

इन्द्रकृत

for

SPIRITUAL SEEKERS

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DISCLAIMER

This book is published in the belief that it will help those who read and follow it to gain at least a nodding acquaintance with both Saṃskṛta and Sanātana Dharma.

This book has a [companion website](#) where additional material, as well as external web links, are provided.

Links to external websites are given both in this book and its companion website because—at the time of lookup—those websites contained material that could potentially benefit students. The content and opinion expressed in the linked external websites are not necessarily endorsed in consequence.

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Preface

Sanskrit for Spiritual Seekers is both a course of study and a hyperlinked text, designed specifically for those who seek a deeper understanding of the spirituality of Hinduism, through a study of the Sanskrit language.¹

You might be interested in comprehending the various Sanskrit prayers that you recite as part of your spiritual practice. Or you may yearn to know more about the culture that gave birth to India's distinctive spirituality. Or you may be a computer science student, specializing in error correcting codes, who wishes to probe whether natural languages can embody automatic error correction. Each of you will find something of interest in this book.

There are no pre-requisites for this course, except interest and persistence. I have tried to make the course fun and easy, so that it will evoke your natural sense of enquiry and wonder. There will be no formal assignments, assessments, or examinations, but I have thrown in some teasers and quizzes in the text for you to tackle, if you are so inclined. The greater your effort, the greater your gain.

This book is meant to be read in the sequence of its chapters. Skim through a chapter, if need be, but do not skip it.

The text is principally in English and romanized Sanskrit—also known as **IAST**—about which more will be said later in the text. It is not necessary for you to learn the **devanāgarī** (देवनागरी) script, but it will be covered as we make our way through the course. As just shown for the word **devanāgarī**, Sanskrit words written in IAST transliteration are, by and large, shown in sans serif font to allow readers to easily distinguish them from the English text. When occasion demands, proper nouns will be capitalized to accord with English usage, even though Sanskrit does not feature capital letters.

The emphasis is on the *oral* nature of the language, with particular attention to proper pronunciation. We will also attempt to understand different applicable meanings for the same prayer. This will highlight the plurality inherent in Indian spirituality. You will then enjoy the deep satisfaction that you are chanting the mantras correctly, and with the meaning most applicable to you.

The text is fully hyperlinked: you may click on the links and browse the relevant web pages for further information and knowledge. The companion website for this book is at <https://swanlotus.netlify.app/ss.html>. Access to media-rich websites will allow you to

¹The proper term for Hinduism is *Sanātana Dharma* or the “Eternal Dharma”. Likewise, Sanskrit is called *Samskṛtam*. The anglicized versions are used here merely to assist the reader.

PREFACE

better master the oral nature of sacred chants. Those who learn better by hearing and seeing, rather than by reading, will also be benefited.

One disclaimer before I move on. I am no Sanskrit expert. Nor do I lay claim to deep knowledge of Hinduism, spirituality, or to any of the specialized fields touched upon here, like phonetics, computer science, etc. I am simply one who chanced upon Sanskrit, and was charmed by what I encountered, and who now wishes to share some of the riches I found.

This course is more a leisurely stroll through the garden of Sanskrit rather than a rigidly scheduled journey where you risk missing the boat if you are tardy. There will be ample time for wandering around and smelling the roses and lotuses, and anything else that captures your interest.

The tone of the course is informal and relaxed. Feel free to [communicate with me](#) at any time to ask a question, correct an error, or seek some clarification. If something is not clear the first time, do not despair. I will return periodically to ideas that need reinforcement, until they become clear through repeated exposure.

As I said before, the pace of the course is unhurried. Just as a picture that is blurred may be focused gradually until it becomes sharp and clear, so too will the Sanskrit language become clearer with time and effort. The only two characteristics you should bring to this study are *interest* and *persistence*.

Even if you have been discouraged in the past from studying Sanskrit for any number of reasons, cast aside past fears and discouragement, sit back, relax, and enjoy the ride! Something wondrous awaits you as you tune in to the soul of Sanskrit!

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COIMBATORE, INDIA
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Part I

Sanskrit as a Language and a Discipline

Chapter 1

Introduction to the Sanskrit Language

tasya vācakaḥ praṇavaḥ

His word is praṇavaḥ (written OM or ॐ).

yoga sūtra of patañjali 1:27

In the beginning was the Word, and the Word was with God, and the Word was God.

JOHN 1:1

1.1 Introduction

Sanskrit, or Saṃskṛtam, is the ancient, sacred language of India. It means “completely done” or “well done”. The knowledge and wisdom of Hindu civilization, embodied in the Vedas, was primarily transmitted orally. The desire to preserve the Vedas, without distortion or error, led to a profound enquiry into the human voice, the origin and production of sound, of vibration, duration, grammar, metre, pitch, phonetics, recitation, memorization, language, etymology, etc.

Sanskrit was originally developed to be the vehicle used to preserve the knowledge and wisdom of the Vedas.

Because this wisdom was so precious, the vehicle had to be excellent as well. In time, the ancient Vedic language evolved into the polished classical Sanskrit that is now used

in daily prayers. The ṛṣis, or seers, responsible for this, were justifiably proud of their achievement, and christened the result “well done”.

This fascination with the sound produced by the human voice led to the profound investigation of the process of articulation, and, ultimately, to mantra śāstra, or the science of incantation, which saw unparalleled development in ancient India.

1.2 Sanskrit: Facts and Figures

1.2.1 Indo-European Language

Sanskrit is one of the world’s three oldest languages—Tamil, Sanskrit, and Greek—each of which can boast of a fully developed grammar. Sanskrit is also the eldest sister of all Indo-European languages, of which Greek, Latin, German, French, and English are members. Therefore, learning Sanskrit will aid in better understanding other Indo-European languages, especially how words are derived from *roots*. This relationship between words and roots will claim our attention throughout this course, and is essential to a good working knowledge of Sanskrit, especially for understanding the meanings of commonly recited prayers.

At this point, it is worth quoting what the eminent lexicographer, [Sir Monier Monier-Williams](#), late [Boden Professor of Sanskrit at Oxford University](#), has said of this subject:

...the Hindus are perhaps the only nation, except for the Greeks, who have investigated, independently and in a truly scientific manner, the general laws which govern the evolution of language.

