

Kumauni Sound System: An Analysis of Segmental Sounds

SWETA SINHA, PHD

JAWAHARLAL NEHRU UNIVERSITY (JNU), NEW DELHI

Abstract: *Kumauni is a lesser known Indian language of the Indo- Aryan language family bearing the language code ISO 639-3. It is spoken mainly in the sub-Himalayan regions of India. Having failed to attract thorough linguistic lime light the language is on the verge of anonymity. The present paper is an attempt to describe the segmental sound system, the pattern of syllabification and some important phonological phenomena of the language. The noteworthy findings of the paper are: there are a total of sixteen vowels (ten oral and six nasal), thirty six phonemic consonants and fifteen diphthongs. Vowel nasalization and consonantal aspiration are phonemic in nature. There are nine monosyllabic patterns: /CVC/ being the most common. The language manifests phonological phenomena like vowel harmony, voicing, replaciveness, apotheosis, assimilation and vowel alternation.*

Key words: *Indo- Aryan Pahari, ISO 639-3, segmental sounds.*

1.0 Introduction

The region of Kumaun roughly comprises of three North-eastern Himalayan districts of Uttarakhand state of India namely, Almora, Pithoragarh and a large portion of Nainital. It lies between 28° 43' 55" and 30 ° 49*' north latitude and 78 44' 33" and 81 5' 15" east longitude. Its two boundaries constitute two international boundaries of India. In the north, it has a common boundary with Tibet and in the east with Nepal, separated by R. Kali.

Geographically, the region has two major surface features, i.e., the Himalayas in the north and the foothill belt of Terai and Bhabar to the south, the heights varying from over 5000 mts to 180 mts above sea- level. The Himalayas are roughly divisible into three zones, the sub- Himalayas, the lesser Himalayas and the great Himalayas usually consisting of snow- covered peaks.

The diversity of land feature in Kumaun has exercised a strong influence on the pattern of its population. The mountainous part accounting for more than 80% of the total area has only two-third of the total population. According to the Census by the Govt. of India (2011), the land area and the population of these three districts have been tabled as under:

District	Area (in sq. km.)	Population
Almora	7,023	621, 927
Nainital	6, 729	955, 128
Pithoragarh	7,217	485, 993

(Table 1)

2.0 Research Methodology

Since the work pertains to the phonetic and phonological description of the Kumauni language, so, to begin with, I was needed to collect data. The data has been collected from the native speakers of the language. The number of subjects is twenty ranging between the age group of 15 yrs and 65 yrs. Data collection comprised of two sources: primary source (by means of silent observation, participant observation and questionnaire method) and secondary source. They were also asked to provide the Kumauni equivalents of around 500 words comprising the basic word list. (Abbi, 2001)

This was then followed by analysis. The main focus of my work is to find out the phonemic and phonetic sounds of Kumauni, to provide a detailed description of the vowels and the consonants of the language and to investigate the syllable structure of the language and to also account for any possible phonotactic constraints.

3.0 Kumauni Sound System

The main aim of this paper is to describe the sound system of Kumauni. This type of task becomes even more important when the language has failed to get any type of major linguistic lime light with regards to the examination of the phenomena pertaining to its sound system. The paper then progresses with the analysis of consonants both phonetic and phonemic. The section dealing with vowels includes both oral as well as nasal vowels. The last section of the paper summarizes the important findings of the research.

3.1 Phonemes

3.1.1 Consonants

Close analysis of data has yielded in the tabulation of the following consonantal phonemes. The minimal pairs for similar phonemes have been provided to establish the phonemic property of the consonants. For better comprehension the sounds have been presented on a chart keeping with the IPA¹.

	Bilabial	Dental	Alveolar	Retroflex	Palatal	Velar	Glottal
--	----------	--------	----------	-----------	---------	-------	---------

¹ In the IPA the consonants sounds are classified on the basis of the place and manner of articulation with respect to the human vocal tract.

Plosive	π β π ^H β ^l	τ δ τ ^H δ ^l		□ □ ^H ^l		κ γ κ ^H γ ^l	
Fricative					Σ		η
Affricate					τΣ δZ τΣ ^H δZ ^H		
Nasals	μ μ ^l		v v ^l			N	
Trill			ρ	} } ^l			
Lateral			λ λ ^l				
Approximant	ω				φ		

The Phonemic chart of Kumauni consonants (Chart 1)

The minimal and the sub-minimal pairs

π/ π ^H	/π↔τ/ (thin)	/π ^H ↔λ/ (fruit)
β/β ^H	/β @/ (left)	/β ^H @/ (eye- brow)
π/β	/π/ (drink)	/β/ (seed)
π ^H /β ^H	/π ^H υλ/ (nose- pin)	/β ^H υλ/ (younger brother)
τ/τ ^H	/δ@τ/ (tooth)	/μ@τ ^H / (up)
δ/δ ^H	/δυρ/ (far)	/δ ^H υλ/ (dust)
τ/δ	/τIv/ (wet)	/δIv/ (day)
δ/	/δ@ / (pulses)	/ @ / (tree)
□/□ ^H	/λ@□/ (to lie down)	/λ↔□ ^H / (stick)

