



**PHONOLOGY OF MONOSYLLABIC  
WORDS IN CALCUTTA URDU: A  
COMMUNICATIVE APPROACH**

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**BY**

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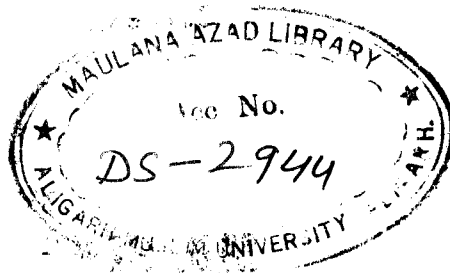
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CERTIFICATE

This is to certify that the dissertation, entitled Phonology of Monosyllabic Words in Calcutta Urdu: A Communicative Approach, submitted by Md. Rehan Ahmed in partial fulfillment of the requirements of the M.Phil. degree in Linguistics, has been completed under my supervision.

It is further certified that Md. Rehan Ahmed has fulfilled all the conditions laid down in the Academic Ordinances with regard to the M.Phil. coursework, and that to the best of my knowledge the dissertation contains his own research.

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Table of Contents

Acknowledgements	i
Table of Contents	iii
List of Diagrams and Tables	viii
INTRODUCTION	1-27
Section 0.1. Historical Setting of Calcutta Urdu	1
Section 0.2. Field Procedures	5
0.2.1. Collection of Data	5
0.2.2. Analysis of Data	6
Section 0.3. Theoretical Background	7
0.3.1. Orienting Principles	8
(1) Communication	9
(2) Physiological Mechanism	10
(a) Articulators and Apertures	11
(b) Constriction and Opening	12
(c) Clearly Audible and Less Clearly Audible	13
(d) Role of Larynx in the Production of Sounds	14
(e) Hierarchy of Adroitness of Articulators	15
(f) The Medium- Dorsum Mass as the Articulator for Vowels	16
(g) Asymmetry of the Vocal Tract	17
(3) Acoustic Medium	18
(4) Human Behavior	20
(5) Vision	21
0.3.2. Double Articulation	22
0.3.3. Phonemic Inventory <u>versus</u> Phonological Grid	23
0.3.4. Syntagmatic <u>versus</u> Paradigmatic Relations	24
0.3.5. Substance and Value in Phonological Analysis	24
0.3.6. Validation of the Analysis	26

Section 0.4. Scope of the Study	27
CHAPTER 1: Physiological Base of Calcutta Urdu	28-56
Phonology: A Brief Account	
Section 1.1. Presentation of the Phonological Grid of Calcutta Urdu	28
1.1.1. Comments on the Phonological Grid of Calcutta Urdu	29
(1) Mechanics of Diagraming	31
(2) Constrictions <u>versus</u> Openings	32
(3) Clearly Audible <u>versus</u> Less Clearly Audible	33
(4) Phonemes <u>versus</u> Phonological Units	35
(5) Status of N, V and A as Phonological Units	37
(6) The Production of V, A and Voiced h	38
(7) Four Stop Categories	40
(8) Units Formed at Two Points of Articulation with the Same Articulator: Apico→dentals <u>vs</u> Apico→palatals	41
(9) Units Formed with Two Articulators: Labio-Dorsals	41
(10) Units Formed with the Combination of Two Apertures: Diphthongs	42
Section 1.2. The Hierarchy of Adroitness of Articulators: The Makeup and Distribution of Less Clearly Audible Units	43
1.2.1. Effect of Hierarchy of the Adroitness of Articulators on the Number of Phonological Units in the Paradigm	44
1.2.2. Effect of The Hierarchy of the Adroitness of Articulators on the Frequency of Occurrence of the Less Clearly Audible Units	46

