

KANNADA PHONETIC READER

U. P. UPADHYAYA

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CENTRAL INSTITUTE OF INDIAN LANGUAGES

MYSORE-6

KANNADA PHONETIC READER

CENTRAL INSTITUTE OF INDIAN LANGUAGES
PHONETIC READER SERIES-1

Editor
H. S. BILIGIRI

CIIL Phonetic Reader Series - 1

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U. P. UPADHYAYA



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First Published : *March 1972*

Chaitra 1894



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IIAS, Shimla

494.814152 Up 1 K



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47115

23.4.74

22.1.84

Price : Rs. 4

494.814 152
UP 1 K

Published at the Central Institute of Indian Languages, Mysore-6
by D. P. Pattanayak, Director and printed by V. B. Satyan
at Kapila Power Press, Nanjangud, Mysore State (India)

Foreword

The Central Institute of Indian Languages was set up on the 17th July, 1969 with a view to assisting and co-ordinating the development of Indian Languages. The Institute was charged with the responsibility of serving as a nucleus to bring together all the research and literary out-put from the various linguistic streams to a common head and narrowing the gap between basic research and developmental research in the fields of languages and linguistics in India.

The Institute and its four regional centres are thus engaged in research and teaching which lends to the publication of a wide-ranging variety of materials. Materials designed for teaching / learning at different levels and suited to specific needs is one of the major areas of interest in its series of publications. Basic research relating to the acquisition of language and study of language in its manifold psycho-social relations constitute another broad range of its interest. These materials will include materials produced by the members of the staff of the Central Institute of Indian Languages and its Regional Language Centres and associated scholars from Universities and Institutions both Indian and Foreign.

The Central Institute of Indian Languages has initiated the Phonetic Reader Series in Indian languages with a view to presenting the range of Phonetic variation obtaining in this sub-continent and demonstrating the closeness of languages on the basis of Phonetic patterning. These Readers are biased towards learning the sound systems of languages. Thus it is hoped that this series will be of interest to both scholars who are interested in Phonetic studies and to practical learners of languages who wish to make a beginning in their language study.

The language instructors in our Regional Language Centres who had to produce the instructional material while teaching intensive courses of $5\frac{1}{2}$ hours a day deserve to be treated with sympathy. Through their dedicated work these young scholars have made contributions which will go a long way in the emotional integration of the country. If this series even partially fulfils its objectives then our efforts will be amply rewarded.

Central Institute of Indian Languages
Manasagangotri, Mysore-6
22nd March 1972

D. P. PATTANAYAK
Director

P r e f a c e

Acquisition of a good pronunciation forms an important part of language learning, especially so if the learner is expected to teach the language he has learnt, to others. Firstly, the learner must acquire the capacity to recognise readily without any error the various speech sounds occurring in the language he is learning. Secondly, he must acquire the capacity to produce them with the help of his own vocal organs. Thirdly, he must acquire the capacity to produce the individual speech sounds he has learnt in sequences. In addition to these three skills, which may be sufficient to gain a good pronunciation, the learner, depending on his needs, has to get a mastery over the orthography of the language he is learning. This involves developing automatic associations between written forms and speech sounds.

The phonetic readers in this series have been designed with the above points in view. They are mainly intended to meet the needs of teachers who receive training in an Indian language other than their mother-tongue at the Regional Language Centres of the Central Institute of Indian Languages. These teachers are expected not only to learn the languages in question but also be able to teach it to their students when they return home.

Each reader consists of a brief exposition about the organs of speech and their functions. It also introduces some technical terms. Then each speech sound is described in detail giving the movements of the vocal organs. Each description is rounded off by the technical term for that sound. Certain sounds which may prove difficult to persons with certain language backgrounds are emphasised. The readers also contain drills for practice. A brief phonemic statement which meaningfully groups the sounds described in the preceding sections is also appended. A statement

about the correspondences between the phonemes of the language studied and the letters used in the conventional orthography comes at the end.

These readers have been tried out on two batches of teacher-trainees and have been revised in the light of experience that has been gained. It may be too much to claim that they are perfect. There are lacunae still to be filled up. The most conspicuous of these is the lack of any information on intonation. Suggestions for improvement are welcome and will be incorporated in the subsequent editions.

Though it is true that certain features of pronunciation can only be learnt with the aid of a teacher, the utility of such readers cannot be underestimated. It is hoped that these readers will be useful to even persons other than those for whom they are specifically intended.

H. S. BILIGIRI

Acknowledgement

The Southern Regional Language Centre had to prepare a series of teaching manuals when it launched intensive teaching programmes in the four southern languages. The phonetic readers were the earliest ones prepared in the series and form the companion volumes to the basic courses in the concerned languages. These readers were tried out on two batches of trainees at the centre.

Sincere thanks are due to Dr. D. P. PATTANAYAK for initiating the series and giving the general guidelines. Dr. H. S. BILIGIRI has patiently gone through the reader and his criticisms and suggestions helped a lot in improving the quality of the book. I am also thankful to my colleagues Smt. B. SHYAMALA KUMARI, Shri H. RAJARAM and Shri J. VENKATESHWARA SASTRY for the useful discussions. I had with them in designing the format and content of the readers.

Thanks are also due to Shri H. L. N. BHARATI for seeing this through the Press and to Shri V. B. SATYAN of the Kapila Power Press, Nanjangud for the neat printing of the book.

U. P. UPADHYAYA

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1

Contents

Foreword	...	v
Preface		vii
Acknowledgement		ix
0. Introduction		1
1. Articulation		3
1.1. Organs of Speech	...	3
1.2. Production of Speech Sounds		5
1.3. Classification of Speech Sounds		6
2. Description of Kannada Speech Sounds	...	9
2.1. Vowels	...	9
2.2. Consonants		15
2.2.1. Stops and Affricates		15
2.2.2. Aspirated Stops and Affricates		23
2.2.3. Nasals		25
2.2.4. Fricatives		28
2.2.5. Laterals		31
2.2.6. Flaps		32
2.2.7. Frictionless Continuants		32
3. Appendix		35
3.1. Phonetic Drills		35
3.2. A Note on Kannada Phonemics		46
3.3. Phoneme-grapheme Correspondence		49

Introduction

THE AIM OF this Phonetic Reader is to introduce the sound system of Kannada language to non-native speakers by providing descriptions of sounds with illustrative examples and drills. It is hoped that this will enable the learner to acquire the acceptable pronunciation of Kannada sounds.

An attempt is made here to describe the sounds of Kannada in simple and non-technical terms as far as possible so that an adult educated learner as well as a teacher can make use of this without much training in linguistics. Even when the technical terms are used the descriptions preceding it will enable the learner to understand such terms without any difficulty. Out of the descriptions and contrasting pairs given here a learner or teacher can select only those descriptions and pairs for intensive practice which pose problems to learners because of their specific language background. Hence it is hoped that this Reader will supply the basic material to be adopted for class-room practice as well as laboratory exercises.

The present Reader is divided into three parts. Part I gives a brief description of the vocal organs involved in the production of speech sounds for the correct understanding of articulatory processes. Part II gives a description of Kannada speech sounds — vowels and consonants — in terms of the movements of speech organs. Phonetic labels of the sounds and illustrations to show the occurrence of the sounds in different environments are also given. Part III contains contrastive pairs for ear-training and oral practice, a note on the phonemics of Kannada and phoneme-grapheme correspondence.

The speech form selected for this Phonetic Reader is the one used in the formal speech by the educated people of the southern

part of Mysore State. This form is very near to the written form of Kannada excepting in certain verbal terminations and morpho-phonemic changes. One important difference between the written form and the spoken form is dropping of certain vowels from the words containing more than two syllables. A double consonant preceding that vowel becomes single. In such words the vowel or the vowel and consonant optionally dropped in spoken language are given in brackets in the Reader. Learners may practice such words both with and without the sounds recorded within brackets. This will make the transition smooth from spoken to written form.

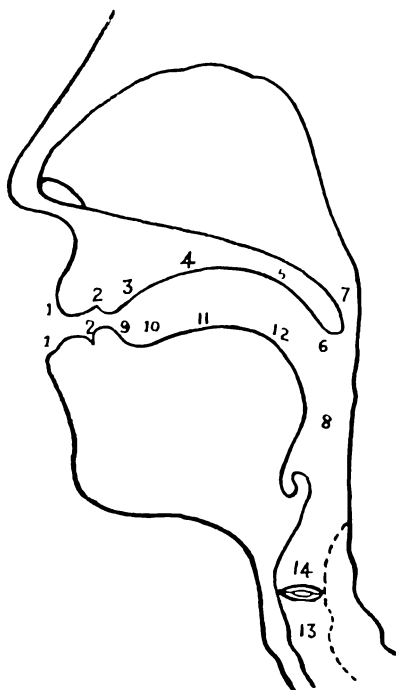
I. Articulation

1.1. Organs of speech

For a correct comprehension and articulation of speech sounds by a learner it is desirable that he must have some knowledge of the various speech organs involved in the production of speech sounds.

A profile of speech organs is given below.

- 1 Lips
- 2 Teeth
- 3 Teeth ridge
- 4 Hard palate
- 5 Soft palate
- 6 Uvula
- 7 Nasal passage
- 8 Pharynx
- 9 Tip of tongue
- 10 Blade of tongue
- 11 Front of tongue
- 12 Back of tongue
- 13 Larynx
- 14 Vocal cords



The organs involved in the production of speech sounds fall into two broad divisions namely articulators and points of

articulation. Relatively speaking articulators are movable organs whereas points of articulation are stationary organs. The articulators either touch or move in the direction of the points of articulation in the production of various speech sounds. The following are the organs taking part in the production of Kannada speech sounds.

- 1 Lips : The upper lip is the point of articulation. The lower lip is the articulator which can articulate against the upper lip or upper teeth.
- 2 Teeth : Only upper teeth take part in the production of speech sounds as point of articulation.
- 3, 4 and 5 : Roof of mouth consisting of teeth ridge, hard palate and soft palate. All these function as points of articulation. Different parts of tongue can articulate against them.
- 3 Teeth ridge : This is just behind upper teeth. The portion further back of this is known as alveolum.
- 4 Hard Palate : This is behind the teeth ridge and is the central part of the roof of mouth.
- 5 Soft Palate : This is at the back of the roof of mouth. This is also known as velum. This can be raised to close the nasal passage.
- 6 Uvula : This is a finger-like projection at the end of the soft palate.
- 7 Nasal
passage : By opening or closing this passage the air-stream can be made to pass through or not to pass through this passage.
- 8 Pharynx : This is the portion of throat from uvula to larynx. The air-current coming from lungs passes through this before it is made to escape through oral or nasal cavity.

- 9, 10, 11 and
 12 Tongue : This functions as articulator. Different parts of this can articulate against the roof of mouth or teeth.
- 9 Tip of
 tongue : This can articulate against teeth, teeth ridge or hard palate.
- 10 Blade of
 tongue : This can articulate against teeth ridge or hard palate.
- 11 Front of
 tongue : This can articulate against hard palate.
- 12 Back of
 tongue : This can articulate against soft palate.
- 13 Larynx : This is the upper portion of wind pipe. This houses vocal cords.
- 14 Vocal cords : These are two lip-like elastic membranes situated in the larynx. They can be brought together to produce vibration resulting in buzzing sound. A sound can be accompanied by this sound technically known as voice.

1.2. Production of speech sounds

In the production of speech sounds the air-current coming from lungs is obstructed in different ways by the articulation of organs mentioned above before it is finally allowed to pass through different the oral or nasal cavity. The manner in which the sounds are articulated is as follows :

- i) By making a contact of the articulator and the point of articulation the passing air-current is completely blocked for a moment, and on release rushes out suddenly. This may sometimes be accompanied by a puff of air. By lowering the soft palate when the articulator is still in contact with the point of articulation, the air-current may also be made to pass through nasal passage.

- ii) By narrowing the passage by bringing the articulator near the point of articulation, the air may be made to produce audible friction while escaping.
- iii) By closing the median line of the air-channel but leaving a free passage on both sides of the articulator the air-current may be made to pass through the sides.
- iv) An elastic organ may be made to tap against the point of articulation.
- v) By leaving the passage relatively unobstructed but by modifying the shape of the oral cavity by various movements of the tongue and lips the air-current may be made to pass through without hindrance.

The sounds thus produced can be accompanied by the vibration of vocal cords.

