

Phonological Analysis of Indian Language

Adiprana Yogatama

Universitas Muhammadiyah Semarang

Jl. Wonodri Sendang Raya No 2A Semarang 50242

adiprana.linguist@gmail.com

Abstract

The aims of this research are to find out the language sounds produced by India speakers, to enrich the scientific realm of language sounds and to stimulate the students to deeply examine other foreign language sounds. For the purpose of the study, the researcher collected data from several sources. The data which were in the form of theoretical research literature were obtained from books in general linguistics, especially on Phonology, both English and Indonesian. For data or material which were in the form of research material to be studied, the researcher presented a native speaker of Indian language named Kour Herbinder. This research is a qualitative research with recording and note technique. To analyze the data, the researcher used phonetics chart, both for consonants and vowels. From the analysis result, the researcher found that the sounds in India language are dominated by alveolar sounds like usually pronounced by speakers of Indonesian Balinese dialect. The researcher also found that there are many variations of Indian language sound as allophones, such as sound [k'] is an allophone of [k], and sound [d^h] is an allophone of [d]. The pronunciation of sound [t], [d] and [k] dominantly resembles with [t], [d] and [k] on Indonesian Balinese.

Keywords: phonetics, phonemics, alveolar, allophone

Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui bunyi bahasa yang dihasilkan oleh penutur bahasa India, memperkaya dunia ilmiah bunyi

bahasa dan untuk merangsang siswa untuk mempelajari bunyi dalam bahasa asing lainnya. Untuk tujuan penelitian, peneliti mengumpulkan data dari beberapa sumber. Data yang berupa literatur teoritis penelitian diperoleh dari buku-buku dalam linguistik umum, terutama pada Fonologi, bahasa Inggris dan Indonesia. Untuk data atau materi yang berupa bahan penelitian kemudian dipelajari, peneliti menyajikan penutur asli bahasa India bernama Kour Herbinder. Penelitian ini merupakan penelitian kualitatif dengan rekaman dan teknik catatan. Untuk menganalisis data, peneliti menggunakan grafik fonetik, baik untuk konsonan dan vokal. Dari hasil analisis, peneliti menemukan bahwa suara dalam bahasa India didominasi oleh suara alveolar seperti biasanya diucapkan oleh penutur dialek Bali Indonesia. Peneliti juga menemukan bahwa ada banyak variasi suara bahasa India sebagai alofon, seperti suara [k] merupakan alofon dari [k] , dan suara [dh] merupakan alofon dari [d] . Pengucapan suara [t] , [d] dan [k] dominan mirip dengan [t] , [d] dan [k] di Bali Indonesia.

Kata Kunci : *Fonetik, Fonemik, Alveolar, Alofon*

Introduction

Language is said as the sound system that is intentionally released by someone in order to convey an idea or ideas that exist in his mind. The referred language is spoken language because language is basically an uttered sound. The development of the written language is a sound recording of the spoken language.

The studies of the sounds were investigated by the branch of linguistic named phonology. By phonology, the sounds were studied with two points of view, those are phonetic and phonemic.

Draw attention to the variety language, linguists can find the tools to know the kinds of sounds, meanings and what is symbolized by the sounds.

The study of language sounds is very useful for linguists to enrich their knowledge, especially in language sounds. The sound of a single language has a significant difference to other languages. This is the main attraction to determine the language sounds produced by language that researchers do not use in daily life. On this occasion, the researcher is focusing the research in language sound study (phonetic and phonemic) produced by speakers of India.

Phonetics

Phonetics refers to the articulation of language sounds. Phonetics experts have managed to determine the articulation of the various sounds of language and make the International Phonetic Alphabet that making it easier for someone to learn and pronounce sounds that do not exist in their mother tongue. For example, in English there is a marked difference between the sound of *tin* and *thin*, and between *they* and *day*, but not in Indonesian language. By studying phonetics, Indonesian will be able to pronounce the two sounds correctly.

Learning phonetics is important not only for linguist and language students but also for all country leaders. International phonetic alphabet, which is supported by the phonetics laboratory, department of linguistics, UCLA, is important to learn by all leaders, especially the country leaders. With the ability to accurately read the phonetic alphabet, one can give a speech in hundreds of languages.