The synthetical process which comes into operation in the working of those laws may well be called the *saṃskaraṇa*, ‘putting together’, by which I mean that every word in the highest type of language (called *saṃskṛta*) is first evolved out of a primary *dhātu*—a Sanskrit term usually translated by ‘Root’, but applicable to any primordial constituent substance, whether of words, or rocks, or living organisms—and then, being so evolved, goes through a process of ‘putting together’ by the combination of other elementary constituents.

Furthermore, the process of ‘putting together’ implies, of course, the possibility of a converse process of *vyākaraṇa*, by which I mean ‘undoing’ or ‘decomposition’; that is to say, the resolution of every root-evolved word into its component elements. So that in endeavouring to exhibit these processes of *synthesis* and *analysis*, we appear to be engaged, like a chemist, in combining elementary substances into solid forms, and again resolving these forms into their constituent ingredients.¹ [1, p. xii]

The above quotation perfectly encapsulates what we hope to achieve in this study of Sanskrit: we are engaged in a game of decomposing words into their roots to get at their meaning, using a magnificent set of rules, so that there is a sense of triumph at the end, once the meaning has been deciphered. If there are several meanings, all equally

¹The *emphasis* is mine. Today, not only is the chemist engaged in this analysis-synthesis; so are those involved in electronic signal processing and communications, genetic engineering, and many other contemporary fields of knowledge.

grammatical, the subject may be enriched by this plurality of viewpoints, which should lead to lively discussion and debate. This is one reason why commentaries abound in the literature of Sanskrit. Different thinkers present their own *viewpoints* on the text, consistent with grammar and logic.

1.2.2 Characteristics: syllabic, euphonious, inflected, logical

Sanskrit is a *syllabic language*² in which a single syllable is a single letter, assigned a single character in the written form of the language. The script is called *devanāgarī*, meaning “of the city of the gods or devās”, implying that it is the language of the devās.³ As already noted, Sanskrit has a strong oral tradition and many characteristics of the language derive from this. There is no upper case in the *devanāgarī* script; so all romanized Sanskrit names are shown in lower case only.

Each syllable in Sanskrit has an unambiguous pronunciation. For purposes for *euphony* Sanskrit has sandhi rules that govern how two sounds should coalesce when they are juxtaposed. We will cover sandhi in detail later on.⁴

Each syllable in Sanskrit is also classified into a normal or long syllable depending on the *duration* of the intonation. The old Vedic language also had a *pitch*, or change of tone, which is absent from classical Sanskrit, but which may be heard even today when priests schooled in the *vedās* recite hymns. This oral tradition has survived intact for almost five millennia and is testament to the vitality of mind over matter.

Sanskrit is an inflected language in which nouns and adjectives are *declined* and verbs are *conjugated*. It has *three* numbers: singular, *dual*, and plural. Although the details of Sanskrit grammar are demanding and will not detain us any more than is strictly necessary, some familiarity with recurring phrases and forms will assist us in understanding prayers better.

Among natural languages, Sanskrit comes closest in logic and structure to mathematics and modern computer languages.

We will explore these aspects in some detail later in the course.

1.3 Pāṇini and his grammar

Sanskrit has a clear and concise grammar compiled by the illustrious grammarian Pāṇini who states that he has drawn upon the work of 64⁵ predecessors.⁶ Another famous an-

²As are all Indic languages, in fact.

³The word *deva* literally means a luminous or radiant being who exists in a subtler dimension of existence. The proper masculine, nominative plural of *deva* is *devāḥ*, here written as *devās*, simply out of convenience. As we progress, such ungrammatical hybrid usages should gradually decline.

⁴In English, the absence of rigid sandhi rules makes the pronunciation of the similarly spelled *bough* and *cough* sound worlds apart.

⁵A favourite number of the Hindus: witness the 64 arts and the chessboard.

⁶He is in effect stating that his work is more of a *description* than a *prescription*.

cient grammarian was Patañjali although it is unclear whether he is the same person who codified the yoga darśana.

The grammar of Pāṇini is called the *aṣṭādhyāyī*, or the “eight chaptered” and consists of 3,959 sūtrās, or threads. Because of the oral tradition that relied on memorization, his grammar is very terse and may easily be printed on 48 A4-sized pages today. The *Aṣṭādhyāyī* has been called “...one of the greatest achievements of any ancient civilization ...[and]...the most detailed and scientific grammar composed before the nineteenth century in any part of the world.” [2, p 11]

Another illuminating article that establishes Pāṇini’s place in the world of mathematics is [the Panini entry at the MacTutor History of Mathematics archive](#).

Pāṇini developed an algebra in Sanskrit to help define his grammar with precision and [consicion](#). As we progress through this course, I will be introducing gradually the pioneering achievements of Pāṇini that foreshadowed developments in Mathematics and Computer Science that were made only in the twentieth century.

1.4 Literature

Sanskrit has a copious literature—in excess of 160,000 major works, many of which deal with other than strictly spiritual subjects [3]. The major classes of Vedic and related spiritual literature in Sanskrit are considered briefly below.

1.5 Veda

The Vedās are four in number: Ṛgveda, Yajurveda, Sāmaveda, and Atharvaveda. The Vedās are *revealed—seen or heard—scriptures*. Swami Sivananda has written [4, pp 13–14]:

The Vedās are the eternal truths revealed by God to the great ancient ṛṣis of India. The word ṛṣi means a seer from *dr̥ś*, *to see*. He is the mantra draṣṭa, a seer of mantra or thought. The thought was not his own. The ṛṣi *saw* the truths or *heard* them. Therefore, Vedās are what are heard (śruti). The ṛṣi did not write. He did not create it out of his mind. He was the seer of thought which existed already. He was only the spiritual discoverer of the thought. He is not the inventor of the Veda.

For more details on the Vedās and of Hinduism in general, I very strongly recommend Swami Sivananda’s authoritative treatise, *All About Hinduism* [4]. Online versions of this book are available as free downloads in [HTML](#) [5], in [PDF](#) [6], and in [epub](#) [7] formats.

1.6 Vedāṅga

The word Vedāṅga means “limb(s) of the vedās”. The Vedāṅgās are six fields of specialized studies, considered important enough to be conjoined with the vedās. They are tabulated in Table 1.1.