κ/κH	/κα /	(black)	/κHα /	(pond)
γ/γH	/γα/	(to sing)	/γHα/	(grass)
κ/γ	/κο/	(who)	/γολ/	(round)
κH/γH	/κHυv/	(blood)	/γHυv/	(knee)
τΣ/τΣH	/πα®τΣ/	(five)	/μα®τΣH/	(fish)
μ/v	/καμ/	(work)	/κav/	(ear)
μ/μH	/μα /	(necklace)	/μHα /	(the covering on cattle's mouth)
v/	/δIv/	(day)	/ΣI /	(to sew)
v/N	/δZυv/	(moon)	/ΣυN/	(to smell)
/N	/ΣI /	(sew)	/ΣIN/	(horn)
ρ/}	/δZ↔ρ/	(fever)	/δZ↔}/	(root)
}/}H	/κυ}/	(room)	/βυ}H/	(old)
λ/}	/υλ/	(ERG.)	/υ}/	(fly)
λ/ρ	/μθλ/	(dirt)	/μθρ/	(die)
Σ/η	/Σα /	(wife's brother)	/ηα /	(air)
φ/ω	/δφ↔πτ/	(god)	/δωατ/	(ink- bottle)
/ H	/α/	(shrub)	/ Hα/	(mountain)
□/	/κH↔□↔/	(sour)	/κH↔ ↔/	(ditch)
□H/ H	/□Hε®κ/	(a type of utensil)	/ Hε®κ/	(to cover something)
δZ/δZH	/γαδZ/	(lather)	/βα®δZ/	(a childless woman)
τΣ/δZ	/Σ↔τΣα/	(honest)	/Σ↔δZα/	(punishment)
τΣH/δZH	/βατΣH/	(cow's young one)	/βα®δZH/	(a childless woman)

δZ/δZ ^φ	/δZυv/	(moon)	/δZ ^φ υv/	(alive)
v/vH	/κανα/	(thorn)	/κανHα/	(a proper noun)
λ/λH	/λΘ/	(take away)	/λHΘ/	(overflow)

Observations

- There are thirty- six consonantal phonemes in Kumauni.
- Aspiration of consonantal sounds is very common and they are phonemic in nature.

	Bilabial	Labio- dental	Dental	Alveolar	Retroflex	Palatal	Velar	Glottal
Plosive –Asp +Asp	π β π ^H β ^l		τ δ τ ^H δ ^l		□ □ ^H	 ^l	κ γ κ ^H γ ^l	
Fricative		φ		σ		Σ		η
Affricate –Asp +Asp +Cont.						τΣ δZ τΣH δZH δZ ^φ		
Nasals –Asp +Asp	μ μ ^l			v v ^l			N	
Trill –Asp +Asp				ρ	} } ^l			
Lateral –Asp +Asp				λ λ ^l				
Approximant	ω					φ		

The Phonetic Chart of Kumauni Consonants (Chart 2)

Observations

- Four new sounds have been included in the phonetic chart- [M], [σ], [ʃ] and [φ].
- There are a total of forty consonantal sounds in Kumauni.

Conclusion

- /μ/ → [M]/ ____ {+ bilabial}

- [σ] and [Σ] are in free variation. However, the occurrence of [Σ] is more than that of [σ].

The instances of free variation are: (a) /σφα®π/; /Σφα®π/ (snake) (b) /μ↔σαλ/; /μ↔Σαλ/ (spices) (c) /βΗΘ®σ/; βΗΘΣ/ (buffalo)

At all the positions, that is, initial, medial and final the free variation can be seen.

- /v/ → [ɸ] / ____ {+ palatal}
- The occurrence of [ɸ] is not actually environment bound but because of the influence of other languages like English it has found a place in the language and at times is used instead of [πH] though the use is very limited. This is also a case of free variation and is used widely among the educated lot.

3.1.2 Vowels

	FRONT, UNROUNDED	CENTRAL, UNROUNDED	BACK +/- ROUNDED
HIGH	ɪ		ʊ, ʊ®
LOWER MID	ɪ		Y
HIGHER MID	ε		o, o®
MEAN MID		↔, ↔®	, ®
HIGHER LOW	Θ, Θ®		
LOW	α, α®		

The Vowel Chart: including nasalization (Chart 3)

The vowel minimal pairs are:

/v	/↔Nγ /	(gooseberry)	/↔Nγv/	(finger)
ɪ/I	/τɪv/	(three)	/τIv/	(wet)
ε/Θ	/κε/	(question)	/κΘ/	(say)
ʊ/Y	/Σʊ	(hear)	/ΣY	(gold)
o/	/βoλ/	(say)	/βH λ/	(good)
↔/α	/γ↔/δZα/	(bald)	/γα/δZα/	(a type of plant)

The following minimal and sub- minimal pairs establish the fact that the nasalization of the Kumauni vowels is phonemic.