Phonetics is a field of linguistics that studies the sounds of language regardless of whether the sound has a function as a distinguishing meaning or not. According to the sound of the language, phonetics can be divided into:

a. Articulatory Phonetics/Organic Phonetics/Physiological Phonetics

It is the study of how human speech organs work in producing the sounds of language, and how the sounds were classified.

b. Acoustic Phonetics

Learning the sounds of language as a physical event or a natural phenomenon.

c. Auditory phonetics

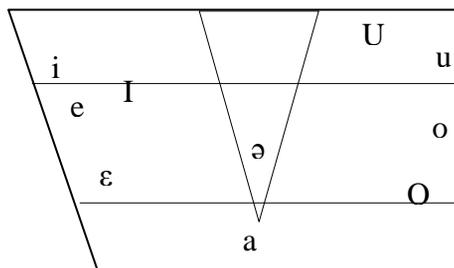
Learning how the language sounds acceptance mechanism by our ears. (David Crystal, 2003)

Phonetic Chart

Table 1
Consonants Phonetic Chart

	Bilabial	Labio dental	Dental	Alveolar	Post Alveolar	Palatal	Velar	Glottal
Plosive	p b			t t' d d ^h			k k ^h g	ʔ
Fricative				s		x	h	ħ
Affricate		F v			c c ^h j			
Nasal	m			N			ŋ	
Lateral				r r' l				
Semi Vowel	w					y		

Table 2
Vowels Phonetic Chart



Minimal pairs (sounds that phonetically similar)

Sounds are said to have phonetic similarity when the sounds are included on the same row, same column, or in the same row and column. Here is the examples in India language.

Table 3

Minimal Pair in India language

[met'a] "forehead"	[kola] "bowl"	[IUna] "salt"
[mot'a] "fat"	[koli] "cup"	[rOna] "don't cry"
[dandə] "teeth"	[sOna] "handsome"	[begja] "sit"
[k ^h andə] "sugar"	[sOni] "beautiful"	[ogja] "stand"
[hattə] "hand"	[bet*a] "boy"	[a?k*ə] "eye"
[sattə] "thigh"	[bet*i] "girl"	[na?k*ə] "nose"
		[he?k*ə] "chest"
[per] "leg"	[kanə] "ear"	
[par] "read"	[kamə] "work"	
[pař] "read"	[gallə] "cheek"	
[k ^h ař] "car"	[galləh] "neck"	

Phoneme

Phoneme is the smallest unit of sound of a language that serve to distinguish meaning. Kennet L. Pike (1963: 63) says, "*a phoneme is one of the significant units of sounds, or a contrastive sound unit.*". While L. Bloomfield (in Muslich, 2008: 77) says, "*A minimum unit of distinctive sound feature is a phoneme.*"

From the above description, the most basic of phonemes is that phonemes have "distinctive function" that is as meaning differentiator

(Muslich, 2008:77). The way in which to prove that a phoneme serves to distinguish meaning is by proving empirically, by comparing the linguistic forms of the language that is studied.

Phonemes identification (premissis)

Basic analysis of phonemes is the main ideas used to analyze the phonemes of a language called premise. The premises used are as follows:

1. The sounds of a language tend to be influenced by the environment.

In Indian language, the sounds can be seen in the evidence of the following premise:

Both [tk] in [patke] and [tt] in [hatte] are plossive

Both [ʔk] in [naʔke] and [ʔk] in [heʔke] are plossive

The row of sounds influence to each other for the ease of pronunciation.

2. The sound system of a language tend to be symmetrical

In Indian language there are sounds that are symmetrical: there is a bilabial [p] and [b], also a bilabial nasal [m]. There are the sound of inhibitory dental [t] and [d] and there is also dental nasal [n].

3. The sound of a language tends to fluctuate
4. Sounds that have a phonetic similarity is not classified as contrast if complementary distributed and when varied independent.
5. Sounds that have same phonetic are classified into different phonemes when contrasted in the same environment or similar (Muslich, 2008: 79-83).

Research method

For the purpose of the study, the researcher collected data from several sources. The data which were in the form of theoretical research literature were obtained from books in general linguistics, especially on Phonology, both English and Indonesian.

Meanwhile, for data or material which were in the form of research material to be studied, the researcher presented a native speaker of Indian. From these two sources, the researcher collected the sounds that had been in the form of phonemes, words, or phrases.