Vedāṅga	Field
Śikṣa	Phonetics
Candas	Rhythm and Metre
Nirukta	Etymology
Vyākaraṇa	Grammar
Jyotiṣa	Astronomy and Astrology
Kalpa	Ritual Practices

TABLE 1.1: The six Vedāṅgās and their fields of enquiry.

A comprehension of Nirukta and Vyākaraṇa serve the purpose of jñāna (wisdom) while Śikṣa and Candas subserve bhakti (devotion) and Jyotiṣa and Kalpa are harnessed for karma (rightly performed action).

1.7 Purāṇa

The major purāṇās number eighteen, as do the minor purāṇās. They were all compiled by the great polymath-ṛṣi Vyāsa, called Kṛṣṇa daipāyana, for this age. The purāṇas literally mean “belonging to the olden time” and deal with cosmogony, divine genealogy, right conduct, action and reaction, etc. They have been designed to have mass appeal and to make philosophy accessible to the general public.

The Śrī alitā Trisati (three hundred [names] of She who sports) occurs in the Mārkaṇḍeya Purāṇa. Interestingly, Mārkaṇḍeya is the great ṛṣi who, though destined to die young, sought refuge in Lord Śiva and recited the mahā mṛtyuñjaya mantra (great victory over death mantra) and become a cirañjīvi, literally “long-lived” or “immortal”. This is an interesting link between two very profound and powerful prayers.

The mahā mṛtyuñjaya mantra is regularly recited toward the end of the Śrī Rudram, which occurs in the Yajurveda.

The life of Bhagavān Kṛṣṇa is recounted in the Bhāgavata Purāṇa, also called the Śrīmad Bhāgavatam.

1.8 Itihāsa

There are four itihāsās: the Rāmāyaṇa, the Mahābhārata, the Yogavāsiṣṭha and the Harivaṃśa. The word itihāsa literally means “thus it happened”, or “so it was”.

The Rāmāyaṇa means “Rāma’s path” or “Rāma’s way”, and consists of 24,000 verses in seven books, written by Vālmīki who is known as ādi kavi or “first poet” in Sanskrit. Legend goes that he saw a cruel hunter killing one of two birds that were engaged in amorous play on a tree branch. The grief of the surviving bird for its lost mate moved him so much that he composed his first poem in a metre that was henceforth known as

a śloka, denoting its origin in grief, or śoka. It is also noteworthy that the Rāmāyaṇa is mostly a chronicle of separation and its attendant grief.

It is mind boggling to think there were travelling minstrels and bards in India in by-gone ages who could recite the entire Rāmāyaṇa from memory. The oral tradition of Sanskrit must therefore have embodied methods for training the mind to memorize. It is interesting to speculate whether there were error-correcting codes in the Sanskrit works themselves that could lead to an error being detected, and possibly corrected, as happens in modern electronic communications.

The Mahābhārata or “great epic of the Bharata dynasty” has 100,000 verses in its current form and was dictated by none other than Vyāsa to Gaṇapati who is reputed to have broken off one of his tusks to serve as a writing tool in order to function as a scribe. The Mahābhārata is so massive a compilation of human wisdom that it has been said that what is not in the Mahābhārata cannot be found anywhere else. Since human nature, conduct, and affairs have changed little over the centuries, this statement is very plausible.

One of the most-quoted of the Hindu scriptures, the Bhagavad Gītā or “Lord’s song” occurs in the Mahābhārata and consists of the advice Bhagavān Kṛṣṇa gives to Arjuna on the battlefield of Kurukṣetra on how to live life. Because it consists of 700 verses, the Bhagavad Gītā is also called the Saptaśati or “seven-hundred [verses]”.

1.9 Ṣaḍ Darśana

There are six orthodox systems of Hindu philosophy, called ṣaḍ darśanās literally “six viewpoints”. Each of these systems has a founding compiler of the viewpoint and is composed of laconic aphorisms called sūtrās, literally “threads”. The six systems are tabulated below:

Darśana	Founder	Field
Nyāya	Gautama	Logic
Vaiśeṣika	Kaṇāda	Categorization
Sāṃkhya	Kapila	Creation
Yoga	Patañjali	Consciousness
Mīmāṃsa	Jaimini	Action
Vedānta	Bādarāyaṇa	Contemplation

TABLE 1.2: The six systems of Hindu philosophy or Ṣaḍ Darśanās, their founders, and their fields of enquiry. Note darśana → viewpoint.

They are complementary but mutually supportive. For example, Sāṃkhya gives the theory, Yoga the practical methods, and Vedānta the experiential results that ensue when the discipline enjoined by these systems is followed. It is beyond the scope of this course to go any deeper into any of these systems, as their waters run deep.

Everything other than the Vedās and Vedāṅgās are called *smṛti*, meaning “what was remembered”.

1.10 Vocabulary

Sanskrit vocabulary is systematic and algorithmic. Knowing the *root* enables us to generate a whole corpus of words related to that root. We will examine roots of interest in a leisurely fashion as we progress through the course. The first root we will consider is *vid*.

1.10.1 The Root *vid*

The word *veda* comes from the root or dhātu *vid*, “to know.”⁷ It is related to the English verb *wit* in the sense of *wittingly* or *unwittingly*. When we comprehend something, we say, “I see”. In this sense, the Sanskrit root *vid* and the English word “video” are also related. Sanskrit words descended from this root include:

Saṃskṛta	English
veda (m) ^a	true or sacred knowledge
vidyā (f)	knowledge
veditavya (mfn)	to be known
vedya (mfn)	to be known
viddhi (v)	know
vidu (mfn)	intelligent
vidura	wise ^b
vidvān (m)	knower
viduṣī (f)	knower
vedānta (m)	vedānta = veda + anta; end of the vedās; ādi → beginning; anta → end
avidyā (f)	ignorance; non-knowledge

^aThe letters in parentheses have the following expansions: (m): masculine; (f): feminine; (n): neuter, for nouns; (v): verb.

^bAlso, a wise character in the *Mahābhārata*.