1.3. Classification of speech sounds

Speech sounds can be classified into two broad categories namely vowels and consonants.

Vowels: In the production of vowel sounds the air-current coming from lungs is allowed to go out without any obstruction in the mouth. But, by moving the various parts of tongue and by modifying the shape of lips the shape of the air chamber is changed producing thereby different vowel sounds. In the production of Kannada Vowels the vocal cords are vibrated and the nasal passage is closed.

The vowels can be sub-classified on the basis of the part of tongue raised or lowered, height to which the tongue is raised or lowered and the position of lips, whether rounded or spread.

Front Vowels: In the production of these the front of tongue is raised or lowered *e.g.*, i, e.

Central Vowels: In the production of these the centre of tongue is raised or lowered.

Back Vowels : In the production of these the back of tongue is raised or lowered e.g., u, o.

Similarly, based on the tongue height the vowels are classified as high vowels, mid vowels and low vowels ; and based on the lip position they are classified as rounded vowels and unrounded vowels. e.g.,

High vowels :	i, u
Higher-mid vowels :	e, o
Low vowel :	a
Rounded vowels :	u, o
Unrounded vowels :	i, e, a

Consonants : These are classified into stops, affricates, nasals, fricatives, laterals, flaps and continuants.

Stops : These are produced by closing the air passage by making a contact of the articulator and point of articulation. When the contact is released the enclosed air-current issues out suddenly with plosion.

Ex : p, t, ʈ, k, b, d, ɖ, g

Affricates : These are produced by the contact of the articulator and point of articulation just like stops. But the contact is released slowly such that a narrow opening is made for a moment and the air-current rushes out with friction.

Ex : c, j.

Aspirated stops and affricates : These are produced just like the stops and affricates described above, but the release is followed by a puff of air.

Ex : ph, bh, etc.

Nasals : These are produced by closing the oral passage just like stops. But when the contact is held the soft palate is lowered and the air-current passes through the nasal cavity.

Ex : m, n. etc.

Fricatives : These are produced when the oral passage is narrowed by moving the articulator near the point of articulation and allowing the air-current to squeeze through with friction.

Ex : s, ʃ.

Laterals : These are produced by closing the median line of the mouth and allowing the air-current to pass by either side of the tongue.

Ex : l, ɭ

Flaps : These are produced by the tapping of an elastic organ against the point of articulation.

Ex : r

Continuants : These are produced with the position of organs same as that for a fricative but with a weak breath force so that no friction is heard. These resemble vowels in their articulatory features.

Ex : y, w



2. Description of Kannada Speech Sounds

2.1. Vowels

2.1.1. [i] In the production of this sound the front of tongue is raised as high as possible towards the front of hard palate, but not to the extent of making a contact or causing friction. Lips are spread and the vocal cords vibrate. The soft palate is raised to close the nasal passage. This is known as high, front, unrounded short vowel.

Initial position

idu	‘this’	iru	‘to be’
illi	‘here’	illa	‘no’
iṣṭu	‘this much’	iw(a)nu	‘this person’
impu	‘pleasant to hear’ ‘melodious’	ikkeḍe	‘both sides’

Medial position

dina	‘day’	biḍu	‘to leave’
ninne	‘yesterday’	cinna	‘gold’
bis(i)lu	‘sun’s heat’	maj(ji)ge	‘butter milk’

Final position

uḷi	‘chisel’	tiḷi	‘to know’
daari	‘path’	suggi	‘harvest’
bas(u)ri	‘pregnant’	kasuuti	‘embroidery’

2.1.2. [ii] In the production of this sound the speech organs remain approximately in the same position as in the case of *i* described above. But it is here articulated for a longer duration. This sound is known as high, front, unrounded long vowel.

Initial position

iiga	‘now’	iiju	‘to swim’
iice	‘this side’	iiḍu	‘aim, pawn’
iiruḷḷi	‘onion’	iiḷ(i)ge	‘knife for cutting vegetables’

Medial position

niiru	'water'	ciila	'hand bag'
biidi	'street'	diipa	'lamp'
masiidi	'mosque'	rasiidi	'receipt'

Final position

idii	'the whole'	marii	'child!'
------	-------------	-------	----------

2.1.3. [e] In the production of this sound the front of tongue is slightly raised towards the hard palate but not as high as in the case of *i* described above, and the lower jaw slightly comes down to make the mouth slightly open. The lips are spread and the vocal cords vibrate. The soft palate is raised. This sound is known as higher-mid, front, unrounded short vowel.

In the initial position this sound is preceded by an audible *y* glide. The tongue first occupies the position for *y*. i.e. the middle of tongue moves towards the palate and then moves to the position required for the production of *e*

Initial position

^y eḍa	'left'	^y ella	'all'
^y ettu	'ox'	^y eṇṭu	'eight'
^y er(a)ḍu	'two'	^y eccara	'awake'

Medial position

medu	'soft'	gellu	'branch of tree'
kempu	'red'	kemmu	'cough'
heṇṇu	'female'	telugu	'Telugu language'

Final position

maḷe	'rain'	mane	'house'
kappe	'frog'	saṇte	'bazar, shandy'
keḷ(a)ge	'below'	beḷigge	'morning'

2.1.4. [ee] In the production of this sound the speech organs remain approximately in the same position as in the case of *e* described above, but articulated for a longer duration. This sound

is known as higher-mid, front, unrounded long vowel. In initial position it is preceded by a *y* glide as in the case of *e*

Initial position

<i>yeeḷu</i>	‘seven’	<i>yeeru</i>	‘to climb’
<i>yeeḍi</i>	‘crab’	<i>yeeṇi</i>	‘ladder’
<i>yeerpaadu</i>	‘arrangement’	<i>yeeḷ(i)ge</i>	‘growth, progress’

Medial position

<i>neera</i>	‘straight’	<i>keeri</i>	‘colony’
<i>beeli</i>	‘fence’	<i>teeru</i>	‘chariot’
<i>paṭeela</i>	‘village officer’		

Final position

<i>baaree</i>	‘come!’ (addressing a girl)
---------------	-----------------------------

Note :—The speakers of Indo-Aryan languages will find the difference between short *e* and long *ee* difficult to comprehend as they do not have short *e* in their languages. They are also not in the habit of pronouncing *y* glide before this vowel.

Note :—In the examples given in the following pages the *y* glide is not recorded.

2.1.5. [æ] In the production of this sound the tongue is lowered and the front of tongue is slightly raised. Lips are spread and vocal cords vibrate. The soft palate is raised. This is known as higher-low, front, unrounded long vowel. It occurs medially in certain English loan words as well as a few native words.

<i>bæḍa</i>	‘not wanted’	<i>bæṅku</i>	‘bank’
<i>kæmara</i>	‘camera’		

2.1.6. [u] In the production of this sound the back of tongue is raised towards the soft palate but not to the extent of making any contact or causing friction. The lips are rounded and the vocal cords vibrate. The soft palate is raised. This sound is known as high, back, rounded short vowel.

Initial position

ugi	'steam'	uḷi	'chisel'
udda	'long'	uṇḍe	'round mass'
uṅgura	'ring'	upparige	'upstairs'
uḍ(u)gore	'present'	uddeesa	'object'
			'intention'

Medial position

huli	'tiger'	mudi	'old'
tuppa	'ghee'	kukke	'basket'
huḍ(u)gi	'girl'	guṇḍu	'round'

Final position

koḍu	'to give'	iḍu	'to keep'
biiḷu	'to fall'	maatu	'speech'
kar(a)ḷu	'intestine'	mañju	'fog'

2.1.7. [uu] In the production of this sound the speech organs remain approximately in the same position as in the case of *u* but the articulation takes place for a longer duration. This sound is known as high, back, rounded long vowel.

Initial position

uuru	'village'	uudu	'to blow'
uuṭa	'meal'	uuna	'deformity'
uuhe	'conjecture'	uuṭe	'spring'

Medial position

buudi	'ashes'	kuugu	'call'
muug(u)ti	'nose-ring'	guube	'owl'
tuugu	'to weigh'	duura	'distance'

Final position

maguu	'child!'
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2.1.8. [o] In the production of this sound the back of tongue is slightly raised towards soft palate but not as high as in the case of *u* described above. The lower jaw slightly comes down and the lips are rounded. The vocal cords vibrate and the soft palate is raised. This sound is known as higher-mid, back,

rounded short vowel. In the word-initial position this sound is preceded by an audible *w*-glide. The tongue first occupies the position for *w* i.e. the back of tongue moves towards the palate (with the lips remaining rounded) and then moves to the position for *o*. This sound does not occur in the word final position.

Initial position

^w oge	‘to wash’	^w oṇa	‘dry’
^w oppu	‘to agree’	^w ottu	‘to press’
^w oṇdu	‘one’	^w omme	‘once’
^w oḷ (a) ge	‘inside’	^w oḍalu	‘body’

Medial position

koḍu	‘to give’	noga	‘yoke’
kollu	‘to kill’	jollu	‘saliva’
mos (a) ḷe	‘crocodile’	hog (a) ḷu	‘to praise’

2.1.9. [oo] In the production of this sound the speech organs remain approximately in the same position as in the case of *o* but articulate for a longer duration of time. This sound is known as higher-mid, back, rounded long vowel. In the initial position it is preceded by a *w*-glide as in the case of *o*.

Initial position

^w ooṭa	‘running’	^w ooti	‘chameleon’
^w ooḍu	‘to run’	^w oodu	‘to read’
^w ook(u)ḷi	‘coloured water’	^w oor(a)ṇa	‘line, row’

Medial position

kooti	‘monkey’	goodi	‘wheat’
nooḍu	‘to see’	mooḍa	‘cloud’
vinooda	‘fun’	beṇḍoole	‘ear-ring’

Final position

oohoo	‘a term of exclamation’	hoogoo	‘Go!’ (addressing a boy)
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The speakers of Indo-Aryan languages need special practice for these two sounds as they do not have short *o* in their languages and hence find it difficult to comprehend the difference between short *o* and long *oo*.

Note :—In the examples given in the following pages the *w* glide is not recorded.

2.1.10. [a] In the production of this sound the back of tongue is slightly lowered from its neutral position and the lips are kept neutral. The lower jaw comes down. Vocal cords vibrate and the soft palate is raised. This sound is known as higher-low, back, unrounded short vowel.

Initial position

adu	‘that’	aḍi	‘feet’
akki	‘rice’	alli	‘there’
añju	‘to fear’	aṅgaalu	‘palm of foot’
aw(a)ḷu	‘she’	ag(a)sa	‘washerman’

Medial position

paṣu	‘animal’	caḷi	‘cold’
gadde	‘field’	katti	‘knife’
rakkasa	‘demon’	baḍ(a)gi	‘carpenter’

Final position

hita	‘pleasant’	buḍa	‘bottom’
koḍa	‘pot’	hutta	‘ant hill’
huñja	‘rooster’	jip(u)ṇa	‘miser’

2.1.11. [aa] In the production of this sound the back of tongue occupies a position further lower than that for *a* described above. The articulation takes place for a longer duration of time. This sound is known as low, back, unrounded long vowel.

Initial position

aaru	‘six’	aame	‘tortoise’
aasti	‘land property’	aatma	‘soul’
aakaāsa	‘sky’	aacaara	‘custom’
aapattu	‘calamity’	aaspatre	‘hospital’

Medial position

gaadi	‘cart’	baadu	‘to fade’
gaan(i)ga	‘oil-miller’	baad(i)ge	‘rent’
vicaara	‘thought’	gulaabi	‘rose’

Final position

taa	‘bring!’
-----	----------

2.2. Consonants**2.2.1. Stops and affricates**

2.2.1.1. [p] In the production of this sound the air-current coming from lungs is stopped by making a contact of the lower lip against the upper lip. There is no vibration in the vocal cords. The soft palate is raised to close the nasal passage. When the lips are released the air escapes from the mouth with slight explosion. This sound is known as voiceless bilabial stop.