α/α®	/κατH/	(moss growth)	/κα®τH/	(story)
ʊ/ʊ®	/ʊλ/	(owl)	/ʊ®λ/	(wool)

o/o [Ⓜ] (yes)	/o/	(address)	/o [Ⓜ] /	(a form of yes)
/ [Ⓜ] wood)	/τΣ κ/	(log of wood)	/τΣ [Ⓜ] κ/	(sitting wood)
↔/↔ [Ⓜ] (eye)		/↔κH/	(a kind of medicinal plant)	/↔ [Ⓜ] κH/
Θ/Θ [Ⓜ] (naughty)		/βHΘ□/	(to sit)	/βΘ [Ⓜ] □/

Conclusion

- There are ten oral vowels in Kumauni and they are phonemic in nature.
- There are six nasalized vowels in this language.
- The phenomenon of nasalization is phonemic in Kumauni. The minimal pairs presented above confirm this.

(a) Vowel Aspiration

The vowels of Kumauni show nasalization as well as aspiration. The feature of nasalization is phonemic and it has already been established with the help of minimal pairs. In case of aspiration we have the following data:

- [μoH] (honey)
- [τΣαH] (tea)
- [β H}ι] (bull)
- [αH] (come)
- [γΘH] (abuse)

For [αH] and [ΘH] we have minimal pairs: /αH/ (come); /α/ (HON + come)
/γΘH/ (abuse); /γΘ/ (to sing)

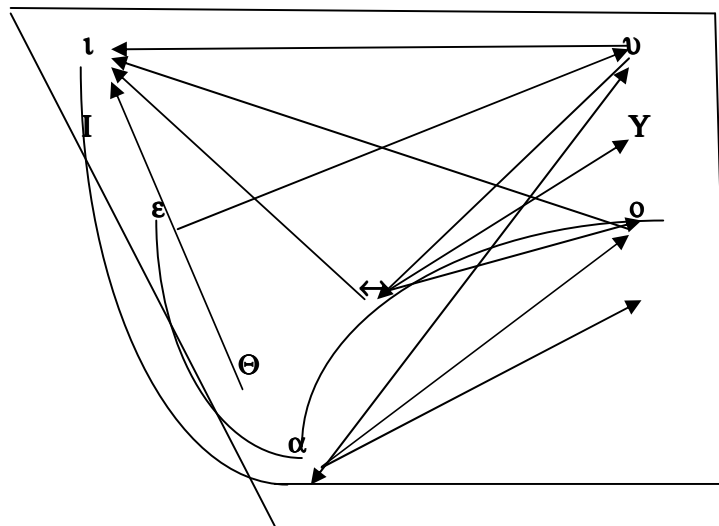
These two sets of minimal pairs prove that the above mentioned units are phonemic. This can be the case with the aspirated forms of other vowels as well but because of the insufficiency of data it is difficult to generalize it. Also, vowel aspiration is not a very frequent phenomenon in this language so the other case can be that only these two vowels have phonemic aspirated form.

	FRONT, UNROUNDED	CENTRAL, UNROUNDED	BACK +/- ROUNDED
HIGH			υι, υ↔, υα

LOWER MID			
HIGHER MID	ευ		οι, οα
MEAN MID		↔Y, ↔ι, ↔ο	, ®
HIGHER LOW	Θι		
LOW	αι, αυ, αο, αε, α		

The Diphthong Chart (Chart 4)

The direction of vowel clustering in the formation of diphthongs



Observation

- The three vowels /α/, /↔/ and /ι/ are the part of the maximum number of diphthongs.
- /ι/ always occurs as the second one in the diphthong as shown by the arrow heads.
- /Θ/ occurs as the first vowel in the diphthong and the combination is very rare.
- / / too occurs as the second one in the diphthong.
- Kumauni shows a lot of vowel combinations or diphthongs.

The minimal and the sub-minimal pairs for the diphthongs are:

- αυ/α /δαυ/ (shelf made in the wall) /δα / (the net for collecting grass)
- αυ/αο /καυ/ (black) /καο/ (crow)
- αο/α /καο/ (crow) /κHα / (pond)
- αι/αε /δαι/ (small net) /δαε/ (you go. FUT.)

↔Y/↔o	/γ↔Y/ (coconut fruit)	/γαo/ (cheek)
↔ι/αι	/γ↔ι/ (go. 3P.PL.PAST)	/γαι/ (abuse)
υ↔/υα	/Συ↔ρ/ (pig)	/βυαρι/ (son's wife)
υι/οι	/υιλ/ (3P.SG.+ ERG.)	/βοιλ/ (speak)

Conclusion

- There are fifteen diphthongs in Kumauni.
- The diphthongs do not take the word- initial position except in /uik/ and /uil/ which are formed by υ + ικ (3P.SG + GEN.) and υ + ιλ (3P. SG. M +ERG).
- The diphthongs are restricted to the middle and final position.
- The low, back, unrounded vowel /α/ and the mean- mid, central vowel /↔/ have the maximum number of diphthongs.
- The high, front, unrounded vowel /ι/ and the mean- mid, back, rounded vowel / / do not occur as the first vowel of the diphthongal combination.