1.10.2 Sacred text: Muṇḍakopaniṣad

In the sacred text, the Muṇḍakopaniṣad (1.1.4), we encounter an interesting question-and-answer dialogue on knowledge. We will translate only one verse here:

तस्मै स होवाच ।

द्वे विद्ये वेदितव्ये इति ह स्म ब्रह्मविदो वदन्ति पराचैवापर च ॥ १.१.४ ॥

⁷The square root sign $\sqrt{}$ is a stylized letter “r” and stands for the word “radix” or root.

tasami sa hovāca |
 dve vidye veditavye iti ha sma brahmavido vadanti
 parā caivāparā ca || 1.1.4 ||

Saṃskṛta	English
tasmai	to him (Śaunaka, the student)
sa	he (the Ṛsī Āṅgiras, the teacher) said
hovāca	said
dve vidye	two kinds of knowledge are to be known
veditavye	
iti	thus
ha sma	indeed
brahmavido	the knowers of Brahman have said
vadanti	
parā caivāparā ca	parā caivāparā ca = parā + ca + eva + aparā + ca; the higher and also the lower

Two kinds of knowledge are to be known—so indeed the knowers of Brahman declare—the higher as well as the lower^a

^aThe Upaniṣad goes on to say that knowledge, even of the Vedās, is of the lower kind, which might be contrary to our expectations. For an interesting read, take a look at Swami Krishnanda's text, available in HTML [8] and PDF [9].

The conjunction ca → “and”. It usually occurs in the middle or even at the end of a verse or sentence. The word eva → “verily, also, even”, etc., and is used for emphasis. The word sma is classified as a *particle* and is usually inserted as a syllabic filler, often indicating a sense of the past, or the sense of “ever”, and to satisfy metrical constraints. More about this later.

This simple analysis should give you a flavour for what I call the *algebra of Sanskrit*. It involves simple addition, subtraction, and sandhi rules. Once you are so equipped, you are can start developing your capability of *deciphering meanings by decomposition of texts*.

1.11 The Pañca Bhutās or Five Elements

Underlying all intellectual effort of the ancient Hindus was their quest to solve the master problem of life, solving which, all other questions were answered. In the process, they analyzed and classified creation with a thoroughness and rigour that modern researchers would envy. Fundamental to this analysis was the human focus: the observer was analyzed along with the observed creation. One outcome of this study was a revealing classification about speech and language.

Five *elements* or bhūtās were recognized by the ancient Hindus: earth, water, fire, air and ether, graded in order of increasing freedom and subtlety.⁸ All physical creation was seen as arising from these five elements. In the human body, five organs of sense perception, pañca jñānedriyās, and five organs of action, pañca karmendriyās, were classified as each originating from one of the five bhūtās. This is shown in Table 1.3.

Bhūta	Element	Sense	Action
Pṛthvī	Earth	Smell	Excretion
Āpas	Water	Taste	Procreation
Agni	Fire	Sight	Speech
Vāyu	Air	Touch	Locomotion
Ākāśa	Ether	Hearing	Manual dexterity

TABLE 1.3: The five elements and their correspondence with the five modes of perception and five modes of action.

1.11.1 Speech as Fire-born

Speech and vision are *fire-born* according to this classification, and special emphasis was placed on seeing only good, and speaking only good, because of the destructive power of fire. It is noteworthy that the Tamil poet Tiruvalluvar in Tirukkural 129 has said

தீயினாற் சுட்டபுண் உள்ளாறும் ஆறாதே நாவினாற் சுட்ட வடு
 tiyinā cutṭa puṇ ullāum āṛādē
 nāvinār cutta vaḍu.

which means

A wound from fire will ultimately heal;
 But rarely does a wound caused by speech ever heal.

Interestingly, in English we have expressions like “he made a fiery speech that inflamed the passions of the audience”, indicating an implicit recognition of the fiery origin of speech and sound. Likewise, a statement like “he gave me a withering look,” seems to recognize that the sense of sight is also fire-born.

In the body, the fire element is associated with the maṇipura cakra in the lumbar spine, and the navel—associated with the solar plexus—on the front of the body. It was postulated that *a properly intoned sound will appear to issue from the navel*. While it may seem counter-intuitive, this assertion has withstood the test of time and of subjective experiential validation.

⁸Other ancient cultures like the Greeks and the Chinese also have similar classifications.

1.12 Prayer to Lord Hayagrīva

ज्ञाननदमयं देवं निर्मलस् स्फटिकाकृतिम् ।

आधारं सर्वविद्यानां हयग्रीवं उपास्महे ॥

jñānanda-mayaṃ devaṃ nirmalas sphaṭikākṛtim ।

ādhāraṃ sarvavidyānāṃ hayagrīvaṃ upāśmahe ॥

Saṃskṛta	English
jñāna	wisdom
ānanda	bliss
mayam	permeated (with)
devam	radiant
nirmalaḥ	nis → without; malaḥ → flaw/taint
sphaṭika	quartz crystal
ākṛtim	form or body
ādhāram	foundation or substratum
sarva	all
vidyānām	of knowledge (plural)
haya	horse
grīvam	neck or face
upāśmahe	we worship; upa → near; asmahe → are

We worship hayagrīva (Lord with the neck [and face] of a horse), who is the substratum of all knowledge, who is permeated with wisdom and bliss, and whose form is radiant like a flawless quartz crystal.

1.13 Peace Chant: Saha Nāvavatu

The Upaniṣads begin with śānti mantrās or “peace chants” which are recited at the beginning and the end of periods of study and contemplation. Some are common to more than one Upaniṣad while others are distinctive to a particular Upaniṣad.

ॐ ॥

सह नाववतु सह नौभुनक्तु सहवीर्यं करवावहै ।

तेजस्वि नावधीतमस्तु मा विद्विषावहै ॥

ॐ शान्तिः शान्तिः शान्तिः ॥

AUM

saha nāvavatu saha naubhunaktu sahavīryaṃ karavāvahai ।

tejasvi nāvadhītamastu mā vidviṣāvahai ॥

AUM śānti śāntiḥ śāntiḥ ॥

OM! May that [Brahman] protect us both (Teacher and Disciple);
 May that [Brahman] nourish us both;
 May we work in harmony with great vigour;
 May our study be illuminating and fruitful;
 May we not hate each other.
 OM ! Peace! Peace! Peace!

It is noteworthy that the ancients recognized that students can and do resent both the process of learning and the corrections emanating from their teachers. Human beings learn by making mistakes: there is no learning without errors. It is also natural to resent our errors as well as those who correct us. This subtle psychology was recognised, and the prayer enshrines the preventive invocation, “May we not hate each other.”

1.14 Books and online Resources

The [Sanskrit Documents](#) web site provides many important Sanskrit works online. We will delve later in the course into the formats in which the documents at this site are provided.