Initially before vowels

puṭa	‘page’	payru	‘crop’
paawu	‘one-fourth’	pañce	‘dhoti’
paay(a)sa	‘pudding’	poṭṭaṇa	‘packet’

Medially in between vowels

caape	‘mat’	diipa	‘lamp’
koopaa	‘anger’	kapaala	‘skull’

In gemination

kappe	‘frog’	uppu	‘salt’
tappu	‘wrong’	soppu	‘leaves’
oppige	‘consent’	uppaara	‘name of a caste’

In initial clusters

prapañca	‘world’	prayatna	‘effort’
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In medial clusters

aapta	‘trustworthy’	tap(a)le	‘a vessel’
tampu	‘cold’	impu	‘melody’
swalpa	‘little’		

2.2.1.2. [b] In the production of this sound the air current coming from lungs is stopped by making a contact of the lower lip against the upper lip. The vocal cords vibrate. The soft palate is raised. When the lips are released the air escapes from the mouth with slight explosion. This sound is known as voiced bilabial stop.

Initially before vowels

bisi	'hot'	buḍa	'bottom'
baaḍu	'to fade'	baṇḍe	'rock'
baggu	'to bow'	beṅki	'fire'
baṅgaara	'gold'	baḍaayi	'vanity, boast'

Medially in between vowels

guube	'owl'	saabi	'muslim'
jeebu	'pocket'	seebu	'apple'

In gemination

kabbu	'sugar cane'	hubbu	'eye-brow'
dabbu	'to push aside'	tabbuli	'orphan'
gubbacci	'sparrow'	hebbaaawu	'python'

In initial clusters

braammaṇa	'brahmin'
-----------	-----------

In medial clusters

śabda	'noice'		
gombe	'doll'	nambu	'to believe'
combu	'goblet'		

2.2.1.3. [t] In the production of this sound the air current coming from lungs is stopped by making a contact of the tip of tongue against upper teeth. The vocal cords do not vibrate and the soft palate is raised. When the contact is released the air escapes from the mouth with slight explosion. This sound is known as voiceless dental stop.

Initially before vowels

taḍe	'to stop'	tale	'head'
taṭṭe	'plate'	taṅgi	'younger sister'
teeru	'chariot'	teḷḷage	'thin'

Medially in between vowels

kate	‘story’	mata	‘opinion’
hita	‘comfortable’	miti	‘limit’
maatu	‘speech’	hoota	‘goat’

In gemination

hattu	‘ten’	suttu	‘around’
hottu	‘time’	mattu	‘and’
uttutte	‘dry dates’	hottaagi	‘late’

In initial clusters

tyaaga	‘sacrifice’	traasu	‘balance’
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In medial clusters

aatma	‘soul’	nitya	‘daily’
raatri	‘night’	ratna	‘jewel’
hasta	‘hand’	śistu	‘discipline’
kaṇte	‘bundle’	cin̥te	‘worry’
saṇte	‘shandy’	jaṇtu	‘creature’

2.2.1.4. [d] In the production of this sound the air current coming from lungs is stopped by making a contact of the tip of tongue with the upper teeth. The vocal cords are made to vibrate. The soft palate is raised. When the contact is released the air escapes from the mouth with slight explosion. This sound is known as voiced dental stop.

Initially before vowels

daḍa	‘shore’	dina	‘day’
diipa	‘lamp’	duura	‘distance’
daṇḍa	‘punishment’	daṭṭa	‘thick’
dalaali	‘broker’	daaṇḍiga	‘strong person’

Medially in between vowels

medu	‘soft’	adu	‘it’
biidi	‘street’	oodu	‘to read’
udaara	‘generous’	vinooda	‘fun’

In gemination

nidde	'sleep'	suddi	'news'
haddu	'vulture'	saddu	'noise'
uddu	'blackgram'	gaddala	'commotion, noise'

In initial clusters

drawa	'liquid'	dwaara	'door, threshold'
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In medial clusters

waadya	'musical instrument'	vidwaamsa	'scholar'
padma	'lotus'	nidre	'sleep'
hawdu	'yes'	aydu	'five'
arda	'half'	nildaana	'station'
o <u>n</u> du	'one'	ca <u>n</u> da	'beautiful'
bi <u>n</u> dige	'goblet'	sa <u>n</u> deeha	'doubt'

2.2.1.5. [ɖ] In the production of this sound the air-current coming from lungs is stopped when the tip of tongue is curled back and made to contact the roof of mouth. The vocal cords do not vibrate and the soft palate is raised. When the contact is released the air-current escapes from the mouth with slight explosion. This sound is known as voiceless retroflex stop.

Initially before vowels

to <u>ṅ</u> ge	'branch of tree'	to <u>ḷ</u> lu	'hollow'
to <u>o</u> pi	'cap'	ta <u>g</u> (a)ru	'ram'
ta <u>p</u> aalu	'mail'	ti <u>p</u> paṇi	'comment, note'

Medially in between vowels

gu <u>u</u> ṭa	'peg'	uu <u>ṭ</u> a	'meal'
ma <u>a</u> ṭa	'black-magic'	tu <u>ṭ</u> i	'lip'

In gemination

hi <u>ṭ</u> ṭu	'flour'	gu <u>ṭ</u> ṭu	'secret'
bu <u>ṭ</u> ṭi	'basket'	ka <u>ṭ</u> ṭe	'platform'
pe <u>ṭ</u> ṭige	'box'	i <u>ṭ</u> ṭige	'brick'

In medial clusters

caṭṇi	'a side-dish'	baaṭḷi	'bottle'
eṇṭu	'eight'	gaṇṭu	'bundle'
oṇṭe	'camel'	eṣṭu	'how much'

2.2.1.6. [ɖ] In the production of this sound the air current coming from lungs is stopped when the tip of tongue is curled back and made to contact the roof of mouth. The vocal cords are made to vibrate and the soft palate is raised. When the contact is released the air current escapes from the mouth with slight explosion. This sound is known as voiced retroflex stop. It is pronounced like a pure stop in initial position, in gemination and after homorganic nasal *ṇ*. In other positions, *i.e.*, in between vowels and in clusters with other consonants it is pronounced as a flap. The articulatory movement for this flap is same as that for *ɖ* but with this difference that the contact is in the form of a tap.

Initially before vowels

ḍabbi	'tin'	ḍoolu	'a drum'
ḍoṇku	'curved'	ḍaabu	'girdle'
ḍubba	'hump of ox'	ḍaṅgura	'proclamation'

Medially in between vowels (as a flap)

buḍa	'bottom'	naḍu	'middle'
hiḍi	'to hold'	gaḍi	'frontier'
duuḍu	'to push'	mooḍa	'cloud'

In gemination

kaḍḍi	'stick'	baḍḍi	'interest'
guḍḍa	'hillock'	heḍḍa	'stupid'
giḍḍa	'short'	aḍḍa	'across'

In medial clusters

jaaḍya	'dullness'	iḍḷi	'a dish'
baḍ(a)wa	'poor man'	guḍ(i)su	'to sweep'
kur(u)ḍa	'blind man'		
gaṇḍu	'male'	hiṇḍu	'to squeeze'
baṇḍe	'rock'	daṇḍane	'punishment'

2.2.1.7. [c] In the production of this sound the air-current coming from lungs is first stopped by making a contact of the blade of tongue against hard palate. The vocal cords do not vibrate and the soft palate is raised. When the contact is released the tongue is moved down slowly so that a narrow passage is made for a moment and the air-current escapes with friction. This sound is known as voiceless palatal affricate.

Initially before vowels

caḷi	'cold'	caṭa	'habit'
caape	'mat'	caaḍi	'tale-bearing'
cikka	'small'	caṇḍa	'beautiful'
carma	'skin'	coodya	'astonishment'

Medially in between vowels

ruci	'taste'	śuci	'clean'
aacaari	'carpenter'	vicaara	'thought'
baacaṇ(i)ge	'comb'		

In gemination

hucca	'mad man'	heccu	'more'
macce	'scar'	muccu	'to shut'
bec(ca)ge	'hot'	heccaagi	'mostly'

In clusters

praacya	'oriental'	naac(i)ge	'bashful'
mañca	'cot'	pañce	'dhoti'
sañcu	'conspiracy'	beñcu	'bench'

2.2.1.8. [j] In the production of this sound the air-current coming from lungs is first stopped by making a contact of the blade of tongue against hard palate. The vocal cords are made to vibrate and the soft palate is raised. When the contact is released the tongue is moved down slowly so that a narrow passage is made and the air-current escapes with friction. This sound is known as voiced palatal affricate.

Initially before vowels

jaḍe	'plait of hair'	jooḍi	'pair'
jaaṇa	'intelligent'	jooḷa	'javar'
jiṇke	'deer'	jagattu	'world'

Medially in between vowels

nija	'true'	raje	'leave, holiday'
saje	'punishment'	suuji	'needle'
meeju	'table'	puuje	'worship'

In gemination

ujju	'to rub'	kajji	'pimples'
ajja	'grand father'	majjige	'butter-milk'

In initial clusters

jwara	'fever'	jyooti	'light, brilliance'
jñaana	'knowledge'		

In medial clusters

vajra	'diamond'	vyaaḷya	'quarrel'
huṇja	'rooster'	baṇje	'barren woman'
maṇju	'mist'	aṇjike	'fear'

2.2.1.9. [k] In the production of this sound the air stream coming out of lungs is stopped by raising the back of tongue and making a contact with the soft palate. The vocal cords do not vibrate and the nasal passage is closed by raising the soft palate. When the contact is released the air-current escapes with slight explosion. This sound is known as voiceless velar stop.

Initially before vowels

kaḷe	'weed'	kaaḷu	'grain'
kaḷḷa	'thief'	kempu	'red'
kabbiṇa	'iron'	kammaara	'blacksmith'

Medially in between vowels

caaku	'knife'	saaku	'enough'
tuuka	'weight'	beeku	'wanted'
meeke	'ram'	baaki	'remaining'

In gemination

akki	'rice'	hakku	'authority'
bekku	'cat'	tikku	'to rub'
takka	'befitting'	cikka	'small, little'

In initial clusters

krama	'method'	kliṣṭa	'difficult'
kṣaṇa	'moment'		

In medial clusters

caakri	'service'	aykya	'union'
suṅka	'octroi'	beṅki	'fire'
jiṅke	'deer'	maṅka	'stupid'

2.2.1.10. [g] In the production of this sound the air current coming out of lungs is stopped by raising the back of tongue and making a contact with the soft palate. The vocal cords are made to vibrate. The nasal passage is closed by raising the soft palate. When the contact is released the air-current escapes with slight explosion. The sound is known as voiced velar stop.

Initially before vowels

giḍa	'plant'	gaja	'yard'
gaade	'proverb'	guuḷi	'bull'
guuṭa	'peg'	galiiju	'filthy'

Medially in between vowels

maga	'son'	sigu	'to obtain'
kaage	'crow'	siige	'soapnut'

In gemination

magga	'loom'	hagga	'rope'
moggu	'bud'	baggu	'to bow'

In initial clusters

graama	'village'	glaani	'depression of mind'
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In medial clusters

bhaagya	'fortune'	agra	'front'
baag(i)lu	'door'		
nuṅgu	'to swallow'	hiṅgu	'asafoetida'
muṅgaaru	'monsoon'	baṅgaara	'gold'

2.2.2. Aspirated stops and affricates

Aspirated stops and affricates are not very frequently found in Kannada. They are found mostly in Sanskrit borrowings and in a very few native words. Generally, in informal spoken language only unaspirated sounds are used. In formal speech as well as the standard written form the distinction is maintained.

2.2.2.1. [ph] This is pronounced exactly like *p* (cf. 2.2.1.1.) but the release is followed by an extra puff of air. This sound is known as aspirated voiceless bilabial stop.

phala	'fruit'	phalaka	'board'
kapha	'phlegm'	saphala	'successful'

2.2.2.2. [bh] This is pronounced exactly like *b* (cf. 2.2.1.2) but the release is followed by an extra puff of air. This sound is known as aspirated voiced bilabial stop.

bhaagya	'luck'	bhaaṣe	'language'
bhaya	'fear'	bhaawa	'brother-in-law'
bhaanuwaara	'Sunday'	bheeṭi	'meeting'
laabha	'profit'	sabhe	'meeting, conference'
prabhu	'lord'		
bhrame	'illusion'		

2.2.2.3. [th] This is pronounced exactly like *t* (cf. 2.2.1.3.) but the release is followed by an extra puff of air. This sound is known as aspirated voiceless dental stop.

theeṭu	'mere'		
	'exactly'		
artha	'meaning'	anaatha	'orphan'

2.2.2.4. [dh] This is pronounced exactly like *d* (cf. 2.2.1.4) but the

release is followed by a puff of air. This is known as aspirated voiced dental stop.

dhaanya	'grain'	dhana	'money'
dhuupa	'incense'	dhaare	'flow of water'
baadhe	'trouble'	adhikaara	'authority'
bandhana	'imprisonment'	spardhe	'competetion'
dhyaana	'meditation'	dhwaja	'flag'
dhwani	'sound'		

2.2.2.5. [ʈʰ] This is pronounced just like ʈ (*cf.* 2.2.1.5.) but the release is followed by a puff of air. This is known as aspirated voiceless retroflex stop.