3.2 Consonant clusters in Kumauni

Various types of clustering are seen in consonants at all the three word positions, initial, medial and final. On a close look a pattern can be seen in this case. Based on the data collected for this purpose the types of clusters and the place of occurrence of the clusters have been tabulated in the following chart.

	β	π _H	β _H	τ	δ	□		□ _H	_H	κ	γ	κ _H	η	τ	δ	τΣ	δ□	μ		N	v _H	ρ	}	ω	φ		
π				c																						A	
β	B																										A
β _H																											A
τ				B																							A
δ					B																				A	A, B	
τH																									A		
							B																				
□ _H																											B
κ										B														B			A, B
γH																									A		
Σ	B			B, C		C		C										B									A
τΣ																	B										
μ	C	C																B	B	B							A
v				C		C		B					B	C	C												

- (6) γα} - κ (in the river)
River LOC.

We can see that in this case, the preceding vowel affects the vowel in the suffix. The nature of the vowel in the stem affects the vowel nature in the suffix. Let us now have a look at the following data. Similar is the case when the marker for ergativity is used as a suffix as in:

- (7) v↔v - ↔λ (child. ERG.)
(8) υv - υλ (3P.PL.ERG.)
(9) τυμ- υλ (2P.PL.HON.ERG.)
2. Voicing

In Kumauni, it was seen that [κ] gets voiced into [γ] inter- vocalically.

[κ] → [γ] / V__V

- (1) μIκ↔ → μIγ↔
(2) τεκ↔ → τεγ↔
(3) π↔κ↔}ωα → π↔γ↔}ωα
3. Replacive consonants

In the process of echo- formation in Kumauni, the word initial consonant gets replaced by the glottal, fricative /η/ in its echo- formation.

- (1) βH λ- η λ (good and all)
(2) γτ - ητ (song and all)
(3) πα | -ηα | (water and all)
(4) δHα}- ηα} (sweeping and all)
(5) Σαγ- ηαγ (vegetables)
(6) βHΘΣ- ηΘΣ (buffalo)
(7) β↔λδ- η↔λδ (oxen)

The phonological rule for this can be written as:

C → [η] / # ___ (V_oC_o)

4. Apothesis

When a vowel is added word initially then it is called apotheosis. In the following examples from reduplication, the same process is taking place.

- (1) δαv- δαvΘ
(2) κ↔v- κ↔vνε

(3) $\eta I \square I v - \eta I \square I v \epsilon$

(4) $\pi \leftrightarrow \} \leftrightarrow v - \pi \leftrightarrow \} \leftrightarrow v \epsilon$

The rule for this can be:

$O \rightarrow V / \{n\} [+Redup] + ___$

We see that if Xi is the root word and then if a vowel is added word finally in its reduplicant then the process shows a rightward movement. This can be explained as:

$X1 \rightarrow Xi + V$ and

Redup. $\rightarrow XiX1$

Here Xi is the identity word and X1 is the reduplicant form which is formed by the addition of vowel word finally. The arrow shows the rightward movement of reduplication.

In the following case we see that exactly reverse happens. The movement of reduplication is leftwards and it can be shown as:

$X1 \rightarrow Xi + V$ and

Redup. $\rightarrow X1Xi$

This is evident in the following cases:

(5) $\mu \alpha \square H v - \mu \alpha \square H$ (slowly)

(6) $\tau \alpha \tau - \tau \alpha \tau$ (hot- wet)

(7) $\beta \eta \tau \epsilon - \beta \eta \tau$ (many)

$O \rightarrow V / [\text{retroflex stops} + \text{dental stops}] ___$

5. Assimilation

When two sounds combine and the resultant sound which is produced is of different nature then the process is called assimilation. One of the sounds has to be word final and the other one has to be initial sound of a word or a suffix.

In Kumauni, assimilation has been observed in vowels.

(1) $\sigma \iota \tau \alpha + \leftrightarrow \lambda \rightarrow \sigma \iota \tau \alpha \lambda$ (Sita + ERG)

(2) $\beta H o + \leftrightarrow \gamma \rightarrow \beta H \gamma$ (child + ACC)

(3) $\delta \iota \lambda \lambda \iota + \iota \kappa \rightarrow \delta \iota \lambda \lambda \iota \kappa$ (Delhi + LOC)

i.e. $V1 \# + V2 \# \rightarrow V3$

6. Vowel alternation

In the case of reduplication, vowel alternation is very common.

(1) βυνδ- βΘνδ (drizzle)

(2) μΘνδZ- μυνδZ (washing utensils)

/υ/ → [Θ] / ___ [alveolar nasal unaspirated consonant]

/Θ/ → [υ] / ___ [alveolar nasal unaspirated consonant]

For other cases the following rule can be used:

/ , υ, ι / → [α] / ___ (□, #)

(3) ρ □- ρα□ (food etc.)