(1) Less Clearly Audible Units in Terms of Articulators in the Hierarchy of Adroitness: Apertures $\emptyset$ , 1, 2, 3	46
(2) Stops in Terms of Articulators in the Hierarchy of Adroitness: Aperture 0	49
(3) Most Frequently Used Consonants in Calcutta Urdu	51
Section 1.3. Summary and Conclusions	53
CHAPTER 2: Role of Communication in the Phonology of Calcutta Urdu	57-118
Section 2.1. Impact of Communication on the Paradigmatic Makeup of Phonological Units	58
2.1.1. The Phonemic Inventory of Calcutta Urdu	59
2.1.2. Phonemic Contrast	62
(1) Consonantal Contrasts	62
(a) Four Stop Types Contrasted	63
(b) Contrast of Stops in Terms of Articulators	65
(c) Nasals Contrasted in Terms of Articulators	66
(d) Contrast of <u>s</u> and <u>h</u>	67
(e) The <u>s</u> Contrasted with Some Apico-dental Consonants: <u>s</u> <u>versus</u> <u>t</u> <u>l</u> <u>r</u>	67
(f) Liquids Contrasted in Terms of Articulators	67
(2) Vocalic Contrasts	
(a) Contrast of Short Vowels <u>versus</u> Long Vowels	68
(b) Contrast of Nasal Vowels <u>versus</u> Oral Vowels	69
(c) Contrast of Front Unrounded <u>versus</u> Back Rounded Vowels	70
(d) Contrast of Central Schwa A <u>versus</u> I and U, and <u>Ā</u> <u>versus</u> <u>ĩ</u> and <u>ũ</u>	70



(e) Contrast of Diphthongs: ai <u>versus</u> au; ãi <u>versus</u> ãu	71
(f) Contrast of Central a: <u>versus</u> ai and au; ã: <u>versus</u> ãi and ãu	71
(g) Contrast of Nasal Diphthongs <u>versus</u> Oral Diphthongs	71
Section 2.2. Effect of Communication on the Syntagmatic Distribution of Phonological Units	72
2.2.1. Communicative Load and the Position of the Phonological Units in the Word	72
(1) Communicative Load and the Hierarchy of Adroitness of Articulators	73
(a) Impact of Communication on the Relative Preference of the Consonantal Units in Terms of Articulators in the CVC Words	74
(b) Impact of Communication on the Relative Preference of the Stops in Terms of Articulators in the CVC Words	77
(c) Impact of Communication on the Apical <u>s</u> in the CVC Words	80
(d) Impact of Communication on the Relative Preference of the Liquids in Terms of Articulators in the CVC Words	81
(e) Impact of Communication on the Relative Preference of the Nasals in Terms of Articulators in the CVC Words	83
(2) Communicative Load on the Initial and Final Positions of the Word in Terms of Number of Articulators	86

(a) Unaspirated and Aspirated Stops in the CVC Words	87
(b) Voiceless and Voiced Stops in the CVC Words	89
2.2.2. Pairs of Words with the Same Phonological Units in Reverse Order	92
Section 2.3. Phonological Mergers	100
Section 2.4. Homonymy	106
2.4.1. Homonymous Pairs of Words	106
2.4.2. Consonantal Mergers and Homonymy	111
2.4.3. Word Final Deaspiration and Homonymy	112
2.4.4. Preservation of Aspiration in Homonymous Context	113
Section 2.5. Summary and Conclusions	115
CHAPTER 3: Summary and Conclusions	119-125
Section 3.1. Summary	119
Section 3.2. Conclusions	123
Bibliography	126
Glossary of Monosyllabic Words in Calcutta Urdu	135