ṭhaanya	'station, camp'	ṭhakku	'cheat'
ṭhiivi	'style, fashion'	ṭheewani	'deposit'
maṭha	'monastery'	paaṭha	'lesson'

2.2.2.6. [ɖʱ] This is pronounced just like ɖ (*cf.* 2.2.1.6) but the release is followed by a puff of air. This is known as aspirated voiced retroflex stop. It is pronounced as aspirated flap in between vowels. (*cf.* 2.2.1.6)

ɖhakke	'a drum'		
gaṇḍha	'thick'	ruuḍhi	'habit'
muuḍha	'dullard'		

2.2.2.7. [tʃʰ] This is pronounced just like c (*cf.* 2.2.1.7) but the release is followed by a puff of air. This is known as aspirated voiceless palatal affricate.

chattri	'umbrella'	chaaye	'shadow'
chinna	'broken'	chala	'deceit'
swaccha	'clean'	icche	'desire'

2.2.2.8. [jʱ] This is pronounced just like j (*cf.* 2.2.1.8) but the release is followed by a puff of air. This sound is known as aspirated voiced palatal affricate.

jhaaḍ(i)su	'to sweep'	jhari	'waterfall'
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2.2.2.9. [kh] This is pronounced just like *k* (cf. 2.2.1.9) but the release is followed by a puff of air. This is known as aspirated voiceless velar stop.

khaali	‘empty’	kheeda	‘sorry’
khariidi	‘purchase’	khuuni	‘murder’
khajaane	‘treasury’	kharjuura	‘date fruit’
sukha	‘happiness’	mukha	‘face’
khyaati	‘fame’	mukhya	‘important’
śaṅkha	‘conch’	sawkhya	‘safe’

2.2.2.10. [gh] This is pronounced just like *g* (cf. 2.2.1.10) but the release is followed by a puff of air. This sound is known as aspirated voiced velar stop.

ghana	‘hard, cubic’	ghaaṭu	‘strong smell’
ghoorā	‘terrific’	ghaṇṭe	‘bell’
meegha	‘cloud’	jaṅghe	‘lower lap’
śiighra	‘quick’		

2.2.3. Nasals

2.2.3.1. [m] In the production of this sound the air-current coming from lungs is blocked by making a contact of the lower lip against upper lip. The vocal cords vibrate. The nasal passage is opened by lowering the soft palate so that the air-stream can pass through the nasal cavity. This sound is known as bilabial nasal.

Initially before vowels

maga	‘son’	mane	‘house’
muḷḷu	‘thorn’	moggu	‘bud’
moosa	‘deceit’	maatre	‘tablets’
mad(u)ve	‘marriage’	mukkaalu	‘one-fourth’

Medially in between vowels

sama	‘equal’	aame	‘tortoise’
graama	‘village’	vimaana	‘aeroplane’

In gemination

emme	‘she-buffalo’	kammi	‘less’
tamma	‘younger brother’	kammaara	‘blacksmith’

In medial clusters

tampu	'cold'	kempu	'red'
bombe	'doll'		
taamra	'copper'		
sanmaana	'honour'	vaanmaya	'literature'
marma	'secret'	julmaane	'fine'
bhasma	'ashes'		

2.2.3.2. [ɳ] In the production of this sound the air-current coming from lungs is blocked by the contact of the tip of tongue against upper teeth. The vocal cords vibrate and the nasal passage is opened by lowering the soft palate so that the air current can pass through the nasal cavity. This sound is known as dental nasal. This occurs only in clusters with dental stops.

sante	'shandy'	ondu	'one'
	'village market'		
mente	'bishop's weed'	kante	'bundle'
kandu	'brown'		
yatna	'effort'	patni	'wife'

2.2.3.3. [ɳ] In the production of this sound the air-current coming from lungs is blocked by making a contact of the blade of tongue against the teeth ridge (alveolum). The vocal cords vibrate and the soft palate is lowered so that the air current can pass through the nasal cavity. This sound is known as alveolar nasal. This occurs in all positions except before dental stops and palatal affricates.

Initially before vowels

nari	'fox'	noga	'yoke'
nidde	'sleep'	nekku	'to lick'
nuṅgu	'to swallow'	nambu	'to believe'

Medially in between vowels

hani	'drop'	tene	'ear of corn'
heenu	'louse'	maana	'prestige'

In gemination

ninne	'yesterday'	bennu	'back'
sonne	'zero'	anna	'cooked rice'
cennaagi	'very well'	binnaaṇa	'elegance'

In initial clusters

nyaaya	'justice'
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In medial clusters

maanya	'respectful'	kan(a)su	'dream'
magna	'engrossed'	swapna	'dream'
mayna	'name of a bird'	mawna	'silent'

2.2.3.4. [ŋ] In the production of this sound the tip of tongue is curled back and made to touch the roof of mouth to block the air-current. The vocal cords vibrate and the soft palate is lowered so that the air-current can pass through the nasal cavity. This sound is known as retroflex nasal. This does not occur in initial position. It is pronounced like a flap when it occurs as a single sound in between vowels and before a non-homorganic consonant. The articulatory movement for this flap is same as that for *ŋ* but with this difference that the contact is in the form of a flap. This flap is called nasalized retroflex flap.

In between vowels (nasalized flap.)

haṇa	'money'	noṇa	'fly'
jaṇa	'intelligent'	gaṇa	'oil-mill'
maṇi	'jem'	gaṇi	'mine'

In gemination (nasal)

eṇṇe	'oil'	beṇṇe	'butter'
kaṇṇu	'eye'	maṇṇu	'mud'
aṇṇa	'elder-brother'	baṇṇa	'colour'

Before a homorganic consonant (nasal)

kuṇṭa	'lame'	neṇṭa	'relative'
aṇṭu	'gum'	baṇḍe	'rock'
beṇḍe	'okra'		

Before other consonants (nasalized flap)

jaaṇme	'intelligence'	meṇ (a) su	'pepper'
kaṇ (a) ja	'grannary'	kaṇ (i) ve	'valley'

2.2.3.5. [ṇ] In the production of this sound the air-current coming from lungs is blocked by the contact of the middle of tongue against the hard palate. The vocal cords vibrate and the soft palate is lowered so that the air-current can pass through the nasal passage. This sound is known as palatal nasal. It occurs only before palatal affricates.

miṇcu	'lightning'	kaṇcu	'bell-metal'
saṇcu	'conspiracy'	iṇcu	'inch'
saṇje	'evening'	huṇja	'rooster'

2.2.3.6. [ŋ] In the production of this sound the air current coming from lungs is blocked by the contact of the back of tongue against the soft palate. The vocal cords vibrate and the soft palate is lowered so that the air current escapes through nasal cavity. This sound is known as velar nasal. This occurs mostly before velar stops.

beṅki	'fire'	śaṅke	'doubt'
ḍoṅku	'curved'	suṅka	'octroi'
nuṅgu	'to swallow'	daṅge	'revolt'
taṅgi	'younger sister'	aṅga	'limbs'
vaaṇmāya	'literature'		

2.2.4. Fricatives

2.2.4.1. [f] In the production of this sound the lower lip is moved towards the upper teeth to form a narrow passage and the air current is forced out with friction through the narrow passage. The vocal cords do not vibrate and the soft palate is raised. This sound is known as voiceless labio-dental fricative. This occurs in some loan words only.

fænu	'fan'	fiisu	'fees'
fajiiti	'misery'		
kaafi	'coffee'	maafi	'excuse'

2.2.4.2. [s] In the production of this sound the blade of tongue is raised towards the alveolar ridge leaving a small narrow opening for the air-current to squeeze out. The vocal cards do not vibrate and the soft palate is raised. This sound is known as voiceless alveolar fricative.

Initially before vowels

sara	'necklace'	sose	'daughter-in-law'
sittu	'anger'	sullu	'false'
sal(a)ke	'rod'	sumaaru	'about'
			'approximate'

Medially in between vowels

hasu	'cow'	haasu	'to spread'
maasu	'to get faded'	soosu	'to filter'

In gemination

vayassu	'age'	bassu	'bus'
hummassu	'jubilation'		

In initial clusters

swapna	'dream'	stuti	'praise'
spardhe	'competition'	sneeha	'affection'
sthaana	'place'		

In medial clusters

sasya	'plants'	haasya	'humour'
bas(a)wa	'bull'	haas(i)ge	'bed, mattress'
ag(a)sa	'washerman'	gor(a)su	'hoof'

2.2.4.3. [ʃ] In the production of this sound the front of tongue is raised towards hard palate so as to leave a small narrow passage for the air-current to squeeze through. The vocal cords do not vibrate. The soft palate is raised. This sound is known as voiceless palatal fricative.

Initially before vowels

śaapa	'curse'	śarṭu	'shirt'
śakti	'strength'	śabda	'sound'

Medially in between vowels

naaśa	‘perish’	kalaaśa	‘sacred pot’
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In initial clusters

śrama	‘effort, fatigue’	śwaana	‘dog’
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In medial clusters

praśne	‘question’
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2.2.4.4. [ʃ] In the production of this sound the tip of tongue is curled back and raised towards hard palate leaving a small narrow passage for the air-current to pass through. The vocal cords do not vibrate and the soft palate is raised. This sound is known as voiceless retroflex fricative.

In many spoken dialects this sound is substituted by ś a palatal fricative.

Initially before vowels

śaṣṭhi	‘sixth’	śaraabu	‘liquor’
śooki	‘fashionable’		

Medially in between vowels

viśa	‘poison’	kaśaaya	‘decoction of medicinal herbs’
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In medial clusters

kaṣṭa	‘difficult’	naṣṭa	‘loss’
eṣṭu	‘how much’	aṣṭu	‘that much’

2.2.4.5. [h] In the production of this sound the oral passage remains unobstructed but there is friction in the glottis. This sound is known as glottal fricative.

Initially before vowels

holi	‘to stitch’	hage	‘enmity’
haalu	‘milk’	hakki	‘bird’
hattu	‘ten’	heddaari	‘highway’

Medially in between vowels

deeha	‘body’	uuhe	‘conjecture’
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In medial clusters

sahya	'tolerable'	arha	'deserving'
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2.2.5. Laterals

2.2.5.1. [l] In the production of this sound the median line of mouth is closed by the contact of the tip of tongue against the teeth ridge. The air-current is allowed to pass by either side of the tongue. The vocal cords vibrate and the soft palate is raised. This sound is known as voiced alveolar lateral.

Initially before vowels

lipi	'script'	laaya	'stable'
laaḍu	'a sweet dish'	laabha	'profit'
lagaamu	'bridle'	laṅgooṭi	'loin-cloth'

Medially in between vowels

beeli	'fence'	mola	'rabbit'
hola	'field'	bele	'price'

In gemination

halli	'lizard'	illi	'here'
mella	'slowly'	bella	'jaggery'
kallu	'stone'	mallige	'jasmine'

In medial clusters

palya	'vegetable'	halva	'a sweet dish'
kaal(u)ve	'canal'	kel(a)sa	'work'
naal(i)ge	'tongue'	jag(a)li	'verandah'

2.2.5.2. [ɭ] In the production of this sound the median line of the mouth is closed by curling back the tip of tongue and making it touch the roof of mouth. The air-current is allowed to pass by either side of tongue. The vocal cords vibrate. The soft palate is raised. This sound is known as voiced retroflex lateral. This does not occur in initial position.

Medially in between vowels

hoɭe	'river'	baɭe	'bangle'
koɭe	'dirt'	biɭi	'white'
baɭi	'side'	huɭi	'sour'

In gemination

ha i	'village'	be i	'silver'
ka a	'thief'	su u	'false'
be age	'whitish'		

In medial clusters

vii ya	'betal leaf'	paa ya	'camp of army'
ke (a)ge	'below'	ha (a)di	'yellow'
jag(a) a	'quarrel'	mos(a) e	'crocodile'

2.2.6. Flaps

2.2.6.1. [r] In the production of this sound the tip of tongue is tapped against the alveolum. The vocal cords vibrate and the soft palate is raised. This sound is known as alveolar flap.

