the same circumstances *Aṣṭādhyāyī* 5.4.88:

- *pūrvārātraḥ* ← *pūrvā rātriḥ* “the early part of the night”
- *pañcarātraḥ* ← *pañca rātrayaḥ* “five nights”
- *aparāhṇaḥ* ← *aparam ahaḥ* “the latter part of the day, evening”

In general, *bahuvrīhiḥ* compounds can take the suffix *-ka-* (feminine *-ikā*) which will very often make the noun easier to inflect.

NOTE: Pāṇini calls this suffix *kaP* (*Aṣṭādhyāyī* 5.4.153). The feminine of such forms is made by substituting *-aka-* with *-ikā-* by *Aṣṭādhyāyī* 7.3.44.

- *tat ātmā yasya tat* → *tadātmakam* “[a thing] of which the essence is that”
- *bahvī śrīḥ yasya saḥ* → *bahusṛīkaḥ* “[a man] who has great prosperity”
- *avidyamānaṁ manaḥ yasya saḥ* → *amanaskaḥ* “without the mind”
- *jīvantau pitarau yasya saḥ* → *jīvatpitṛkaḥ* “[a man] whose parents are still alive”

Chapter 8

Abbreviations

- १ *prathamā vibhāktiḥ* (nominative case)
२ *dvitīyā vibhāktiḥ* (accusative case)
३ *tr̥tīyā vibhāktiḥ* (instrumental case)
४ *caturthī vibhāktiḥ* (dative case)
५ *pañcamī vibhāktiḥ* (ablative case)
६ *ṣaṣṭhī vibhāktiḥ* (genitive case)
७ *saptamī vibhāktiḥ* (locative case)
सं. *sambóddhanam* (vocative)
एक. *ēkavacanam* (singular)
द्वि. *dvivacanam* (dual)
बहु. *bahuvacanam* (plural)
परस्मै. *parasmaipadām* (active)

आत्मने. *ātmanēpadām* (middle)

प्र. *prathamapurusaḥ* (third person)

मध्य. *madhyamapurusaḥ* (second person)

उत्त. *uttamapurusaḥ* (first person)