List of Diagrams and Tables

Diagram 0-1: Scale of Adroitness of Lingual Articulators	16
Diagram 1-1: Phonological Grid of Calcutta Urdu	30
Diagram 1-2: Configurations of the Vocal Folds in the Production of V, h, and A	39
Table 1-1: Hierarchy of Adroitness of Articulators and the Makeup of the Less Clearly Audible Units	44
Table 1-2: Frequency of Occurrence of the Less Clearly Audible Units in the Monosyllabic Words in Terms of Articulators	47
Table 1-3: Frequency of Occurrence of Stops in the Monosyllabic Words in Terms of Articulators	50
Table 1-4: Most Frequently Used Consonantal Phonemes in Calcutta Urdu	53
Diagram 2-1: The Phonemic Inventory of Calcutta Urdu	60
Diagram 2-2: The Mergers of Consonantal Units	101
Table 2-1: Frequency of Consonants in the Initial and Final Position of the CVC Words in Terms of Articulators	75
Table 2-2: Frequency of Stops in the Initial and Final Position of the CVC Words in Terms of Articulators	78
Table 2-3: Frequency of Apical Fricative <u>ʃ</u> in the Initial and Final Position of the CVC Words	81
Table 2-4: Frequency of Liquids in the Initial and Final Position of the CVC Words in Terms of Articulators	82
Table 2-5: Frequency of Nasals in the Initial and Final Position of the CVC Words in Terms of Articulators	84
Table 2-6: Frequency of the Unaspirated and Aspirated Stops in the Initial and Final Position of the CVC Words	87
Table 2-7: Frequency of the Voiceless and Voiced Stops in the Initial and Final Position of the CVC Words	90

## INTRODUCTION

In this dissertation, we present a phonological analysis of Calcutta Urdu, as spoken in the city of Calcutta (West Bengal). The present analysis is carried out in terms of the theoretical principles of Columbia School of Linguistics.

This introductory chapter, covering four sections, is geared to providing proper perspective for the phonological research undertaken in the dissertation. In section 0.1, we briefly deal with the historical setting of Calcutta Urdu. Section 0.2 presents the field procedures utilized in the collection and analysis of the data. In section 0.3, we provide a brief outline of the theoretical framework on which present analysis is based. Section 0.4 deals with the scope of the analysis

### Section 0.1. Historical Setting of Calcutta Urdu

Calcutta, the capital of the state of West Bengal, stands on the left bank of the western branch of the Ganges, known as the Hooghly river. As a premier center of trade and industry, this port city is India's gateway to Southeast Asia and Australia. The city spreads over an area of 104.9 sq.kms., with a population of approximately four and a half millions (1991 census). Majority of this population is composed of the native Bengalis, who of course speak their own Bengali language. But a sizable portion of the city's population comprises other communities coming from various parts

of the country. They speak Urdu, Hindi, Santhali (a tribal language), and Nepali. English is also widely used in administration and business.

The city dates back to 1690, when an English merchant, named Job Charnock, established here the trade headquarters of the East India Company. Thickly populated and full of life, the city is rich in its heritage -- cultural, economic and political.

Calcutta emerged as a major city of India in 1772, when Warren Hastings, the then Governor General of India, shifted the administrative headquarters of Bengal from Murshidabad to Calcutta. It soon became the capital of British India, and maintained that status till 1912, when the seat of British Raj was transferred to New Delhi. However, even after the loss of central patronage, Calcutta continued to flourish as the prime center of trade and industry in India.

With the industrial and economic growth and the ensuing prosperity of Calcutta, people from neighboring states of Bihar, Uttar Pradesh and even Delhi started migrating to this city in search of employment, business and other opportunities for a better life.

The migration of Muslim writers and artisans from Delhi and Lucknow to Calcutta, began quite early with the decline of Mughal power in Delhi and the rise of the British power in India. It may be noted that when Fort

William College was established in Calcutta at the turn of the nineteenth century, quite a few writers and scholars from Delhi and Lucknow were commissioned to write books in Urdu for teaching this language to the British administrators coming to India for civil service. The college remained a busy center of literary activities for many years. The most important among the Urdu scholars at this college was Mir Amman of Delhi, whose Bagh-o-Bahar has become a classic in Urdu literature. In 1856, a second batch of Urdu writers and artists arrived at Matia Burj locality in Calcutta, with the deposed Nawwab Wajid Ali Shah of Oudh.