The book *The Wisdom of India* by the scholar Lin Yutang is once again in print and is available as an inexpensive paperback [10]. Anyone wishing to be educated in Indian culture and entertained at the same time will do well to read this book.

There are many books, in English and Indian languages, and online resources that are available to the keen student of Sanskrit. Many have been motivated by a desire to study the original spiritual teachings of India, rather than from a desire to learn a language or grammar for its own sake. This is similar to the aim of this course. These books and online web sites will be mentioned progressively in this course, as and when the need arises.

1.15 Quiz and Teaser

I intend the last section of each chapter to be an opportunity for you to reflect on what you have encountered in it, and also to extend—by your research and parallel reading—the ideas you have come across. At the very least it should be food for thought.

Have you ever wondered whether creatures have languages? Even if they cannot articulate sounds, and are constrained by their anatomy to the range of sounds they can make, could there be a repertoire of specific cries or calls that denote danger, fear, hunger, grief, joy, etc.? If you have encountered a flock of house sparrows taking their

mid-morning “tea break”, you will understand what I am getting at: a joyous outpouring of communal togetherness, as they rejoice and relax. Or have you heard a murder of crows grieving over the demise of a fellow member? Or been awakened by a parliament of owls hooting, and rending the midnight silence, as they feed and recycle Nature?

Humankind has been bequeathed a unique, programmable vocal apparatus that may be used to generate a vast range of sounds. Even more wondrous is the variety and character of languages that have evolved over time. From the crude sounds needed for the survival of the group, to the polished grammars of mature languages, the development and use of language seems to me to be one of the greatest achievements of the human species. What do you think? Can you imagine a world without language?

Each time you express a thought through the spoken or written word, spare a thought for the miracle of language that humankind is legatee to.

1.16 Closing Prayer

लोकाः समस्थाः सुखिनो भवन्तु ।

lokāḥ samasthāḥ sukhino bhavantu ।

May all the worlds be happy.

We will look at this and other prayers in greater detail and context as we progress through the course.

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Chapter 2

The Science of Sound

In the correct pronunciation of Om the sound proceeds from the navel, with a deep and harmonious vibration, and gradually manifests itself by stages at the upper part of the nostrils where the anusvāra or the candrabindu is sounded.

SWAMI SIVANANDA: *JAPA YOGA*

2.1 Sound, Hearing, and Speech

2.1.1 Importance

Because the human voice not only produces music, but also serves to communicate with others via language, the principles underlying human speech have been studied since ancient times. In India, the power of sound from the human voice—whether speech or music—was harnessed for spiritual purposes, and was therefore studied very seriously.

In our own day and age, the frequencies and durations of speech sounds, and their intelligibility, for example, are of vital interest to communication engineers. When a mobile telephone conversation takes place, the speech of one speaker is converted from sound to electricity. It is then chopped up using mathematics and transmitted as electronic signals. The same signals are then beamed, perhaps by satellite, to the other speaker's location, where the receiving mobile phone again uses mathematics to “un-chop” or re-assemble the electronic signal, and then converts the electricity again into sound.

This whole process must take place in such a way that the “amount” of signal being transmitted is minimized, so that the maximum number of telephone conversations can take place over a given channel. It cannot introduce too much delay either. And all this must be done without compromising the intelligibility or clarity of the speech. So, the study of the human voice is still an area of active research, *only the purpose is now different.*

2.1.2 Physics

The human hearing apparatus is tuned to hear *audible sounds* that are produced by pressure waves in the air that vibrate between 20 times and 20,000 times every second. This rate of vibration is termed the *frequency* of the sound, and the term “times per second” or “cycles per second” is given the unit *hertz*¹ and is abbreviated Hz.