(4) δZυ- δZα (life)

5.0 THE SYLLABLE

In Kumauni, a syllable is a vocalic combination of consonants preceding or following the vocalic unit. The vowel is termed as the nucleus and the consonants are termed as margins. The consonants preceding the nucleus are termed as onset while the ones following are termed as coda. These margins can be simple consisting of two or more sound sequences. However, the complex margin in the initial or onset position is restricted to two consonants only and the same can be said for the coda position. However, such occurrences are not very common.

In the following pages I have tried to highlight the permissible combinations for onset and coda positions and the patterns of syllabic units.

5.1 Permissible Peak Margin Sequences in Monosyllabics

Some of the important observations can be summarized as following:

- (i) In case of a /V/ pattern of monosyllable, there can be any oral vowel or even a nasalized vowel as for example /α/ (to come) and /o®/ (yes).
- (ii) In case of the /CV/ pattern again there is no restriction in the choice of the consonants as well as vowels and the same goes for the /VC/ pattern as well.
- (iii) In the triphonic unit /CVC/ there is no restriction on consonants for the onset and the coda position. The same is true for /VCC/ patterns.
- (iv) In case of the /CCV/ pattern the first consonant can be anywhere as the second consonant has to be a continuant /φ/, /ω/ or /η/ in very rare cases.
- (v) In quadraphonic cases of /CCVC/ and /CVCC/, the choice of /CC/ is the same as in the case of /CCV/ when it is in the coda position the case is not the same. In this case the other consonants also cluster.

- (vi) In case of the pentaphonic syllables, the /CC/ pattern in the onset positions takes place according to (iv) where as the coda position gets the explanation from (v) which has been discussed immediately above.
- (vii) The choice of consonants for the onset position when two occurs together can be represented as:

κ		
Σ		
βH	φ	
μ		
δ		
π	ω	
β		
γH		
τ		
τH		

- (viii) The choices of consonants for the coda position when two occur together can be represented as:

ν		πH	
Σ	δH	Σ	
))	□H	τ	
λ	□		
μ	τΣ		
ρ	δZ		
π	β		

Thus we see that in the onset position when the choice of the second consonant is very restricted, in the coda position the restriction gets nullified and we get instances of ample of consonants being used.

- (ix) As far as the formation of word in Kumauni is concerned then the words are monosyllabic, disyllabic, trisyllabic, quadric-syllabic and penta-syllabic. The examples are:
 - Monosyllabic ## CVC ##
 - Disyllabic ## CVCCVC ##
 - Trisyllabic ## CVCCVCV ##

- Quadri-syllabic## CVCVCCVC ##
 - Penta- syllabic ## CVCVCVCVCV ##
- (x) A penta- syllabic word is the longest word in case of Kumauni.

5.2 Patterns of Syllabic Units

If 'V' represents a syllable peak including the nasalized vowel form and 'C' represents the syllable margins then following are the monosyllabic patterns of the Kumauni language.

(i)	## V ##	/α/	(come)
(ii)	## CV ##	/πι/	(drink)
(iii)	## VC ##	/↔ⓂκH/	(eye)
(iv)	## CVC ##	/καⓂτH/	(story)
(v)	## VCC ##	/↔v /	(egg)
(vi)	## CCV ##	/δφο/	(rain)
(vii)	## CCVC ##	/δωατ/	(ink- pot)
(viii)	## CVCC ##	/γ↔vδ/	(dirty)
(ix)	## CCVCC ##	/δφ↔πτ/	(deity)

Conclusion

- Out of the nine monosyllabic patterns the frequency of the /CVC/ pattern is the maximum and that of /CCVCC/ is the minimum.
- Any of the above mentioned syllabic types may occur independently as a monosyllabic word or may function as a constituent syllable within a word having more than one syllable.

6.0 CONCLUSION

My findings regarding the Phonetics and Phonology of Kumauni can be briefly summarized as:

- There are ten oral vowels in Kumauni.
- There are six nasal vowels in Kumauni.
- Nasalization is phonemic.
- Vowel aspiration is also observed.
- There are fifteen diphthongs in the language.
- Diphthongs are not found word- initially except in /υικ/ (3P. SG. M. GEN.) and /υιλ/ (3P. SG. M. ERG.).
- The high, front, unrounded vowel [ɪ] and the mean- mid, back, rounded vowel [] do not make the first component of a diphthongal combination.
- There are 36 phonemic consonants.

- Aspiration is very common and is phonemic in nature.
- The language has several phonological rules like:
Vowel harmony, Voicing, Replaciveness, Apothesis, Assimilation and Vowel alternation.
- There are nine monosyllabic patterns.
- The frequency of /CVC/ is the highest and that of /CCVCC/ is the lowest.
- In case of the /CCV/ pattern, the first consonant can be any but the second consonant has to be a continuant. However, the occurrence of /ŋ/ can also be cited but that can be grouped under aspiration.
- A penta- syllabic word is the longest word in the language.