As mentioned earlier, Calcutta is a cosmopolitan city, inhabited by a large number of people from all over the country. But a sizable non-Bengali population is represented by Urdu speaking Muslims from the neighboring states of Bihar and Uttar Pradesh.

Initially, Muslim migrants from neighboring states got employed as laborers in jute mills, and as dockworkers at Calcutta port. But gradually they diversified their activities, and are now engaged in various other small professions and businesses, like tailoring, hair-cutting, fruit-selling and bidi-making (manufacturing of indigenous handmade cigarettes of crudely cut smoking tobacco rolled in a particular leaf), etc. Furthermore, the more affluent among the Muslims are also engaged in businesses like leather manufacturing, perfumery and tobacco industry, etc. Thus, the Urdu speaking migrants, who have lived in Calcutta

for generations, are now very much part of this city. The Muslim population is mainly concentrated in localities, such as Raja Bazar, Matia Buri, Khiderpur, Narkel Danga, Colootola, Kela Bagan, Park Circus and Mallick Bazar, etc. Urdu dialect of Calcutta is spoken by Muslim laborers (in jute mills and other factories), dockworkers, vendors, porters, rickshaw pullers, bidi-makers, butchers, and small grocers (parchun-sellers). Furthermore, skilled workers in various industries, particularly the leather manufacturing also speak this dialect. It is this dialect of Calcutta, commonly known as Kalkatia Urdu, that is studied in the present work.

It is noteworthy that Calcutta Urdu is distinctively different from Modern Standard Urdu, both in phonology and grammar. Furthermore, despite a substantial common core in the lexicon, there are perceptible lexical differences between Calcutta Urdu and modern Standard Urdu.

Kalkatia Urdu, as a characteristic dialect of the Urdu language, was first formally identified by an Urdu novelist, Badruzzaman Badr, in his novel Ahsan (1907-08). In the novel, the author clearly recognises the distinctiveness of Calcutta dialect of Urdu, and expresses it through the dialogues of two typical characters representing the speakers of this dialect. Later on, a Calcutta newsdaily Abshaar, edited by Mohammad Ibrahim Hosh, regularly contained a feature column on Kalkatia Urdu on a regular basis for many years. In 1958, the editor of this newspaper wrote Jindagi ka Mela, a collection of poems

in the characteristic Kalkatia Urdu dialect. We also find a short account of Kalkatia Urdu in Naseer Ahmad Khan's work on Urdu ki Boliyan aur Karkhandari Urdu (1979).

The present researcher traced all the above mentioned sources of Calcutta Urdu, as he embarked on the field work in various localities in the city of Calcutta.

## Section 0.2. Field Procedures

Data is one of the most important ingredients for any kind of scientific research. The collection of an extensive, and preferably exhaustive, data is essential for an authentic linguistic analysis -- be it phonological or grammatical. Field work for the phonological analysis of Calcutta Urdu may be summarized under two heads, namely, the collection of data, and the analysis of data.

### 0.2.1. Collection of Data

The entire process of the collection of data for the present analysis involved the careful selection of informants and the meticulous elicitation of data.

Selection of suitable informants for the collection of data is very important. The data for the present research has mainly been solicited from three informants -- two males and one female. All these informants are typical speakers of Kalkatia Urdu and they belong to the lower social strata of the society. Abdul Gaffar Khan (age : 52 years), a small grocer, belongs to the Raja Bazar locality in Calcutta. Mohammad Salim (28 years), a resident of



Narkel Danga, is a craftsman, who makes cardboard boxes for shoes and locks. Chand Bibi of Raja Bazar is a 65 years old widow of a butcher. None of the aforesaid informants had any formal education. But they did have some madrasa (religious school) background that enabled them to learn the Urdu alphabet and to recite select verses from the Holy Qur'an.