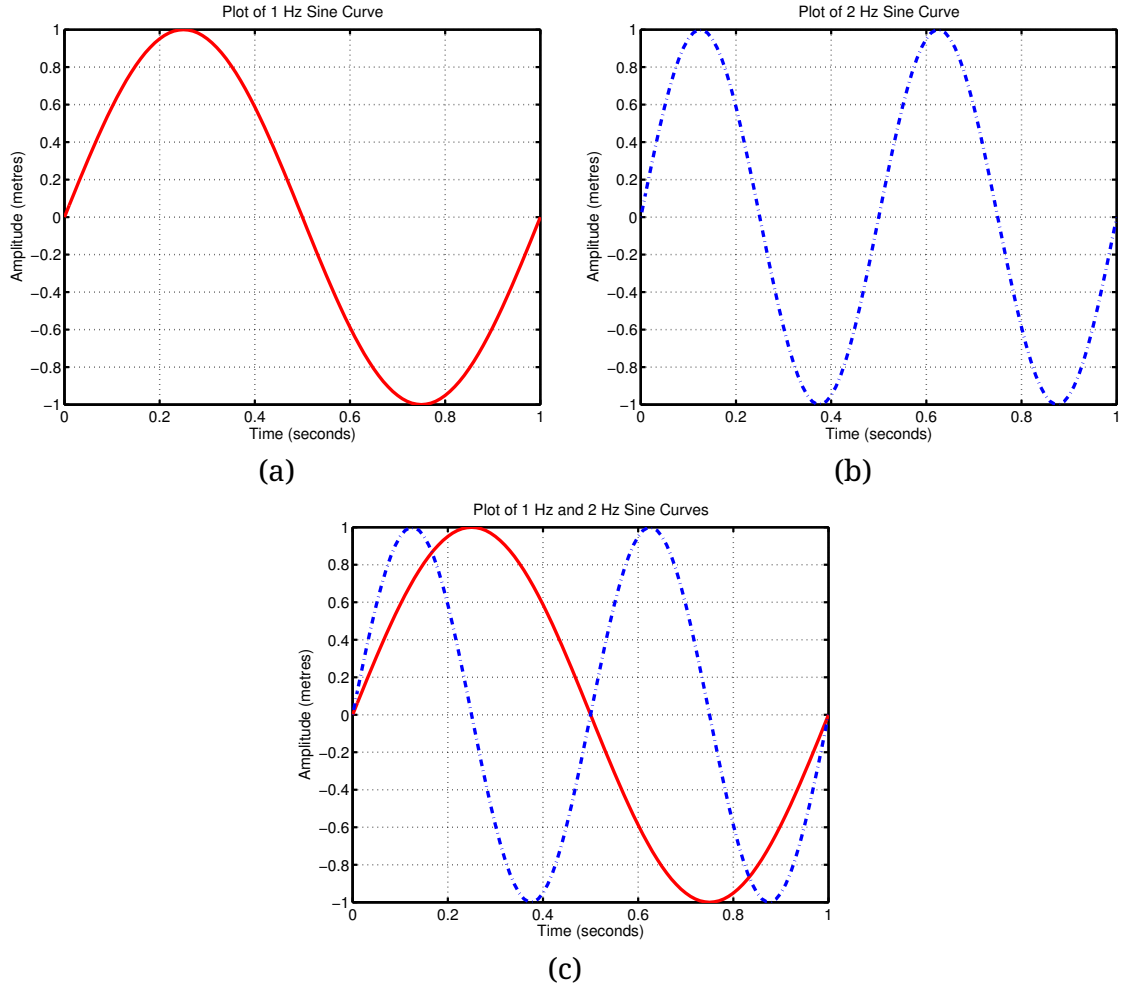


FIGURE 2.1: (a) Waveform of a 1 Hz sine wave. (b) Waveform of a 2 Hz sine wave. (c) Superimposed waveforms of a 1 Hz and 2 Hz sine wave. The 1 Hz and 2 Hz waves are inaudible.

Any sound below 20 Hz is termed *infrasound* and anything above 20,000 Hz is called *ultrasound*, and the human ear hears neither. Animals on the other hand are sensitive to both the very low and very high frequencies, as well as the audible frequencies. Domestic animals like chickens have been known to detect the very low frequency waves that precede an earthquake, and dogs and horses have been trained to respond to ultrasound.

In order to be audible, not only should the frequency be in the desired range, so should the intensity of the sound. We can hear quiet whispers as well as the ear-shattering

¹After the German physicist Heinrich Rudolf Hertz (1857–1894) who conducted pioneering experiments with radio waves.

roars of jet planes: a range of intensities whose ratio is 10^{14} , i.e., the number one appended with 14 zeroes, which is a very large range indeed!

The normal range of frequencies produced by the human voice—as speech and music—lies between 200 and 8,000 Hz. Telephone systems, which have a “passband” of 300 Hz to 3,400 Hz, must deliver sounds in this band of frequencies without detectable distortion or noise across large distances if intelligent conversation is to take place.

2.1.3 Metaphysics

Long before the term *big bang* was invented, the seers of India had pondered creation. The primal throb, the original impulse or movement, the subtlest primordial vibration that disturbed the equilibrium of the uncreated, leading to polarization and creation, they called spanda. The vibration that is perceived *after* creation, and *within* creation they called nāda. This highly technical term covers not only audible sound, produced when matter *strikes* matter, but also the subtle, non-physical sound called anata nāda, or the “unstruck sound,” that Yogis intuitively “hear.”

Vocabulary 1: Prefix for negation: a

In Sanskrit, a word is usually negated by prefixing “a” to it. If, however, the word begins with a vowel, the prefix for negation is “an”. Compare this with the prefixes “a”, “in”, and “un” in the English words *atypical*, *insensitive*, and *unimportant*.

Both hata and āhata mean “struck,” and the negation anata means “unstruck.” It comes from the root √han which means “to strike”. The *root* or dhātu will be indicated in these notes by the square root sign, as shown above. This symbol is really a stylized letter “r” standing for the word *radix* or *root*. This is in accord with existing convention.

The Bahasa Malaysia word *hantam* with the sense of “wallop” comes from this root, as does the English word *hunter*.

The lalitā trīśatī name sarva hantrī may be translated roughly as “huntress of all”, signifying devī as the destroyer of everything.

It is instructive at this point to quote from the scholar Dr Judith Tyberg [1], who writes:

Every sound in Sanskrit is said to have two aspects, the more audible sound and the subtler essential sound element behind, vibrant with the meaning natural to it. This vibrant sense-sound within is the real śabda or fundamental sound, also called sphaṭa. The outward audible sound, its instrument of expression is called dhvani or the external sound, a quality of śabda. The sphaṭa arises in the indivisible, permanent Spirit, and is eternally luminous with power and when the dhvani or the spoken word, its vehicle, is perfectly sounded within and without, it stimulates this inner vibrant

activity with the result that the power within responds and illuminates. “Itself luminous like a lamp, it illuminates others”, thus the great poet-grammarian bhartṛhari describes sphoṭa in his treatise vākyapadīya.

In this metaphysical view, the non-physical aspects of sound have been classified with the same impartial objectivity that typifies physics; only the quantitative aspect is missing.

2.1.4 The Human Voice: Music and Speech

It has been speculated² that speech arose to replace gesticulation as a means of communication when man needed to communicate “with his hands full” with some task or other. In time, this led to the “specialized pantomime of the tongue and lips” that we know today as speech [paget].

It is interesting to ponder whether the human voice was used to make speech or music first. When I first heard the chants of the sāma veda, they seemed to me to be an expression of the joy that came with the discovery that the human voice could be tamed and taught to make pleasing sounds far beyond primitive grunts. It was, literally, music to my ears.³

Speech, on the other hand, requires the intermediation of language, before communication can be established. The relationship between thought, language, speech, and script is complex and, in latter-day languages, constantly evolving. It is more likely therefore, that the human voice was first used to make music rather than speech.

2.1.5 Sound and Meaning

“The grammarians of Sanskrit assigned meanings to *root sounds* based on what they perceived to be a natural correspondence between a sound, śabda, and its śakti, or the power inherent in it” [1]. It may seem far-fetched for Sanskrit to claim this uniqueness between sound and meaning, given the multiplicity of the world’s languages. Rather than dismiss this claim outright, though, let us look at some further classification of sound from the sages of India.

2.1.6 The Four Stages of Manifestation of Sound

Swami Sivananda [2, p. xi] has explained that sound has four levels of manifestation:

1. para: The subtlest aspect of sound that is literally “beyond”. It is the non-audible, generic basis of all sounds and has not undergone differentiation.
2. paśyanti: Sound that is “seen” by the mind. The vibration, still inaudible, has begun to be purposefully focused.

²Paget [paget] quoted by Flanagan [fla65].