Abbreviations

• 1	First Person
• 2	Second Person
• 3	Third Person
• ACC	Accusative Case
• ADV	Adverb
• ABL	Ablative Case
• COMP	Comparative
• CP	Conjunctive Particle
• CONJ	Conjunction
• DEMO	Demonstrative Pronoun
• DAT	Dative subject/ Dative case
• ERG	Ergative
• EMP	Emphatic Particle
• FUT	Future
• F	Female
• GEN	Genitive Case
• HON	Honorific
• QUES	Interrogative
• IMPER	Imperative
• LOC	Locative case
• M	Masculine
• NEG	Negative
• PEFR	Perfective
• PL	Plural
• PST	Past

- PROG Progressive
- REL Relative Pronoun
- CORR Correlative Pronoun
- SG Singular
- Syll Syllable
- → Transforms to
- [] Phonetic form
- C Consonant
- V Vowel
- / In the environment
- # Word Boundary
- ## Syllable Boundary
- O Deletion

Appendix A

[THE BASIC WORD LIST A]

- | | |
|-----------|--------|
| 1. And | ρ |
| 2. Bad | v κ |
| 3. Bark | β↔γ↔λ |
| 4. Belly | λ↔δH ρ |
| 5. Big | □Hυλ |
| 6. Claw | κHυ□H |
| 7. Cloud | βαδHo |
| 8. Come | α |
| 9. Count | γI |
| 10. Cut | κα□H |
| 11. Day | δ5Iv |
| 12. Die | μΘρ |
| 13. Dig | κHoδ5 |
| 14. Dirty | μΘλ |
| 15. Dog | κυκυρ |
| 16. Drink | π |

17. Dry	σΥκΗ
18. Dust	δ5Ηυ®κ↔νι
19. Ear	κων
20. Egg	↔ν
21. Eye	α)κΗ
22. Fall	λ↔πΗαφι
23. Far	δ5υρ
24. Fat	μ □Η
25. Fear	↔ρ
26. Feather	π↔NκΗυ}
27. Few	μυ ι
28. Fight	δZH↔γ }
29. Fire	αγ
30. Fish	μoxΗ
31. Five	πα)τΣ
32. Float	βΘ
33. Flow	β↔η↔μ
34. Flower	πΗυλ
35. Fly	Υ}
36. Fog	δΗυ®δΗ
37. Foot	κΗυ□Η
38. Four	τΣαρ
39. Freeze	δZ↔μ
40. Fruit	πΗ↔λ
41. Full	βΗ↔ρ
42. Give	δ5ε
43. Good	βΗ λ
44. Grass	γΗΑ
45. Green	η↔ρI
46. Guts	↔νη↔}
47. Hair	βα

48. Hand	ηα®τ5H
49. He	ναν
50. Head	μυν↔Y
51. Hear	σY
52. Heart	κ↔λδZ
53. Heavy	γορυ
54. Here	IτHα®
55. Hit	μαρ
56. Hold	π↔κ↔}
57. Horn	σI
58. How	κ↔Σ
59. Hunt	ΣIκαρ
60. Husband	αδιμ
61. I	μΘ
62. Ice	β↔ρ↔πH
63. If	↔γ↔ρ
64. In	-ιμ, - μ, - ↔μ
65. Kill	μαρ
66. Knee	γHYν
67. Lake	τ5αλ
68. Laugh	ηΘ®)Σ
69. Leaf	π↔τ5ελ
70. Leftside	β ®τορυπH
71. Leg	κHυ□H
72. Lie	λε□
73. Live	λιβ↔ρ
74. Long	λ↔μβ
75. Louse	λικH
76. Man	αδ5Iμ
77. Many	β η τ5
78. Meat	Σικαρ

79. Mother	ιδΖα
100. Mountain	βΗφ↔υ
101. Mouth	γΙτΣΗ
102. Name	η ®
103. Narrow	π↔τ
104. New	ν
105. Night	ρατΗ5
106. Nose	νακ
107. Not	νι®
108. Old	πυρα
109. One	εκ
110. Other	δ5υΣ↔ρ
111. Play	κΗελ
112. Pull	κΗΘ)τΣ
113. Push	δ5Η↔γ
114. Rain	δφο
115. Red	λαλ
116. Right	βΗ λ
117. Right	δΘ
118. River	γα}
119. Road	βα□Η
120. Root	δζ↔}
121. Rope	ρ↔Σ
122. Rotten	Σ↔}
123. Round	γολ
124. Rub	γΗιΣ
125. Salt	λο
126. Sand	ρετ
127. Say	βολ
128. Scratch	κΗυρυ)Σ