The research method applied in this research was a qualitative method by using recording and note technique. Recording technique was used to record sound from Indian speaker directly to obtain sound symbols and the transcription.

Furthermore, the transcription was obtained by writing down the recorded sounds and used it as data. The data acquired was still in form of written recorded sounds. Then it was transcribed into text using sound symbols that was commonly used.

Discussion

Phoneme Analysis Procedures

Preliminary Prosedures

1. Phonetic Data

Table 4
“Dialect of Indian”

[wāl]	'hair'	[gend ^h e]	'onion'
[slře]	'head'	[chol]	'rice'
[met'a]	'forehead'	[k ^h a]	'will'

[broke]	'eyebrow'	[soja]	'go to sleep'
[a?k ^h ə]	'eye'	[karə]	'house'
[næ?k ^h ə]	'nose'	[k ^h ař]	'car'
[gallə]	'cheek'	[bɛʔ]	'bag'
[bolə]	'lip'	[bɛʔja]	'sit down'
[mU]	'mouth'	[boʔja]	'stand up'
[d ^h and ^h ə]	'teeth'	[pař]	'read'
[jəban]	'tongue'	[pɪla]	'drink'
[galləh]	'neck'	[nālo]	'take a bath'
[kannə]	'ear'	[jao]	'go'
[mod ^h e]	'shoulder'	[kamə]	'work'
[he?k ^h ə]	'chest'	[etae]	'board'
[ed ^h ə]	'stomach'	[cega]	'gown'
[hattə]	'hand'	[pet'e]	'grass'
[uŋgəl]	'fingers'	[pok ^h ə]	'hungry'
[no]	'nail'	[soni]	'beautiful'
[sattə]	'thigh'	[sona]	'handsome'
[pəř]	'leg'	[oc ^h a]	'tall'
[gud ^h e]	'knee'	[medra]	'short'
[ədd ^h i]	'heel'	[mot'a]	'fat'
[ʔali]	'plate'	[sukra]	'thin'
[c ^h imc ^h a]	'spoon'	[bet'a]	'boy'
[kard ^h ə]	'knife'	[bət'i]	'girl'
[kola]	'bowl'	[kitap]	'book'
[koli]	'cup'	[rona]	'do not cry'
[balt'i]	'pail'	[chol ^h ala]	'eat rice'

[k ^h and ^h ə]	'sugar'	[k ^h iya ^l hal c ^h a]	'how are you?'
[lUna]	'salt'	[keterjana]	'where are you going to go?'
[merc ^h a]	'chili'	[kIlena]	'what do you want?'
[puce]	'ask'	[mec ^h e]	'size'
[p ^h uce]	'tail'	[mece]	'desk'
[duk ^h e]	'suffer'	[duke]	'sick'
[neng ^h i]	'bare, naked'	[nengi]	'through'
[sou]	'oath, promise'	[s ^h ou]	'sleep'
[bar]	'outside'	[s ^h ona]	'gold'

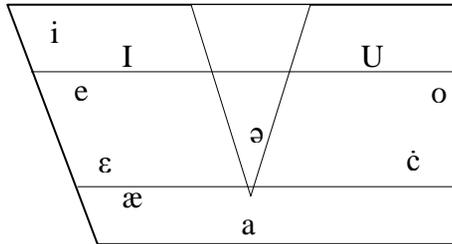
Data Source: Kour Herbinder; Age: 26 years; Job: College student; Language status: Native Speaker of Indian Language; Bilingual: Indian Language and Bahasa Indonesia

2. Phonetic Chart

Table 5
Consonant Phonetic Chart

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Glottal
Plosive	p p ^h b b ^h			t t' d d ^h			k k ^h g g ^h	ʔ
Fricative				s s ^h			h	ħ
Affricate					c c ^h j			
Nasal	M			N			ŋ	
Lateral				r ř l				
Semi Vowel	W					y		

Table 5
Vowel Phonetic Chart



3. Suspicious Pairs

Sounds which have the same phonetic similarity of the above data are as follows:

a. Consonant

[p] – [b]

[t] – [d]

[k] – [g]

[k] – [ʔ]

[g] – [ʔ]

[ç] – [j]

[n] – [ŋ]

[p] – [p^h]

[k] – [k^h]

[g] – [g^h]

[s] – [s^h]

[l] – [r]

[ç] – [ç^h]

b. Vowel

[i] – [I]

[e] – [æ]

[e] – [ə]

[u] – [U]

[o] – [U]

[ə] – [a]

[a] – [ç]

4. Non Suspicious Pairs

[w] [y]

[m]

Separating Procedures

1. For [p] – [b]

Environment : Identical

Evidence : [par] ‘read‘

[bar] ‘outside‘

Phonemic Conclusion: [p] and [b] are separated phonemics since they contrast in identical environments.