³It is also possible that the “aaahs” and “ooohs” of the sāma veda signify man’s inability to express in words the boundless joy that comes with the discovery of one’s self as the soul.

3. madhyama: Sound that resides in the heart, literally in the “middle” between the inaudible paśyanti state and the audible sound. This sound is also called anata as explained above.
4. vaikharī: Audible sound produced by human speech.

Each stage of sound has specific characteristics that are tabulated in Table 2.1.

Stage	Meaning	Manifests in	Subtle Seat	Physical Seat
para	Beyond	prāṇa	mūlādhāra cakra	Coccyx
paśyanti	Seen	manas	maṇipura cakra	Navel
madhyama	Middle	indriyāṇi	anata cakra	Heart
vaikharī	Audible	vāk	viśuddha cakra	Throat and Mouth

TABLE 2.1: The four stages of sound.

This gradation, from subtle to gross, is characteristic of the classification that pervades every aspect of Hindu thought. In his explanation, Swami Sivananda states that para sound is divine in origin and embodies the “root-ideas or germ thoughts,” but remains in an undifferentiated form. He also makes this remarkable assertion:

“Yogins who have subtle inner vision can experience the paśyanti state of a word which has colour and form, which is common for all languages and which has the vibrating homogeneity of sound. Indians, Europeans, Americans, Africans, Japanese, birds, beasts—all experience the same bhāvana of a thing in the paśyanti state of voice or sound. Gesture is a sort of mute subtle language. It is one and the same for all persons. Any individual of any country will make the same gesture by holding his hand to his mouth in a particular manner when he is thirsty. As one and the same power or śakti working through the ears becomes hearing, through the eyes becomes seeing and so forth, the same paśyanti assumes different forms of sound when materialized.” [2]

2.1.7 Akṣara and Varṇa

In their classification of sound, the ṛṣis distinguished between articulated sounds that denote speech, and sounds like the cry of a baby, the chirp of a bird, or of the rumble of thunder, which do not arise from deliberate human effort at speech. The former, they called varṇa, literally, “colour” and the latter they called dhvani. Each articulated syllable was called akṣara.

Vocabulary 2: kṣa

The term for syllable in Sanskrit is akṣara. Here we see the prefix for negation in action again.

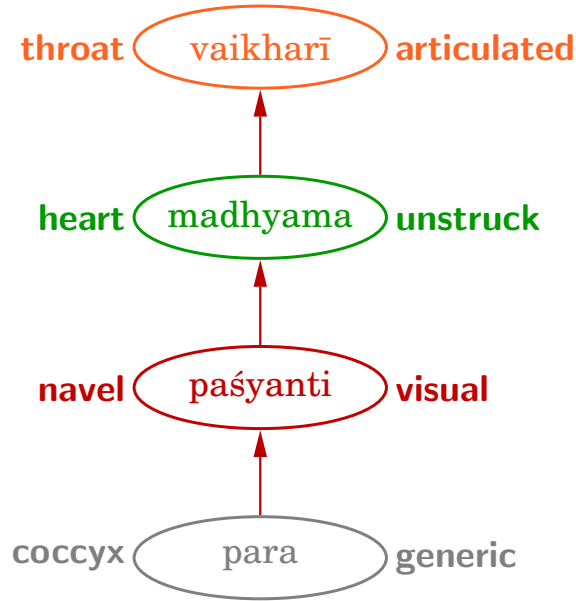


FIGURE 2.2: The four stages of sound, their seats and major attributes.

Only this time it is a because the original word begins with the *conjunct or compound consonant* kṣa:

$$a + kṣara = akṣara$$

The word kṣara means “subject to change or destruction; mutable, perishable”. Indeed, most words beginning with kṣa are related to *limitation in time* in some form or fashion. So akṣara means that which cannot be dissolved, or which cannot change or perish.

The table below shows a few other words beginning with kṣ:

samskṛta	English explanation
√kṣi	to perish
√kṣad.h	to cut
√kṣaN.h	to wound
√kṣam.h	to forgive, forbear
√kṣal.h	to wash off
√kṣar.h	to melt away
√kṣip.h	to throw
√kṣud	to crush
√kṣudh	to be hungry
√kṣvel	to jump
kṣaya (m)	decrease, loss
kṣaNa (m)	a moment in time

2.1.8 Varṇamālā

The Sanskrit alphabet is called varṇamālā which means “garland of colours”, or akṣaramālā, denoting a “garland of (imperishable) syllables.” Once again, the common igneous origin of sight and speech is apparent in the term varṇamālā. Indeed, different colours correspond to different rates of vibration of light. By using the word for colour to distinguish between the sounds of different vowels and consonants, the ṛṣis were uncannily sophisticated for their time, using the metaphor of sight to meaningfully describe sounds of *different spectral content*.

Discussion 1: akṣara

But why are syllables given this rather daunting definition? What is so immutable about sound?

The cosmology of Hinduism is clear that all creation proceeded out of *vibration*, prime among which is the *monosyllable*, or ekakṣara, Om̐. Being of divine origin, Om̐ is imperishable. All vibrations born of Om̐ are likewise imperishable. One needs to bear in mind constantly that the Sanskrit words for sound, light, colour, and movement or vibration may be used interchangeably in this context.

Justice Sir John Woodroffe, writing under the pen name of Arthur Avalon, was responsible for rendering into English a large treasure trove of Sanskrit literature, especially relating to mantra and tantra. One authoritative treatise on the science of mantra śāstra is his book *The Garland of Letters (Varṇamālā): Studies in the Mantra Shāstra* [3]. There is an online facsimile archive of this book [4] from which the following illuminating quotations are taken:

The natural name of any thing is the sound which is produced by the action of the moving forces which constitute it. He therefore, it is said, who mentally or vocally utters with creative force the natural name of anything brings into being the thing which bears that name. ...in all cases it is the creative thought which ensouls the uttered sound which works now man's small magic, just as it first worked in the grand magical display of the World-Creator. ...Each man is Shiva and can attain His power to the degree of his ability to consciously realise himself as such. Mantra and Devata are one and the same. By Japa the presence of the latter is invoked. Japa or repetition of Mantra is compared to the action of a man shaking a sleeper to wake him up. [4, pp 209–210]

Thus, by chanting a mantra we employ the same process by which God created the world. Such is the power of mantra.