129. Sea	$\sigma \leftrightarrow \mu \Upsilon \nu \delta \delta \delta \leftrightarrow \rho$
130. See	$\delta \delta \epsilon \kappa \eta$
131. Seed	$\beta \iota$
132. Sew	$\Sigma \iota \mid$
133. Short	$\tau \Sigma \eta \square \eta$
134. Sing	$\gamma \alpha$
135. Sit	$\beta \eta \theta$
136. Skin	$\lambda \tau$
137. Sky	$\leftrightarrow \sigma \mu \alpha \nu$
138. Sleep	$\Sigma \theta$
139. Small	$\tau \Sigma \eta \square \eta$
140. Smell	$\sigma \nu \eta$
141. Smoke	$\delta \delta \eta \nu \nu$
142. Smooth	$\tau \Sigma \nu \pi \}$
143. Snake	$\sigma \alpha \textcircled{\text{R}} \pi$
144. Snow	$\eta \iota \phi \textcircled{\text{R}}$
145. Some	$\tau \delta \eta \theta \nu \alpha$
146. Spit	$\tau \delta \eta \Upsilon \kappa$
147. Split	$\leftrightarrow \lambda \leftrightarrow \gamma$
148. Squeeze	$\nu \iota \tau \Sigma \theta \}$
149. Stab/ pierce	$\beta \eta \textcircled{\text{R}} \kappa / \chi \eta \epsilon \delta \delta$
150. Stand	$\square \eta \alpha \nu \square \eta$
151. Star	$\tau \delta \alpha \rho$
152. Stick	$\lambda \leftrightarrow \square \eta$
153. Stone	$\pi \alpha \tau \eta \rho$
154. Straight	$\sigma \iota \delta \delta \eta \alpha$
155. Suck	$\tau \Sigma \nu \sigma$
156. Sun	$\sigma \nu \rho \leftrightarrow \delta \Upsilon$
157. Swell	$\pi \eta \Upsilon \lambda$
158. Swim	$\beta \textcircled{\text{R}} \kappa \alpha \square \leftrightarrow \mu \textcircled{\text{R}}$
159. Tail	$\pi \Upsilon \tau \Sigma \eta \}$

160. That	υ
161. There	υτΗα®
162. They	υλογ
163. Thick	μ □Η
164. Thin	π↔τ5
165. Think	σο)τΣ
166. This	ι
167. Thou	τυμ
168. Three	τ5ιν
169. Throw	κΗι}
170. Tie	βαδ
171. Tooth	δΑ)τ5
172. Tree	α
173. Turn	γΗυμ
174. Two	δ5υι
175. Vomit	υκΗαο
176. Walk	ηι□Ηι
177. Warm	κοσα- κοσα
178. Wash	δΗο ι
179. Water	πα ι
180. We	η↔μ
181. Wet	τιν
182. What	κε
183. When	κ↔βΗ↔
184. Where	κα®
185. White	Συκιλ
186. Who	κο
187. Wide	τΣ }
188. Wife	ΣΘ® 5
189. Wind	η↔ωα
190. Wing	π↔NκΗυ}

191. Wipe	ποτΣΗ
192. With	δεγε
193. Woman	ΣΘ ι5
194. Worm	κιτ λ
195. Yes	η@α
196. Year	β<->ρΣ
197. Brother	βΗυλι
198. Clothing	δΗι γα}
199. Cook	π<->κα
200. Dance	νατΣ
201. Eight	α□Η
202. Hundred	σ
203. Seven	σατ5
204. Sister	βΘ ι
205. Spear	βΗα
206. Twenty	βισ
207. Work	καm

THE BASIC WORD LIST [B]

- *Refers to the typical North Indian concepts
- | | |
|---------------------|-------------------|
| 1. * <i>Bindi</i> | βινδι |
| 2. *Flour (kneaded) | ολιπισι |
| 3. * <i>Roti</i> | ρ □ |
| 4. Banana | κ ^φ αυ |
| 5. Bangles | τσυ}ι |
| 6. Book | κιτ5αβ |
| 7. Brother, elder | δαδι |
| 8. Cat | βιραο |

9. Chilli	μ↔ρτΣ
10. Comb	κα®υλ
11. Copper	τ5↔m
12. Cough	κHα®Σ
13. Cow	γορυ
14. Crow	καυ
15. Cry	ρο
16. Dog	κΥκυρ
17. Door	μ η↔ν
18. Down	μυ®
19. Drizzle	βυνδ- βΘνδ
20. Ear ring	βαι
21. Elephant	ηA)τ5Hι
22. Eye brow	βH)
23. Fever	δZ↔}
24. Finger	↔NγY®
25. Fish	ματΣH
26. Flour (dry)	πισι
27. Food	κHαηα®
28. Garlic	λ↔ΣY
29. God	βH↔γωαν/ δ5φ↔πτ
30. Goddess	δ5εωιματα
31. Gold	Συ
32. Grandfather (Father's father)	βυβυ
33. Grandfather (Mother's father)	βυβυ
34. Grandmother (Father's mother)	↔μμα
35. Grandmother (Mother's mother)	↔μμα
36. Green vegetable	η↔ριΣαγ
37. Hot	τατ
38. House	γH↔ρ
39. Housefly	μακH