The data for the present phonological analysis was elicited from our informants with utmost care. The researcher carried out face to face interviews with the informants for considerable period of time, each sitting running into hours. We have tried to collect the monosyllabic words on an exhaustive basis, whereas the bisyllabic and longer words have been collected on a selective basis. The elicitation of monosyllabic words has been realized in two ways:

- (1) By using J.T. Platt's dictionary as a possible guide.
- (2) By keeping in view the potential words in terms of all possible combinations of consonants and vowels, particularly in the CVC words. It may be noted that each word of the data has been carefully recorded, with every phonetic detail of its components, in narrow transcription on the index cards.

#### 0.2.2. Analysis of Data

On the basis of the collected words in narrow transcription, a phonemic inventory of Calcutta Urdu was established by following the principles of phonemic analysis laid down by American Structuralists. Each word

of the collected data was then rewritten in phonemic transcription in terms of the established phonemes.

For the statistical support of the phonological analysis undertaken in this dissertation, we have also made use of the analysis pad with graph sheets. All the CVC words were plotted on these sheets, each sheet confined to a particular initial consonant, followed by all the vowels in vertical order and all the final consonants in horizontal order. The calculations were then made for the phonological units of the CVC words both horizontally and vertically. Additional graph sheets were used to obtain the figures for the CVCC words. All these figures for the monosyllabic words were then summarized in tabular forms. As seen in these tables, there are vast skewings in the frequency of usage for the phonological units in the monosyllabic words. As will be seen later, the figures of these skewings form part of an explanatory process for the validity of phonological analysis.

### Section 0.3. Theoretical Background

The present phonological analysis of Calcutta Urdu is based on the theoretical principles of Columbia School of Linguistics. The theory has been fully developed by the concerted efforts of Professor William Diver\* and his

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\*It may be noted that we have taken liberty in incorporating Professor William Diver's ideas from his lectures and his published and unpublished works, often without giving proper references, in this section, as elsewhere in this dissertation. We are indeed indebted to him for utilizing his theoretical viewpoint. However, any misrepresentation of his ideas on our part, does, by no means, make Professor Diver responsible for it.

students at the Columbia University.

It may be noted that the main source of inspiration for William Diver is Ferdinand de Saussure. For many of Saussure's concepts form the backbone of the Columbia school theory. Prague School, particularly N. Trubetzkoy, is also an important source for the phonological principles of the Columbia school. Furthermore, William Diver has also been profoundly influenced by the linguistic thinking of his teacher André Martinet.

An outline of the Columbia school phonological theory is presented in the following sections. In section 0.3.1, we present the orienting principles for the phonological analysis. Section 0.3.2 deals with Martinet's concept of double articulation of language. In section 0.3.3, we introduce the concept of phonological grid in opposition to phonemic inventory. In section 0.3.4, we discuss the paradigmatic and syntagmatic relations in phonology. In section 0.3.5, we deal with the substance and value in phonological analysis. Finally, in section 0.3.6, we briefly outline the procedures for the validation of the analysis.

#### 0.3.1. Orienting Principles

" It is well known that language is used by human beings to communicate messages and that these messages are imparted by means of signals that are produced by the speaker through various manipulations and configurations of the vocal tract and are transmitted to the hearer through

an acoustic medium"\*. It is these common facts about the character of the language that provide the rationale for having five orienting principles for phonological analysis. These phonological principles are : (1) communication (2) physiological mechanism (3) acoustic medium (4) human behavior (psychology) and (5) vision.

It is noteworthy that these orienting principles are independently known and verifiable. That is, they are true by themselves, irrespective of whether they are applied to language or not. For example, the principle of communication is as valid for the traffic light system or the morse code, as it is when it operates in language through the signal - meaning units. A brief account of the five principles is presented below.

#### (1) Communication

What we informally call language is uniquely human system of communication, and, it, like other devices of communication (such as morse code or computer), indicates meanings by means of signals. This relationship of signal (form) and meaning is formally referred to as signe by Saussure. But the role of communication is not just limited to grammar alone.