Initially before vowels

reppe	'eye-lash'	reegu	'to get angry'
raṭṭe	'shoulder'	raṅgu	'colour'
rakta	'blood'	rupaayi	'rupee'

Medially in between vowels

karu	'calf'	nore	'foam'
mara	'tree'	uuru	'village'
jaaru	'to slip'	kere	'tank'

In gemination

karrage	'blackish'	girrane	'an onomato-poetic expression indicating circular action'
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In medial clusters

warṣa	'year'	carma	'skin'
kud(u)re	'horse'	maatre	'ta' lets'
jaatre	'fair'		

The stop consonant *ɖ* and the nasal *ɳ* are also pronounced like flaps in certain environments. (cf. 2.2.1.6. and 2.2.3.4.)

2.2.7. Frictionless Continuants

2.2.7.1. [w] In the production of this sound the back of tongue is raised and the lips are rounded. A narrow passage is left for

the air-current to pass through without audible friction. The vocal cords vibrate. The soft palate is raised. This sound is known as voiced bilabial frictionless continuant. This does not occur before *i* or *e* or *y*.

Initially before vowels

waara	'week'	waayu	'wind'
wana	'forest, garden'	waanti	'vomit'

Medially in between vowels

haawu	'snake'	bhaawa	'brother-in-law'
maawa	'father-in-law'	noowu	'pain'

In gemination

awwa	'mother'	yawwana	'youth'
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In medial clusters

sawṭu	'serving ladle'	pawnu	'sovereign'
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2.2.7.2. [v] In the production of this sound the back of tongue is raised and the lower lip approaches the upper teeth. A passage is left for the air-current to pass through without friction. The vocal cords vibrate. The soft palate is raised. This sound is known as voiced labio-dental continuant. This occurs only before *i*, *e* and *y*.

Initially before *i* and *e*

viṣa	'poison'	viraha	'separation'
veeṣa	'dress'	viiṇe	'a musical instrument'

Medially before *i* and *e*

kivi	'ear'	tivi	'to pierce'
baavi	'well'	kavi	'poet'

In initial clusters with *y*

vyaapaara	'business'	vyaakarāṇa	'grammar'
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In medial clusters with *y*

kaavya	'poem'	navya	'modern'
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2.2.7.3. [y] In the production of this sound the front of tongue is raised towards hard palate and the lips are spread. A passage is formed in between the tongue and the palate for the air-current to pass through without friction. The vocal cords vibrate and the soft palate is raised. This sound is known as voiced palatal continuant.

Initially before vowels

yaake	'why'	yaawa	'which'
yukti	'plan'	yatna	'effort'

Medially in between vowels

daya	'pity'	naya	'soft'
saayu	'to die'	beeyu	'to get cooked'
aayaasa	'fatigue'		

In gemination

koyyu	'to reap'	muyyi	'revenge'
kayyaare	'with own hands'		

In medial clusters

payru	'crop'	mayli	'mile'
payse	'paisa'		

3. Appendix

3.1. Phonetic Drills (Contrasting pairs)

3.1.1. Vowels (Vowel length) *i* and *ii*

iḍu	'to keep'	iiḍu	'equality, pawn'
itara	'other'	iitara	'this kind'
biḍu	'to leave'	biiḍu	'settlement'
bisi	'hot'	biisi	'having blown'

e and *ee*

eḷi	'to pull'	eeḷi	'get up !'
eḍi	'to peal'	eeḍi	'crab'
beḷe	'to grow'	beeḷe	'pulse'
keḍu	'to get spoiled'	keeḍu	'harm'
kere	'tank'	keere	'water snake'

a and *aa*

agi	'to bite'	aagi	'having become'
aḷu	'to weep'	aaḷu	'to rule'
aḍu	'to cook'	aaḍu	'to play'
baḷe	'bangle'	baaḷe	'banana'
bala	'strength'	baala	'tail'
gaḍi	'frontier'	gaaḍi	'cart'

u and *uu*

uḍu	'to wear'	uuḍu	'to yoke'
uru	'learning by rote'	uuru	'village'
muṛu	'ear-ring'	muuru	'three'
kuḍi	'to drink'	kuuḍi	'having joined'
kuḍ(i)su	'to feed'	kuuḍ(i)su	'to join'
	'to make one drink'		

o and oo

ole	'oven'	oole	'ear-ornament'
oḍi	'to break'	ooḍi	'having run'
koḍu	'to give'	kooḍu	'horn of animal'
toḍu	'to wear'	tooḍu	'to dig'
koḷi	'to rot'	kooḷi	'hen'

Tongue height and tongue position

i and e

illi	'here'	elli	'where'
iḷi	'to descend'	eḷi	'to pull'
kiri	'small, younger'	keri	'to scratch'
bikku	'to sob'	bekku	'cat'
katti	'knife'	katte	'donkey'
oṇṭi	'single'	oṇṭe	'camel'

ii and ee

iike	'this lady'	eeke	'why'
iita	'this man'	eeta	'an instrument to lift water'
biiga	'lock'	beega	'quick'
hiige	'like this'	heege	'how'
siiru	'egg of louse'	seeru	'to reach'

i and a

idu	'this'	adu	'that'
illi	'here'	alli	'there'
bisi	'hot'	basi	'to filter'
kiḍi	'spark'	kaḍi	'to cut'
holi	'to stitch'	hola	'field'
mari	'young one'	mara	'tree'
nari	'fox'	nara	'vein'
mud(u)ki	'old woman'	muduka	'old man'

ii and aa

iiga	'now'	aaga	'then'
iita	'this person'	aata	'that person'

kiiṭa	'insect'	kaaṭa	'trouble'
niila	'blue'	naale	'canal'
<i>i</i> and <i>u</i>			
ili	'rat'	uli	'to sound'
iḍu	'to keep'	uḍu	'to wear'
giri	'mountain'	guri	'aim'
tiḷi	'to know'	tuḷi	'to trample'
giḍḍa	'short'	guḍḍa	'mountain'
siḷḷu	'whistle'	suḷḷu	'false'
biḍi	'leave!'	biḍu	'to leave'
basuri	'pregnant woman'	basuru	'pregnancy'
<i>ii</i> and <i>uu</i>			
iiḍu	'equality, pawn'	uuḍu	'to smear'
iiṭi	'lance'	uuṭa	'meal'
iiḷige	'knife used for cutting vegetables'	uuḷiga	'work, wage'
niiru	'water'	nuuru	'hundred'
ciiru	'to cry out'	cuuru	'little'
<i>i</i> and <i>o</i>			
ide	'it is'	ode	'to kick'
ittu	'it was'	ottu	'to press'
iṇdu	'today'	oṇdu	'one'
tiḷi	'to know'	toḷi	'to wash'
hiḍi	'to hold'	hoḍi	'to beat'
tinnu	'to eat'	tonnu	'a skin disease'
dinne	'elevated place'	donne	'stick'
<i>ii</i> and <i>oo</i>			
iiḍu	'equality, pawn'	ooḍu	'to run'
niiḍu	'to give'	nooḍu	'to see'
miiṭu	'to pluck string, to lift'	mooṭu	'curved'
giiṭu	'line'	gooṭu	'hard, rough'

e and a

eḷi	'to pull'	aḷi	'to measure'
elli	'where'	alli	'there'
etta	'where'	atta	'that side'
eṇṭu	'eight'	aṇṭu	'gum'
beḷe	'crop, to grow'	baḷe	'bangle'
kere	'tank'	kare	'shore'
beṇḍe	'okra'	baṇḍe	'rock'
mare	'to forget'	mara	'tree'
taḍe	'prevention'	taḍa	'late'
maaḍ(i)de	'I did'	maaḍ(i)da	'he did'

ee and aa

eeru	'to climb'	aaru	'six'
eeke	'why'	aake	'she'
eeḍi	'crab'	aaḍi	'having played'
keeru	'to winnow'	kaaru	'to vomit'
beeḍu	'to beg'	baaḍu	'to fade'
heeru	'to load'	haaru	'to jump'
geeṇa	'span'	gaaṇa	'oil mill'
heege	'how'	haage	'like that'

e and o

ele	'leaf'	ole	'oven'
emme	'she buffalo'	omme	'once'
ettu	'to lift'	ottu	'to press'
edde	'I got up'	odde	'wet'
heḍe	'hood of serpent'	hoḍe	'to beat'
keḍu	'to get spoiled'	koḍu	'to give'
gellu	'to win'	golla	'cowherd'

ee and oo

eedu	'to pant'	oodu	'to read'
eeṇi	'ladder'	ooṇi	'street'

heeju	'to tell'	hooju	'piece'
keeđu	'ruin, harm'	koođu	'horn of animal'
geeni	'land rent'	gooni	'sack'
geeli	'redicule'	gooli	'small ball'
<i>e and u</i>			
eņne	'oil'	uņne	'wool'
eņtu	'eight'	uņtu	'it is'
keri	'to scratch'	kuri	'sheep'
teju	'thin'	tuju	'name of a language'
geddalu	'white-ant'	guddali	'pickaxe'
<i>ee and uu</i>			
eeru	'climb'	uuru	'village'
keeju	'to listen'	kuuju	'food'
<i>u and o</i>			
ugi	'steam'	ogi	'to wash clothes'
uppu	'salt'	oppu	'to agree'
uttu	'having ploughed'	ottu	'to press'
huli	'tiger'	holi	'to stitch'
kuļla	'short person'	koļlu	'to buy'
tuji	'to trample'	toji	'to wash'
<i>uu and oo</i>			
uudu	'to blow'	oodu	'to read'
uuṭa	'meal'	ooṭa	'race, running'
kuuđu	'to join'	koođu	'horn'
guuḍe	'basket'	gooḍe	'wall'
<i>u and a</i>			
ugi	'steam'	agi	'to bite'
uppu	'salt'	appu	'to embrace'
uḍige	'cloth'	aḍige	'cooking'
uļu	'to plough'	aļu	'to weep'
uduru	'to fall'	aduru	'to shake'

turi	'to grate'	tari	'to cut'
guṇḍu	'round'	gaṇḍu	'male'
bugge	'fountain'	bagge	'about'
huṇṇu	'pimples, wound'	haṇṇu	'fruit'
uddu	'black gram'	udda	'long'
koḍu	'to give'	koḍa	'pot'
huccu	'madness'	hucca	'madman'
<i>uu and aa</i>			
uuru	'village'	aaru	'six'
uuṭa	'meal'	aaṭa	'play'
kuuḍu	'to join'	kaaḍu	'forest'
huuḷu	'to bury'	haaḷu	'bad'
<i>o and a</i>			
ogi	'to wash clothes'	agi	'to bite'
oppu	'to agree'	appu	'to embrace'
koḷe	'dirt'	kaḷe	'weed'
koḍa	'pot'	kaḍa	'loan'
kobbu	'fat'	kabbu	'sugar cane'
doḍḍa	'big'	daḍḍa	'dullard'
<i>oo and aa</i>			
ooḍu	'to run'	aaḍu	'to play'
ooṭa	'running'	aaṭa	'play'
jooru	'fast'	jaaru	'to slip'
kooru	'to request'	kaaru	'to vomit'
gooḷi	'small ball'	gaaḷi	'wind'

3.2.1. Consonants

Contrasts of voiced vs voiceless stops

p and b

paḍi	'wage'	baḍi	'to beat'
paṭṭe	'silk'	baṭṭe	'cloth'
peeṭe	'bazar'	beeṭe	'hunting'

kappu	'black'	kabbu	'sugar cane'
uppu	'salt'	ubbu	'to swell'
impu	'melody'	imbu	'resting place'
kompe	'small village'	kombe	'branch of tree'

t and d

taḍa	'late'	daḍa	'shore'
tara	'kind'	dara	'rate'
tuuru	'to clean grain'	duuru	'to blame'
mata	'opinion'	mada	'arrogance'
aata	'he'	aada	'that which has become'
hattu	'ten'	haddu	'vulture'
kattu	'neck'	kaddu	'having stolen'
mattu	'and'	maddu	'madicine'
ettu	'ox, to lift'	eddu	'having got up'
har(i)ta	'sharp'	har(i)da	'torn'
aat(u)ra	'haste'	aad(a)ra	'respect'
aṇta	'like this'	aṇda	'beauty'
baṇtu	'it came'	baṇdu	'having come'
taṇtu	'thread'	taṇdu	'having brought'