On the monosyllable Om̐, he writes:

The ancient Hindus had an aptitude, much to be admired in these often verbose days, of saying a great deal in a few words. The Mantra “Om” is an instance. For this

short syllable contains a whole philosophy which many volumes would not suffice to state—an Eastern philosophy I may add which is gaining increased support from Western science. [4, p 214]

...The first Vibration which took place at the commencement of creation, that is, on the disturbance of the equilibrium (Vaishamyāvasthā) was a general movement (Sāmānya Spanda) in the whole mass of Prakriti. This was the Pranava Dhvani of Om Sound. It is not that the Sound is represented as it is by the Sound of the letters Om. Om is only the *approximate* representation or gross utterance to gross ear of the Subtle Sound which is heard in Yoga experience of the first movement which is continually taking place, for at each moment the creative movement is present. From out this general movement and Sound special movements (Visheshā Spanda) and Sounds arise. [4, p 239]

...The first equally distributed motion ...is Om, which is the great seed-mantra (Mahābīja)), for it is the source of all others and of all compounded Sounds. Just as Om is the general Sound, the other Bija Mantras are the particular Sounds which are the letters of the alphabet. These are evolved out of the general Sound which underlies all particular Sounds. Both the Ongkāra or Pranava and the Bija Mantras as pronounced by the mouth are thus the articulate equivalents of the inarticulate primal Dhvani. [4, p 240]

...For *Om* is sounded as from the navel with a deep rolling and continuous Sound ending at the upper part of the nostrils where the Chandrabindu is sounded. [4, p 241]

...Here the termination is M in the form of the nasal breathing called Chandrabindu (◌ं) which is Nāda and Bindu. The M which ends the Bīja is sounded nasally, high up in the bridge of the nose, and never reaches the lips. [4, p 241–242]

The preamble prayer for shrī lalitā trīśatī includes reciting certain bīja-mantras (bīja → seed) and touching the thumb and four fingers of each hand in a process called karamyāsam. Each of the pañca mahābhūtās is associated with a specific bījAkṣara as shown in Table 2.2:

Element	pañca mahābhūta	bījAkṣara
Earth	pṛthvī	laṃ
Water	āpas	vaṃ
Fire	agni	raṃ
Air	vāyu	yaṃ
Ether	ākāśaḥ	haṃ

TABLE 2.2: The bījAkṣaras corresponding to each of the five elements or pañca mahābhūtās.

The correspondence of the akṣaras with aspects of creation does not end with the macrocosm, but extends also to the microcosm. Each part of the human body is associated with certain seed syllables, which, when invoked, have a purificatory and vivifying power. The interested reader is referred to the monograph by Aryan [5].

2.1.9 Review

The triune aspects of creation as categorized by the ṛṣis are

1. consciousness;
2. energy; and
3. matter.

The discovery of the subtle, unstruck vibration behind material creation led to the perception of sound as a vehicle for divine power. The *consciousness-energy-matter* thread runs through all mantras. *By starting with an articulated sound embodying divine power, and tracing it back to its origin in the primal vibration, the ṛṣis gave man a secret method through which he could trace his way back to his source in God.* Thus a profound science underlies the Sanskrit alphabet: one that has the power to release man from his mortal bondage. A pictorial depiction of this process is given in Figure 2.3, which is similar to Figure 2.2, except that the arrows are reversed in direction.

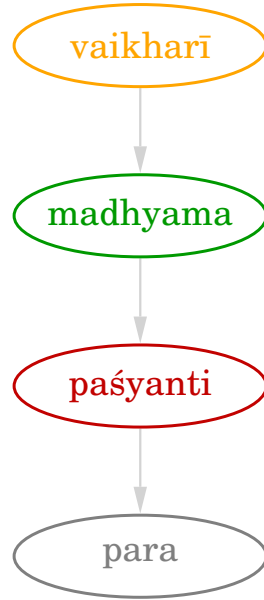


FIGURE 2.3: The reverse process to that shown in Figure 2.2. By tracing sound back to its source, man may find his way back to God.

Exploration 1: Vowels and Consonants

Before the next class, try to find out what distinguishes a *vowel* from a *consonant*.

2.2 To Explore Further

Links to various web sites are given in this section. As with all web-related material, the watchword is *caveat emptor*: buyer beware. The web is largely unregulated both in content and quality. One therefore has to be discerning about any material found

there. The links given below are generally interesting, but I do not necessarily endorse the views or viewpoints of specific authors, or the prevailing philosophies of the quoted web sites. Please keep this caution in mind as you surf the web and look at links suggested in these or future notes.

Also, do keep in mind that the web is ever-changing: old sites keep disappearing while new ones keep appearing.

A short but interesting account of the [life of Justice Sir John Woodroffe](#) [6] is available on the web. Although, not all his works are currently in print, online versions of some of his books exist. Chapter 25 of his book *Shakti and Shākta*, entitled “Varnamala,” is browsable at the [Sacred Texts](#) site [7]. His [chapter on “Mantra”](#) in the *Mahanirvāṇa Tantra* [8] is also available on the web. His classic treatise on the science of mantra, [The Garland of Letters](#) is archived online [4].

The late Shankaracharya of Kanipuram, Sri Chandrasekharendra Saraswati, also called the paramācārya, gave a large number of public discourses during his long life. A compilation of some of his talks is available online, including this discourse on [the four stages of sound](#) [9].

2.3 Prayer

वक्र तुण्ड महाकाय सूर्यकोटि समप्रभ ।
निर्विघ्नं कुरु मे देव सर्व कार्येषु सर्वदा ॥

vakra tuṇḍa mahākāya sūryakoṭi samaprabha |
nirvighnaṃ kuru me deva sarva kāryeṣu sarvadā ||

Samṣkṛta	English
vakra	curved, bent, crooked
tuṇḍa	trunk
mahā	large, great
kāya	body
surya	sun
koṭi	ten million, 10 ⁷
sama	equal
prabha	rays
nirvighnaṃ	nirvighnam = nis + vighnaṃ nis → without; vighnaṃ → obstacles
kuru	do, make
me	to me or for me; or of me, i.e., my
deva	radiant being, Lord
sarva	all
kāryeṣu	in activities
sarvadā	at all times, always

O Lord (Ganesha), with curved trunk, large body, and the radiance of ten million suns, (please) make free from obstacles all my activities at all times.

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Part II

Specific Scriptures