Communication, as an orienting principle, also plays a significant role in phonology. Thus, the makeup of the phonological units of a language is mainly based on

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\*Abdul Azim (1978) : p. 6.

communication. For the phonemes are established by contrast through minimal and sub-minimal pairs; that is, through distinctiveness of meaning in minimally different words. This is not something new that we do; the same procedure is followed in traditional American phonemics for the "inventory of phonemes"

Furthermore, communication also affects the syntagmatic makeup of the word in a language. Certain phonemes are used more often than others in the various positions of the word. That is, some phonemes carry greater communicative load than others in the makeup of the word. This concept, introduced by Martinet under the term "functional load", will be amply illustrated in our chapter on communication.

## (2) Physiological Mechanism

Signals of language, made up of sounds in the speech chain, are produced by a particular physiological mechanism, the vocal tract. Humans are endowed with an improved sound producing mechanism as a result of which they are able to produce a large number of sounds by various manipulations and configurations of the vocal tract. Though phonemes (abstract sound units) of a language are established by way of contrast through minimal pairs (communication), these units are also based on the physiology of the vocal tract. For the phonemes are systematically projected on the physiological space in terms of what are traditionally known as "manners of articulation" and "points of articulation" (or articulators). Basic physiological parameters in terms

of Columbia school phonology are outlined below.

(a) Articulators and Apertures

Articulators and apertures may be termed the fundamental parameters for the classification of phonological units. For the units of the phonological system are produced by combining articulators, singly or in combination, with the degrees of aperture from the total closure of the vocal tract (as in stops) to the wide open aperture (as in a). The articulators are the adroit organs of the vocal tract which, in association with the proximate places of articulation, shape and excite the oral cavity in the production of speech sounds. The degrees of aperture, on the other hand, refer to the vertical openings of the vocal tract with the downward movement of the lower jaw. The articulators are : lower lip; the apex, the medium, the dorsum, the root of the tongue; the velum (as an articulator for the nasal sounds); and the larynx.

The degrees of aperture are : 0-complete stoppage, as in the production of p b, etc; 1- partial stoppage, so that air is forced between the articulator and the place of articulation, they in contact, as in f v, etc.; 2- no stoppage, but the articulator forming a sufficiently small aperture that it can control the stream of air coming from the lungs (noise is produced by turbulence as the air stream comes in contact with some target), as in s z, etc.;  $1\frac{1}{2}$  - this unusual glottal aperture is used for the production of some speech sounds, such as bh dh gh, and voiced h; 3,4,5,..... - the articulator used to produce resonant cavities

with successively larger degrees of aperture. Whereas aperture 3 is utilized to produce w l r y, apertures 4 and above are used to produce vowels. It may thus be seen that all speech sounds (both consonantal and vocalic) are produced by combining the various degrees of apertures with the particular articulators.

It may be noted that both consonants and vowels are classified in terms of the same criteria. Thus, the degrees of aperture are used as a single parameter to classify stops, fricatives, liquids, and all vowels from close (i u) to open (a). Likewise the adroit articulators, rather than the passive places of articulation, are used as a parameter to classify all speech sounds, both consonantal and vocalic.

#### (b) Constriction and Opening

The degrees of aperture may be divided into two broad groups : the constriction apertures (0, 1,  $1\frac{1}{2}$ , 2) and opening apertures (3 and above). It may be noted that stops (plosives) and fricatives are produced at the constriction apertures, whereas the liquids (w l r y) and the vowels are produced at the opening apertures.

At the constriction apertures, the articulators are in close contact with the places of articulation, and there is impediment of air coming from the lungs. As a result, articulators can both shape and excite the oral cavity in the production of speech sound at these apertures. But as the distance between the articulators and the places of articulation is greatly increased at the opening apertures,

the articulators can only shape the vocal cavity for the production of speech sounds at these apertures; the excitation is provided by the larynx through the vibration of the vocal folds. That is, voicing is a necessary concomitant of the speech sounds produced at the opening apertures.