ṭ and ḍ

taṭa	'shore'	taḍa	'late'
paṭu	'expert'	paḍu	'west'
nooṭu	'currency note'	nooḍu	'to see'
daṭṭa	'thick growth of trees'	daḍḍa	'dullard'
aṭṭa	'garret'	aḍḍa	'across'
aṇṭu	'gum'	aṇḍu	'to sow'
gaṇṭu	'bundle'	gaṇḍu	'male'

c and j

caaḍi	'tale-bearing'	jaaḍi	'jar'
caara	'messenger'	jaara	'paramour'

iice	'this side'	ijju	'to swim'
kaccu	'to bite'	kajji	'pimples, scab'
mañca	'cot'	mañju	'mist'
añce	'mail'	'añju	'to fear'

k and g

kaḍi	'to cut'	gaḍi	'frontier'
kuri	'sheep'	guri	'aim'
kere	'to scratch'	gere	'line'
kooḷi	'hen'	gooḷi	'small ball'
saaku	'enough'	saagu	'to proceed'
beeku	'wanted'	beega	'quick'
akka	'elder sister'	agga	'cheap'
sal(i)ke	'crow-bar'	sal(i)ge	'familiarity'
mañka	'stupid'	mañga	'monkey'
teñku	'south'	teñgu	'coconut'

Contrast of the points of articulation

p and t

paḍi	'wage'	taḍi	'to wait'
appa	'father'	atta	'that side'
kappe	'frog'	katte	'donkey'

b and d

bana	'forest'	dana	'cattle, cow'
seebu	'apple'	seedu	'to smoke'
ubbu	'to swell'	uddu	'black-gram'

t and ṭ

tagaḍu	'tin sheet'	ṭagaru	'ram'
katte	'donkey'	kaṭṭe	'platform around tree'
atta	'that side'	aṭṭa	'garret'
muttu	'pearl'	muṭṭu	'to touch'

d and *ɖ*

oodu	'to read'	ooɖu	'to run'
ede	'chest'	eɖe	'space in between'
addi	'having dipped'	aɖɖi	'hindrance'

ʃ and *c*

muʃʃu	'to touch'	muccu	'to shut'
aʃʃa	'garret'	acca	'pure'
paʃʃe	'silk'	pacce	'green'

ɖ and *j*

kaɖɖi	'stick'	kajji	'scab, pimples'
heɖɖa	'dullard'	hejje	'steps'
aɖɖa	'across'	ajja	'grand father'

c and *k*

caɭi	'cold'	kaɭi	'to deduct'
aace	'that sɟde'	aake	'that lady'
acca	'pure'	akka	'elder sister'

j and *g*

jari	'to slip'	gari	'feather'
jooɭa	'jawar'	gooɭa	'globe'
ajja	'grand father'	agga	'cheap'

Contrast for other consonants*m* and *n*

mara	'tree'	nara	'vein'
maga	'son'	naga	'jewel'
mari	'young one'	nari	'jackal'
amma	'mother'	anna	'cooked rice'
aame	'tortoise'	aane	'elephant'

m and *ɳ*

amma	'mother'	aɳɳa	'elder brother'
emme	'she-buffalo'	eɳɳe	'oil'

n and ṇ

aane	'elephant'	aaṇe	'conjurations'
mane	'house'	maṇe	'plank'
anna	'cooked rice'	aṇṇa	'elder brother'

s and ś

saayu	'to die'	śaayi	'ink'
sara	'necklace'	śara	'arrow'

ṣ and ṣ

śaapa	'curse'	ṣaṣṭi	'sixth day'
naaśa	'perish'	viṣa	'poison'

ś and ṣ

kasa	'dirt'	viṣa	'poison'
waasa	'residence'	veeṣa	'dress'

l and ḷ

ele	'leaf'	eḷe	'to pull'
huli	'tiger'	huḷi	'sour'
male	'mountain'	maḷe	'rain'
haalu	'milk'	haaḷu	'bad'
kaalu	'leg'	kaaḷu	'grain'
hoolu	'to resemble'	hooḷu	'portion'
kollu	'to kill'	koḷḷu	'to buy'
kallu	'stone'	kaḷḷu	'liquor'
halli	'lizard'	haḷḷi	'village'

w and y

kaawu	'heat'	kaayu	'to wait'
haawu	'snake'	haayu	'to gore'
noowu	'pain'	nooyu	'to pain'
awwa	'mother'	ayya	'sir'

ḍ ḷ and ṛ

koḍe	'umbrella'	koḷe	'dirt'	kore	'to bore'
kaaḍu	'forest'	kaaḷu	'grain'	kaaru	'to vomit'

aaḍu	'to play'	aaḷu	'to rule'	aaru	'six'
biiḍu	'settlement'	biiḷu	'to fall'	biiru	'to spread'
haaḍu	'to sing'	haaḷu	'bad'	haaru	'to jump'
tooḍu	'to dig'	tooḷu	'shoulder'	tooru	'to be visible'
keeḍu	'harm'	keeḷu	'to listen'	keeru	'to winnow'
uḍu	'to wear'	uḷu	'to plough'	uru	'rote'

c and s

caaku	'knife'	saaku	'enough'
aace	'that side'	aase	'desire'

Single vs geminated consonants

kate	'story'	katte	'donkey'
ede	'chest'	edde	'I got up'
giḍa	'plant'	giḍḍa	'short'
maga	'son'	magga	'handloom'
beṇe	'peg'	beṇṇe	'butter'
bele	'price'	bella	'jaggary'

3.2. A Note on Kannada Phonemics

An utterance is a sequence of sounds. These sounds are called phones, which are composed of distinct articulatory or phonetic features called their components. The sound *k* for example is a unit composed of features like velariness, voicelessness, stopness, etc. When the utterance is segmented into such phones we come across a multitude of sounds. But all of them do not act as different signals to distinguish one utterance from the other. If two phones occur in similar environment and contrast with each other and help to distinguish two utterances which are otherwise alike, we can consider that the difference between the two phones is distinctive. Otherwise, if the two phones occur in different environments whose distribution is conditioned or statable or complementary we can consider the difference between the two as non-distinctive and group the two sounds as belonging to one class or unit. Such a class or group of phones is called a phoneme in the phonological system of a language and the actual realization of that phoneme in the form of a phone is called the allophone or member of that phoneme.

For example, the nasals *n* *n* and *ṇ* are three different sounds phonetically. But they are in complementary distribution, *i.e.*, *ṇ* occurs before or after palatal affricates *c* and *j*, *n* occurs before or after dental stops *t* or *d* and *n* occurs in other environments. Hence their position of occurrence is determined by the context and hence the difference between these three sounds is non distinctive or not functional in Kannada. Hence these three sounds are considered as three allophones of a single nasal phoneme.

All sounds recorded in this Phonetic Reader represent different phonemes of Kannada Language with the following exceptions. The nasals *n* *n* and *ṇ* though described separately belong to one phoneme. The continuants *w* and *v* described separately belong to one phoneme. Similarly (i) Retroflex stop *ḍ* and its corresponding flap and (ii) the retroflex nasal *ṇ* and its corresponding nasalized flap also belong to single phonemes. They are not described under separate headings with different symbols as in the

case of \underline{n} n and \tilde{n} or w and v , but a note is given about their pronunciation in different positions of occurrence.

In addition to such major allophonic variations of phonemes, some minor variations may also be noticed here. All vowels have slightly long allophones when they occur in the word final position. The vowel a has an allophone pronounced with the tongue occupying little higher position before clusters and high vowels, etc., etc. Such minor allophonic details are not recorded in this Reader.

Phonemic system of Kannada Language

Vowels

i	ii	u	uu
e	ee	o	oo
(æ)	a	aa	

Consonants

p	t	ʈ	c	k
ph	th	ʈh	ch	kh
b	d	ɖ	j	g
bh	dh	ɖh	jh	gh
m	n	ɳ		ṇ
(f)	s	ʃ	ś	h
	l	ɭ		
v			y	

(Those put within parenthesis have only marginal status).

There are ten vowel phonemes (five short and five long) which show a three-way contrast of tongue height and tongue position. The front vowels are rounded and other vowels are unrounded. The vowels e , ee and o , oo are preceded by y and w glides respectively when they occur in the word initial position. All short vowels except o occur in all positions. The vowel o occurs in initial and medial positions only. Long vowels are mostly restricted to initial and medial positions. They occur in the final position of the following categories of words (i) monosyllabic words and (ii) polysyllabic words ending with vocative suffix and clitics (particles of emphasis, exclamation, etc.). A short vowel

occurring in the final position is pronounced half long. Nasalization of vowels is found in certain exclamatory expressions like *hũũ* and *hũũũ*. The vowel *æ* can be considered as a marginal phoneme because of its very limited occurrence in a few words. It has no grapheme in the orthography. Even when it occurs in some native words like *bæḍa* 'not wanted' it is written as well as pronounced as *ee* (*beeḍa*) in the standard language. There are no vowel clusters. The combinations like *ai* and *au* are considered as sequences of a vowel and continuant *y* and *v*. But these two sequences are represented by two separate symbols in orthography.

There are twenty stop consonants. (The affricates *c*, *j*, etc. are also grouped with stops because of their similar behaviour and distribution). The stops show a five way contrast of the point of articulation, a two-way contrast of aspiration and a two-way contrast of voicing. Aspiration is usually dropped in colloquial speech substituting an aspirated stop by an unaspirated stop. Phonetically there are six nasals. But dental, alveolar and palatal nasals *ṇ* *n* and *ṅ* are grouped together as allophones of a single nasal phoneme. The nasals *ṇ* and *ṅ* occur only in the environments of their homorganic stops whereas *n* occurs in other environments.

There are four fricatives-alveolar, retroflex, palatal and glottal. Of these the retroflex fricative *ʂ* is mostly replaced by the palatal fricative *ʃ* in most dialects. Labio-dental fricative *f* has a marginal status as it occurs only in certain borrowed words.

There are two laterals *l* and *ɭ*. Of these *ɭ* does not occur in initial position. Though there are three flaps phonetically, only one, namely *r* is phonemic. The other two, namely retroflex flap and nasalised retroflex flap are grouped with *ɖ* and *ɳ* respectively as allophones. They occur in intervocalic positions and in clusters with other consonants whereas the other sounds *ɖ* and *ɳ* occur in other environments. There are two continuants phonemically. Among the three continuants found phonetically, the two, namely *w* and *v* are grouped together as allophones of a single phoneme. The continuant *v* is restricted to the positions before *i* *e* and *ʌ* whereas *w* occurs in all other environments.

APPENDIX

3.3. Phoneme Grapheme Correspondence

3.3.1. Kannada Alphabet

ಅ	ಆ	ಇ	ಈ	ಉ	ಊ	ಋ	ೠ
a	aa	i	ii	u	uu	r	rr
ಎ	ಏ	ಐ	ಒ	ಓ	ಔ	ಅಂ	ಅಃ
e	ee	ai	o	oo	au	am	ah
	ಕ	ಖ	ಗ	ಘ	ಙ		
	ka	kha	ga	gha	ṅa		
	ಚ	ಛ	ಜ	ಝ	ಞ		
	ca	cha	ja	jha	ña		
	ಟ	ಠ	ಡ	ಢ	ಣ		
	ṭa	ṭha	ḍa	ḍha	ṇa		
	ತ	ಥ	ದ	ಧ	ನ		
	ta	tha	da	dha	na		
	ಪ	ಫ	ಬ	ಭ	ಮ		
	pa	pha	ba	bha	ma		
ಯ	ರ	ಲ	ವ	ಶ	ಷ	ಸ	ಹ
ya	ra	la	va	śa	ṣa	sa	ha
							ಳ
							ḷa

There are 50 letters (graphemes) in the writing system of Kannada. Most of them have more than one shape (allograph), the distribution of which is determined by their position of occurrence. The allographs occurring after space may be considered as primary and those occurring after other graphs may be considered as secondary.