2. For [p] – [p^h]

Environment : Identical

Evidence : [puce] ‘ask‘

[p^huce] ‘tail‘

Phonemic Conclusion: [p] and [p^h] are separated phonemics since they contrast in identical environments.

3. For [k] – [k^h]

Environment : Identical

Evidence : [duke] ‘suffer‘

[duk^he] ‘sick‘

Phonemic Conclusion: [k] and [k^h] are separated phonemics since they contrast in identical environments.

4. For [g] - [g^h]

Environment : Identical

Evidence : [nengi] ‘bare, naked‘

[neng^hi] ‘through’

Phonemic Conclusion: [g] and [g^h] are separated phonemics since they contrast in identical environments.

5. For [s] – [s^h]

Environment : Identical

Evidence : [sona] ‘handsome’

[s^hona] ‘gold’

Phonemic Conclusion: [s] and [s^h] are separated phonemics since they contrast in identical environments.

6. For [c] – [c^h]

Environment : Identical

Evidence : [mece] ‘size’

[mec^he] ‘work’

Phonemic Conclusion: [c] and [c^h] are separated phonemics since they contrast in identical environments.

7. For [ɛ] - [o]

Environment : Analogous

Evidence : [bɛʔja] ‘sit down’

[boʔja] ‘stand up’

Phonemic Conclusion: [ɛ] and [o] are separated phonemics since they contrast in analogous environments.

8. For [ə] – [a]

Environment : Analogous

Evidence : [bət'i] ‘girl’

[balt'i] ‘pail’

Phonemic Conclusion: [ə] and [a] are separated phonemics since they contrast in analogous environments.

9. For [t] – [d]

Environment : Analogous

Evidence : [metʰa] ‘forehead’

[medra] ‘short’ ‘

Phonemic Conclusion: [t] and [d] are separated phonemics since they contrast in analogous environments.

10. For [e] – [æ]

Environment : Analogous

Evidence : [heʔk^hə] ‘chest’

[næʔk^hə] ‘nose’

Phonemic Conclusion: [e] and [æ] are separated phonemics since they contrast in analogous environments.

11. For [ə] – [e]

Environment : Analogous

Evidence : [ədd^hi] ‘heel’

[ed^hə] ‘stomach’

Phonemic Conclusion:[ə] and [e] are separated phonemics since they contrast in analogous environments.

Uniting Procedures

1. For [d] – [dʰ]

The occurrence of [d] and [dʰ] in Word-Final Open Syllables before [e], and [ə].

Table 6

The occurrence of [d] and [dʰ]

Submember /d/	In Word-Final Open Syllables before [e] and [ə]	Elsewhere
[d]	5 x	3 x
[dʰ]	2 x	never

Phonemic Conclusion: [d] – [dʰ] are submember of a single phonem since they are phonetically similar and mutually exclusive in distribution.

Phonemic norm: [d]

Residue

Data that can not be analyzed by Separating Procedure and Uniting Procedures are as follows:

- | | |
|--------------|-----------|
| a. Consonant | c. Vowel |
| [k] – [g] | [i] – [I] |
| [k] – [ʔ] | [u] – [U] |
| [g] – [ʔ] | [o] – [O] |
| [c] – [j] | [a] – [A] |
| [n] – [ŋ] | |
| [l] – [r] | |

Conclusion

There are three characteristics of the phonology of India language, namely:

1. The sounds in India language are dominated by alveolar sounds like usually pronounced by speakers of Indonesian Balinese dialect.

2. Based on the above analysis, the phoneme is produced:

- Consonant : 28 phonemes
- Vowel : 11 phonemes

- Diphthongs : 1 phonemes
 - There are many variations of the language sound as allophones, such as sound [k'] is an allophone of [k], and sound [d^h] is an allophone of [d].
3. The pronunciation of sound [t], [d] and [k] dominantly resembles with [t], [d] and [k] on Indonesian Balinese.

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