40. Language	βοιλι
41. Lion	βαγΗ
42. Lips	υ®□H
43. Liquor	Σ↔ραβ
44. Mango	αμ
45. Medicine	δ5↔ωαι
46. Milk	δ5υδ5H
47. Mirror	Θ
48. Money	↔β↔λ
49. Mosquito	μ↔τΣτΣH↔ρ/
50. Mouse	μΥσ
51. Nails	νακHYν
52. Necklace	μα
53. Nose-pin	πHυλι
54. Oil	τ5ελ
55. Pain	πι}
56. Peacock	μop
57. Plait	λ↔:□Hι
58. Pond	κHα
59. Potato	αλυ
60. Rice (cooked)	βHατH5
61. Rice (raw)	τΣαNγo
62. Road	σ↔}↔κ
63. Round	γoλ
64. Run	δ5 }
65. Saree	σα}ι
66. Shawl	Σ λ
67. Shirt	κυρτ
68. Sister, elder	βHινα
69. Small	τΣH □
70. Snake	σα®π

71. Spectacles	τΣ↔Σ↔μ
72. Spices	μ↔Σαλ
73. Spoon	τΣ↔μμ↔τΣ
74. Sugar	τΣΙνΙ
75. Tasty	βΗ λσωαδ
76. Tea	τΣαΗ
77. Thumb	↔Nγυ□Ηα
78. Turmeric	η λδ5
79. Up	ματΗ
80. Village	γ ®

The Basic Word List [C]

- * Refers to the typical North Indian concepts
- | | |
|--------------------|------------|
| 1. Bathe (caus.) | νοαμ |
| 2. Bathe (i) | νΘηΘ |
| 3. Bathe (vt) | νοηωα |
| 4. Brass | πιτ↔Y |
| 5. Bull | ναδι |
| 6. Butterfly | πυτ↔ι |
| 7. Cheap | Σ στυ |
| 8. Coconut | γ υ |
| 9. Corpse | μυρδυ |
| 10. Costly | κ↔ρ↔ |
| 11. Cry of lion | βΗ ®κυμ↔ρε |
| 12. Cry of buffalo | ↔}αμ↔ρε |
| 13. Deaf | καλο |
| 14. Draught | ↔κα |
| 15. Front of | Σαμ ι |

16. Gold	Συ
17. Goldsmith	Συναρ
18. Her	υνικ
19. His	υικ
20. Honey	μ Η
21. Horn	ΣΙΝ
22. King	π<→δΗαν
23. Maize	γΗω<→γ
24. Memory	φαδαΣ
25. Mine	μΘρ
26. Priest	βαμΗ<→
27. Read	π<→}Η
28. Remember	πΗαμκ<→ρο
29. Rice (paddy)	π<→}αο
30. Rice (puffed)	μυρμυρι
31. Sheep	δΗιπ }
32. Sometimes	κ<→βΗΘ κ<→βΗΘ
33. Sparrow	γΗΙν }
34. Sugarcane	ρικΗυ
35. Thirst	τι:Σ
36. Upside down	Υλ□
37. War	φυδδΗ
38. Yours	τυμ ρ
39. Shop	δυκαν
40. Silver	τΣΘνδι

REFERENCES

- Abbi. A. 2001, *A Manual of Linguistic Field work and Structures of Indian Languages*, Lincom Europa.
- Abercrombie, David (1967). *Elements of General Phonetics*. Edinburgh: University Press.
- Carr, Philip, 1994, *Phonology*, London: Macmillan Publishers.
- Chatterji, S. K. (1926). *The Origin and development of the Bengali Language*. Calcutta: Calcutta University Press.
- Chomsky, N. , Halle M. (1968). *The Sound Pattern of English*. New York: Harper
- Comrie, B. 1981, *Language Universals and Linguistics Typology*, Austin: University of Chicago Press.
- Comrie, Bernard & Norval Smith 1977. "Lingua Descriptive Studies: Questionnaire." *Lingua* 42: 1-72
- Grierson, George. A., 1903- 1928, *Linguistic Survey of India*, Delhi: Motilal Benarsidass.
- Jakobson, Roman, Gunnar Fant, and Morris Halle.(1952). "Preliminaries to Speech Analysis." Technical Report 13, MIT Acoustics Laboratory.
- Jakobson, Roman, and Morris Halle. (1956). *Fundamentals of Language*. The Hague: Mouton.
- Kibrik, A. E. , 1977, *The Methodology of Field Investigations in Linguistics*, The Hague: Mouton.
- Ladefoged, Peter. (2005). "Speculations on the Control of Speech." In *A Figure of Speech: A Festschrift for John Laver*, edited by William J. Hardcastle and Janet Mackenzie Beck, 3–22. Mahwah, N.J.: Lawrence Erlbaum.
- Samarin, William J., 1967, *Field Linguistics: A Guide to Linguistics Field Work*, London.
- Sharma, D.D., 1985, *Formation of Kumauni Language*, Bahri Publications Pvt. Ltd.