Kannada writing system is phonemic to a very great extent. All the 43 phonemes discussed in the preceeding section are represented by separate graphemes. The presence of seven more graphemes is due to the following reasons :

- i) The two vowel graphemes r and r r are incorporated to accommodate the Sanskrit words containing these vowels. These are very rarely used.
- ii) The sequences *ay* and *av* are represented by two separate graphemes.
- iii) The palatal nasal *ñ* is represented by a separated grapheme though it is an allophone of *n*.
- iv) There is an additional nasal symbol *o* which can replace all nasals like *m n ṇ ñ* and *ṇ* when they occur before a consonant. It replaces *n ṇ ñ* and *ṇ* before a homorganic stop and *m* before a homorganic stop or any other consonants or in the word final position.
- v) There is another additional symbol to represent what is known as 'visarga' a glottal fricative occurring before a consonant. This is needed to accommodate Sanskrit loan words :

With the addition of these seven symbles the total number of graphemes comes to fifty.

3.3.2. Correspondences :

The table given below illustrates the phoneme grapheme correspondence in detail. Most of the graphemes have more than one form. In the case of vowels the form occurring after space is

called primary and the one occurring next to a consonant is called secondary. The form occurring next to a consonant is either tagged to the consonant form at the top or to the right of it or placed below the consonant form as can be seen from the examples given below.

In the case of consonants the form occurring after space or a vowel is called primary and the one occurring after another consonant as the second or third member of a cluster is called secondary. The secondary form of a consonant is written below the primary form. There are two exceptions to this.

- i) If the first member of a cluster is a nasal which is represented by a separate form the second member occurs in its primary form and placed next to the nasal symbol.
- ii) If *r* is the first member of a cluster its secondary form is put next to the form representing the second member of the cluster (which occurs in its primary form), as can be seen from the examples given below.

Phoneme	Grapheme	Example	Transcription	Gloss
	(a) Primary form			
	(b) Secondary form (s)			

Vowels:

/a/	(a) ಅ	ಅಗಸ	agasa	washerman
	(b) ಿ	ಕನಕ	kanaka	gold
	zero	ಬಲ	bala	strength
/aa/	(a) ಆ	ಆಗ	aaga	then
	(b) ಎ	ಕಾಗದ	kaagada	paper
/i/	(a) ಇ	ಇದು	idu	this
	(b) ಁ	ಗಿಡ	giḍa	plant
	zero	ಸಿಡಿ	sidi	to burst

/ii/	(a)	ಈ	ಈಗ	iiga	now
	(b)	ಕೀ	ಕೀಡ	kiiḍa	insect
/u/	(a)	ಉ	ಉದರ	udara	belly
	(b)	ಕುದುರೆ		kudure	horse
/uu/	(a)	ಊರು		uuru	village
	(b)	ಗೂಡು		guuḍu	nest
/e/	(a)	ಎಡ		eḍa	left
	(b)	ತೆರೆ		tere	to open
/ee/	(a)	ಏಕೆ		eeke	why
	(b)	ತೇಲು		teelu	to float
/o/	(a)	ಒಡವೆ		oḍave	jewel
	(b)	ಕೊಡಲಿ		koḍali	axe
/oo/	(a)	ಓಡು		ooḍu	to run
	(b)	ಕೋಡು		kooḍu	horn

Sequences – Diphthongs :

/ay/ ai	(a)	ಐದು	aydu	five
	(b)	ಜೈಲು	jayalu	prison
/av/ au	(a)	ಔಷಧಿ	awṣadhi	medicine
	(b)	ಚೌಕ	cawka	square

Additional vowel grapheme :

/ɾ/	(a)	ಋಷಿ	ṛṣi	saint
	(b)	ಕೃಷಿ	kṛṣi	cultivation

Consonants :

/k/	ಕ (ಕ)	ಕಡ	kaḍa	debt
-----	-------	----	------	------

		ಕಾಡು	kaaḍu	forest
		ಕಿಟಕಿ	kiṭaki	window
		ಕೀಟ	kiiṭa	insect
		ಕುಡಿ	kuḍi	to drink
		ಕೂಡು	kuuḍu	to join
		ಕೆಡು	keḍu	to get spoiled
		ಕೇಡು	keeḍu	loss
		ಕೊಡು	koḍu	to give
		ಕೋಡು	kooḍu	horn
		ಕೈದಿ	kaydi	prisoner
		ಕೌಶಲ	kawśala	skilfulness
		ಅಕ್ಕ	akka	sister
/kh/	ಖ (ಖ)	ಖನಿ	khani	mine
		ಖಾತೆ	khaate	department
/g/	ಗ (ಗ)	ಗಡಿ	gaḍi	frontier
		ಗಾಡಿ	gaaḍi	cart
		ಗಿಣಿ	giṇi	parrot
		ಗೀರು	giiru	to scratch
		ಗುಡಿ	guḍi	temple
		ಗೂಡು	guuḍu	nest
		ಗೆರೆ	gere	line
		ಗೇಣು	geeṇu	span
		ಗೊನೆ	gone	bunch
		ಗೋಡೆ	goode	wall
		ಗೈರು	gayru	fault

		ಗೌಡ	gowḍa	a caste
		ಹಗ್ಗ	hagga	rope
/gh/	ಘ (ಘ)	ಘಟ	ghaṭa	pot
/c/	(a) ಚ (ಚ)	ಚಳಿ	caḷi	cold
		ಜಾಪೆ	caape	mat
		ಚಿಗುರು	ciguru	sprout
		ಚೀರು	ciiru	to scream
		ಚುರುಕು	curuku	active
		ಚೂರು	cuuru	little
		ಜೆಲ್ಲು	cellu	to pour
		ಜೇಳು	ceeḷu	scorpeon
		ಜೊಕ್ಕು	cokka	neat
		ಜೋರ	coora	thief
		ಚೈತ್ರ	caytra	name of month
		ಜೌಕ	cawka	square
		ಹುಚ್ಚ	hucca	mad
/ch/	ಛ (ಛ)	ಛಲ	chala	fraud
		ಛಿನ್ನ	chinna	broken
/j/	ಜ (ಜ)	ಜಲ	jala	water
		ಜಾದು	jaadu	mesmerism
		ಜಿಗಿ	jigi	to jump
		ಜೀವ	jiiva	soul
		ಜುಗಾರು	jugaaru	gambling
		ಜೇಡ	jeeḍa	spider

		ಜೊತೆ	jote	with
		ಜೋಳ	joolā	jawar
		ಅಜ್ಜ	ajja	grandfather
/jh/	ಝ (ಝ)	ಝರಿ	jhari	river
/t/	ಟ (ಟ)	ಟಗರು	ṭagaru	ram
		ಟೀಕೆ	ṭiike	commentary
		ಟೊಳ್ಳು	ṭolḷu	empty
		ಬಟ್ಟೆ	baṭṭe	cloth
/th/	ಠ (ಠ)	ಠಕ್ಕು	ṭhakku	deceit
		ಠಾಣೆ	ṭaṇe	station, camp
		ಠೀವಿ	ṭhiivi	style
		ಠೇವಣಿ	ṭheevani	deposit
/ḍ/	ፍ (ಡ)	ಡಬ್ಬಿ	ḍabbi	tin, box
		ಡಾಬು	ḍaabu	girdle
		ಡಿಕ್ಕಿ	ḍikki	to butt
		ಡುಬ್ಬ	ḍubba	hunch
		ಡೇರೆ	ḍeere	tent
		ಡೋಲು	ḍoolu	drum
		ಅಡ್ಡ	aḍḍa	across
/dh/	ಢ (ಢ)	ಢಕ್ಕೆ	dhakke	a kind of drum
/t/	(a) ತ (ತ)	ತಡೆ	taḍe	obstacle
	(b) ಠ	ತಾಯಿ	taayi	mother
		ತಿಳಿ	tiḷi	to know
		ತಿರ	tiira	shore

		ತುಟಿ	tuṭi	lip
		ತೂತು	tuutu	hole
		ತೆನೆ	tene	ear of corn
		ತೇವ	teewa	dampness
		ತೊಡೆ	toḍe	thigh
		ತೋಳ	tooḷa	wolf
		ಹತ್ತು	hattu	ten
/th/	ಥ (ಥ)	ಥಟ್ಟು	thaṭṭu	heap
/d/	ದ (ದ)	ದರ	daḍa	shore
		ದಾರಿ	daari	way
		ದಿನ	dina	day
		ದೀನ	diina	pitiable
		ದುಡಿ	duḍi	to labour
		ದೂರ	duura	distant
		ದೇವ್ವ	dewwa	evil spirit
		ದೇಶ	deesha	country
		ದೊರೆ	dore	king
		ದೋಸೆ	doose	pan cake
		ಹದ್ದು	haddu	vulture
/dh/	ಧ (ಧ)	ಧನ	dhana	wealth
		ಧಾನ್ಯ	dhaanya	grain
		ಧೀರ	dhiira	courageous
		ಧೂಪ	dhoopa	incence
/p/	(a) ಪ (ಪ)	ಪದವಿ	padav	rank
	(b) ಪ (ಪ)	ಪಾಠ	paaṭha	lesson

			ಪಿಟೀಲು	piṭiilu	violen
			ಪೀಠ	pīṭha	seat
			ಪುಟ	puṭa	page
			ಪೂಜೆ	puuje	worship
			ಪೆಟ್ಟು	peṭṭu	beating
			ಪೇಟ	peeṭa	turban
			ಪೊದೆ	pode	bush
			ಪೊಲೀಸು	pooliisu	police
			ಪೈಜಾಮ	payjaama	trouser
			ಪೌರ	pawra	citizen
			ತುಪ್ಪ	tuppa	ghee
/ph/	(a)	ಫಿ (ಫ)	ಫಲ	pala	fruit
	(b)	ಫಿ (ಫ)	ಸ್ಫಟಿಕ	sphaṭika	crystal
/b/		ಬಿ (ಬ)	ಬಲ	bala	strength
			ಬಾಲ	baala	tail
			ಬಿಡು	biḍu	to leave
			ಬೀಡು	biiḍu	camp
			ಬುಡ	buḍa	bottom
			ಬೂದಿ	buudi	ashes
			ಬೆಣೆ	beṇe	peg
			ಬೇಟೆ	beeṭe	hunting
			ಬೋನು	boonu	trap
			ಹಬ್ಬ	habba	festival
/bh/		ಭಿ (ಭ)	ಭಯ	bhaya	fear
			ಭಾಷೆ	bhaaṣe	language

ಭೀತಿ	bhiiti	fear
ಭೂಮಿ	bhuumi	earth

Nasals

/ɳ/	ಞ (ಜ)	ವಾಙ್ಮಯ	vaaṁmaya	literature
/ɳ/ [ɳ]	ಞ (ಞ)	ಜ್ಞಾನ	jñaana	knowledge
[ɳ] & [ɳ] (a) ~ (ನ)		ನದಿ	nadi	river
(b) ~		ನಾಳೆ	naa e	tomorrow
		ನಿಜ	nija	truth
		ನೀರು	niiru	water
		ನುಡಿ	nuḍi	speech
		ನೂಲು	nuulu	thread
		ನೆಗಡಿ	negaḍi	cold
		ನೇಗಿಲು	neegilu	plough
		ನೊಗ	noga	yoke
		ಅನ್ನ	anna	cooked rice
/ɳ/	ಣ (ಣ)	ಹಣ	haṇa	money
		ಮಣಿ	maṇi	jewel
		ಗೇಣು	geenu	span
		ಹಣೆ	haṇe	forehead
		ಅಣ್ಣ	aṇṇa	elder brother
/m/	(a) ಮ (ಮ)	ಮನೆ	mane	house
(b)	ೞ	ಮಾತು	maatu	speech
		ಮಿತ	mita	limited
		ಮೀನು	miinu	fish
		ಮುಖ	mukha	face

ಮೂಗು	muugu	nose
ಮೆದೆ	mede	heap
ಮೇಲೆ	meele	above
ಮೊತ್ತ	motta	total
ಮೋಡ	mooḍa	cloud
ನಮ್ಮ	namma	our

Other Consonants

/y/	(a)	ಋ (ಯ)	ಯತ್ನ	yatna	effort
	(b)	ೞ	ಯಾರು	yaaru	who
			ಯುಕ್ತ	yukta	proper
			ಯೋಧ	yoodha	warrior
			ಕೊಯ್ಯ	koyyu	to reap
/r/	(a)	ಠ (ರ)	ರಕ್ತ	rakta	blood
	(b)	ಠ	ರಾಶಿ	raasi	heap
		ಠ	ರಿತಿ	riiti	method
			ರುಜು	ruju	signature
			ರೂಪ	ruupa	beauty
			ರೆಕ್ಕೆ	rekke	wing
			ರೇಗು	reegu	to get angry
			ರೊಟ್ಟಿ	rotṭi	bread
			ರೋಮ	rooma	hair on body
			ಕರ್ರಗೆ	karrage	blackish

Note:—When followed by another consonant it has an allograph ಠ which is put after the following consonant. This is an exception to the general rule that the first member of the cluster occurs in the primary allograph and the second member occurs in its secondary allograph.

ಸೂರ್ಯ	suurya	sun
ಕಾರ್ಯ	kaarya	work

/l/	(a)	ಲ (ಲ)	ಲತೆ	late	creaper
	(b)	ಲ	ಲಾಗ	laaga	somersault
			ಲಿಪಿ	lipi	script
			ಲೀಲೆ	liile	sport
			ಲೆಕ್ಕ	lekka	account, sum
			ಲೋಕ	looka	world
			ಅಲ್ಲ	alla	not
/v/ [w]	(a)	ಎ (ವ)	ವನ	wana	forest
	[v] (b)	ವ	ವಾರ	waara	week
			ವಿಚಾರ	vicaara	consideration
			ವೇಷ	veesha	dress
			ಅವ್ವ	awwa	mother
/ʃ/		ಶ (ಶ)	ಶಬ್ದ	śabda	noice
			ಶಾಲೆ	śaale	school
			ಶೂರ	śuura	hero
/ʃ/	(a)	ಷ (ಷ)	ಷರಾಬು	śaraabu	liquor
	(b)	ಷ	ಇಷ್ಟು	iṣṭu	this much
			ಶಿಕ್ಷೆ	śikṣe	punishment
/s/	(a)	ಸ (ಸ)	ಸರ	sara	necklace
	(b)	ಸ	ಸಾಲ	saala	debt
			ಸಿಗು	sigu	to obtain
			ಸೀಗೆ	siige	soapnut
			ಸುತ್ತ	sutta	around
			ಸೂಜಿ	suuji	needle
			ಸೇಡು	seedu	revenge
			ಸೋಗು	soogu	pretension
			ಬಸ್ಸು	bassu	bus

/h/	ಹ (ಹ)	ಹಗ್ಗ	hagga	rope
		ಹಾರು	haaru	to jump
		ಹಿರಿ	hiri	big, elder
		ಹೀಗೆ	hiige	like this
		ಹೆಡೆ	heḍe	hood
		ಹೇಗೆ	heege	how
		ಹೊಡೆ	hoḍe	to beat
		ಹೋಗು	hoogu	to go
/l/	ಳ (ಳ)	ಹುಳ	huḷa	insect
		ಮಳೆ	maḷe	rain
		ಸುಳ್ಳು	suḷḷu	false
/nasal/	ೞ	ಅಂಗ	aṅga	limb
		ಮಂಚ	maṅca	cot
		ಗಂಡ	gaṇḍa	husband
		ಅಂದ	anda	beautiful
		ಇಂಪು	impu	melodious
		ಅಂಶ	aṁśa	portion
visarga	:	ದುಃಖ	duhkha	misery

To record consonants without any vowel to follow the symbol ʼ is put on the top.

ಕʼ k ಗʼ g etc.

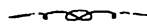
If ನೆ (n) occurs in the final position of a word without any vowel to follow a special symbol ʼ is used. Ex. ರೋಮʼ rooman Roman.

Additional examples for commonly used clusters.

kt	ಕ್ತ	ರಕ್ತ	rakta	blood
ky	ಕ್ಯ	ವಾಕ್ಯ	waakya	sentence
kr	ಕ್ರ	ಚಕ್ರ	cakra	wheel

kl	ಕ್ಲ	ಕ್ಲೇಶ	kleeśa	misery
kṣ	ಕ್ಷ	ಕ್ಷಮೆ	kṣame	excuse
gn	ಗ್ನ	ಅಗ್ನಿ	agni	fire
gm	ಗ್ಮ	ಯುಗ್ಮ	yugma	pair
gy	ಗ್ಯ	ಆರೋಗ್ಯ	aaroogya	health
gr	ಗ್ರ	ಗ್ರಹಣ	grahaṇa	eclipse
gl	ಗ್ಲ	ಗ್ಲಾನಿ	glaani	depression of mind
cy	ಚ್ಯ	ಸೂಚ್ಯ	suucya	hinted
jy	ಜ್ಯ	ತ್ಯಾಜ್ಯ	tyaajya	to be abandoned
jr	ಜ್ರ	ವಜ್ರ	wajra	diamond
tk	ತ್ಯ	ತಾತ್ಕಾಲಿಕ	taatkaalika	temporary
tp	ತ್ಪ	ತಾತ್ಪರ್ಯ	taatparya	substance, meaning
ty	ತ್ಯ	ತ್ಯಾಗ	tyaaga	sacrifice
tr	ತ್ರ	ಪತ್ರ	patra	letter
ts	ತ್ಸ	ಉತ್ಸಾಹ	utsaaha	enthusiasm
dg	ದ್ಗ	ಉದ್ಗಾರ	udgaara	ejaculation, exclamation
dy	ದ್ಯ	ಖಾದ್ಯ	khaadya	eatable
dr	ದ್ರ	ದರಿದ್ರ	daridra	poor
dv	ದ್ವ	ದ್ವಿತೀಯ	dvitiiya	second
ṭy	ಟ್ಯ	ನಾಟ್ಯ	naaṭya	dance
ḍl	ಡ್ಲ	ಇಡ್ಲಿ	iḍḷi	a dish
pt	ಪ್ತ	ಆಪ್ತ	aapta	trustworthy
pn	ಪ್ನ	ಸ್ವಪ್ನ	swapna	dream
pr	ಪ್ರ	ಪ್ರಥಮ	prathama	first
pl	ಪ್ಲ	ವಿಪ್ಲವ	viplawa	turmoil

br	ಬ್ರ	ಬ್ರಾಹ್ಮಣ	braahmaṇa	brahmin
ṇy	ಣ್ಯ	ನಾಣ್ಯ	naaṇya	coin
ṇm	ಣ್ಮ	ಜಾಣ್ಮೆ	jaaṇme	intelligence, cleverness
ny	ನ್ಯ	ನ್ಯಾಯ	nyaaya	justice, proper
nv	ನ್ವ	ಅನ್ವೇಷಣೆ	anveesaṇe	search
my	ಮ್ಯ	ಗ್ರಾಮ್ಯ	graamyā	rustic
mr	ಮ್ರ	ತಾಮ್ರ	taamra	copper
ml	ಮ್ಲ	ಆಮ್ಲ	aamla	sourness
lp	ಲ್ಪ	ಅಲ್ಪ	alpa	little
ly	ಲ್ಯ	ಪಲ್ಯ	palya	vegetable
śc	ಶ್ಚ	ಆಶ್ಚರ್ಯ	aścarya	wonder
śy	ಶ್ಯ	ವೇಶ್ಯ	veeśye	harlot
śr	ಶ್ರ	ಮಿಶ್ರ	miśra	mixed
ṣp	ಷ್ಪ	ಪುಷ್ಪ	puṣpa	flower
ṣy	ಷ್ಯ	ಆಯುಷ್ಯ	aayuṣya	age
st	ಸ್ತ	ಹಸ್ತ	hasta	hand
sp	ಸ್ಪ	ಸ್ಪಂದನ	spandana	vibration
sy	ಸ್ಯ	ಸಸ್ಯ	sasya	plants
sr	ಸ್ರ	ಸಹಸ್ರ	sahasra	thousand
hy	ಹ್ಯ	ಬಾಹ್ಯ	baahya	outer
hr	ಹ್ರ	ಹ್ರಸ್ವ	hraswa	short
hl	ಹ್ಲ	ಆಹ್ಲಾದ	aahlaada	pleasant



**Monographs prepared by the Central Institute of Indian Languages
(including those prepared by Regional Language Centres)**

I VOCABULARIES

a) Recall Vocabularies (Semantically classified)

- 1 Recall Vocabulary Kannada
- 2 Recall Vocabulary Tamil
- 3 Recall Vocabulary Telugu
- 4 Recall Vocabulary Malayalam
- 5 Recall Vocabulary Marathi
- 6 Recall Vocabulary Gujarati
- 7 Recall Vocabulary Sindhi
- 8 Recall Vocabulary Assamese
- 9 Recall Vocabulary Bengali
- 10 Recall Vocabulary Oria
- 11 Recall Vocabulary Punjabi
- 12 Recall Vocabulary Kashmiri
- 13 Recall Vocabulary Urdu

b) Common Vocabularies

- 1 Hindi-Kannada Common Vocabulary
- 2 Hindi-Tamil Common Vocabulary
- 3 Hindi-Malayalam Common Vocabulary
- 4 Hindi-Telugu Common Vocabulary
- 5 Hindi-Kashmiri Common Vocabulary
- 6 Hindi-Punjabi Common Vocabulary
- 7 Hindi-Assamese Common Vocabulary
- 8 Hindi-Oriya Common Vocabulary

II PHONETIC READERS

- 1 Kannada Phonetic Reader
- 2 Malayalam Phonetic Reader
- 3 Tamil Phonetic Reader
- 4 Telugu Phonetic Reader
- 5 Assamese Phonetic Reader
- 6 Kashmiri Phonetic Reader
- 7 Punjabi Phonetic Reader
- 8 Sindhi Phonetic Reader
- 9 A Pidgin Language Phonetic Reader
- 10 Manipuri Phonetic Reader
- 11 Ao Naga Phonetic Reader
- 12 Angami Naga Phonetic Reader
- 13 Sema Naga Phonetic Reader
- 14 Tripuri Phonetic Reader
- 15 Thaadou-Kuki Phonetic Reader

III SCRIPT

- 1 An Introduction to Tamil Script
- 2 An Introduction to Telugu Script

IV TEACHING MANUALS**a) Basic and Intensive Courses**

- 1 An Intensive Course in Malayalam
- 2 An Intensive Course in Telugu
- 3 An Intensive Course in Tamil
- 4 An Intensive Course in Kannada
- 5 An Intensive Course in Punjabi
- 6 An Intensive Course in Marathi
- 7 An Intensive Course in Gujarati
- 8 An Intensive Course in Sindhi
- 9 An Intensive Course in Assamese

b) Intermediate Courses

- 1 An Intermediate Course in Malayalam
- 2 An Intermediate Course in Tamil
- 3 An Intermediate Course in Kannada
- 4 An Intermediate Course in Telugu
- 5 An Intermediate Course in Assamese
- 6 An Intermediate Course in Oriya
- 7 An Intermediate Course in Punjabi
- 8 An Intermediate Course in Marathi
- 9 An Intermediate Course in Gujarati

c) Advanced lessons/selections from literature

- 1 Advanced Course in Kannada
- 2 Advanced Course in Telugu
- 3 Advanced Course in Tamil
- 4 Advanced Course in Marathi
- 5 Advanced Course in Gujarati
- 6 Advanced Course in Malayalam

V READING SKILLS

- 1 Reading Skills Workbook in Kannada
- 2 Reading Skills Workbook in Marathi
- 3 Reading Skills Workbook in Tamil
- 4 Reading Skills Workbook in Hindi
- 5 Reading Skills Workbook in Assamese
- 6 Reading Skills Workbook in English
- 7 Teaching Efficient Reading
- 8 Pathana Kaushalamu (Abhyasa Dipika)
- 9 Pathana Kaushalamu (Pathya Dipika)

VI MISCELLANEOUS**a) Bridge course**

- 1 Pre and Post Test (Kannada bridge course)
- 2 Vyasanga Shikshaka (Kannada bridge course)
Parts 1 — 2
- 3 Vyasanga Shikshaka (Kannada bridge course)
Parts 3, 4 & 5

b) Ādalita Lekhana**c) Others**

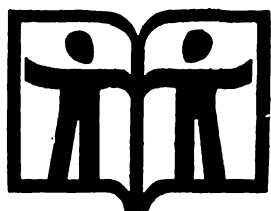
- 1 *Vartavaha*: Bulletin No. 1 to 10
- 2 Language Teaching - A selected Bibliography

VII CONFERENCES AND REPORTS

- 1 National Conference on Dictionary Making in Indian Languages (25th, 26th, 27th and 28th March, 1970)
- 2 Conference of Heads of Tribal Research Bureaus/Institutions, etc., in India (4th, 5th and 6th August, 1971)
- 3 Analytical Word-list-1 (ending-wise)

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