Thus, voicelessness is basic for the stops (p t k, etc. and fricatives (f s x, etc.) produced at the constriction apertures; voicing through the glotts is therefore an added complication in the production of speech sounds (as in b d g; v z ʒ) at these apertures. On the contrary the voicing is a necessary requirement for the production of the liquids (w l r y) and of the vocalic sounds; voicelessness of speech sounds at the opening apertures is therefore a rare phenomenon in the languages of the world.

Finally it may be noted that the constriction apertures may be termed absolute in that they can be precisely defined in terms of the distance between the articulators and the associated places of articulation. The opening apertures, on the other hand, may be termed relative. For these apertures do not have fixed vertical positions on the vocal space; even the number of opening apertures varies from language to language, depending on the number of vocalic units in a language. (For further details, cf. Diagram 1-1, comment 2).

(c) Clearly Audible and Less Clearly Audible

Another broad division of the degrees of aperture may be based on the clearly audible versus less clearly



audible speech sounds. The less clearly audible sounds produced at apertures  $\emptyset$ , 1, 2 and 3, include all consonants (stops, fricatives, and liquids), whereas the clearly audible sounds, occurring at apertures 4 and above, include all the vowels. Thus, this grouping corresponds to the traditional division of the speech sounds into consonants and vowels.

In the syntagmatic organization of the word, it may be noted that the clearly audible sounds (vowels) are the keystones, which are flanked by the less clearly audible sounds (consonants). (For further details, cf. Diagram 1-1 comment 3).

#### (d) Role of Larynx in the Production of Sounds

Larynx contains the two sensitive and highly flexible vocal folds. As highly adroit articulators, these folds can bring about the production of glottal stop, voicing, pitch levels (tones and intonation), and aspiration. The vocal folds may assume four glottal configurations.

#### Total Closure

When the two vocal folds come in close contact, they make a temporary closure at the glottis, producing what is known as 'glottal stop'.

#### Narrow Slit

The vocal folds can also form a narrow slit through which the air from the lungs is forced out, setting the edges of these folds into vibration. This vibration, technically known as voice, is superimposed on voiceless

stops (p t k, etc.) and voiceless fricatives (f s x, etc.) to produce voiced stops (b d g, etc.) and voiced fricatives (v z ʒ, etc.).

### Wide Triangle

Vocal folds also form a wide triangular configuration for the production of voiceless h (visarga) and voiceless aspirates (ph th kh, etc.).

### Narrow Triangle

The vocal folds may also form a narrow triangular configuration (exactly half the size of the wider triangle formed during the production of voiceless h) to produce voiced h and voiced aspirates (bh dh gh, etc.).

### (e) Hierarchy of Adroitness of Lingual Articulators

In view of their differing musculature, the various parts of the tongue (apex, medium, dorsum, and post dorsum), used as articulators, are not uniform in their degrees of adroitness. Of all the supraglottal articulators, the apex of the tongue is the most adroit. For, due to its thin, light-weight structure and its triangular shape, apex can be moved freely across the length and breadth of the vocal tract. On the opposite end of the apex, among the lingual articulators, is the post dorsum or the root of the tongue. Hinged to the back of the oral cavity, the root functions as a hilt to the entire tongue in general and to the dorsum in particular. The thick, massy musculature of the root, therefore, makes it the least adroit of the lingual articulators. The massy rectangular dorsum, supported by

the root, has the most flexible musculature after the apex, among the lingual articulators. Finally, it can reasonably be assumed that the medium of the tongue is more adroit than the root and less adroit than the dorsum. For the massy rectangular musculature of the medium can be tightened to act as a hilt for the apex.

Thus, the four lingual articulators can be placed on the scale of adroitness, as in diagram O-1.

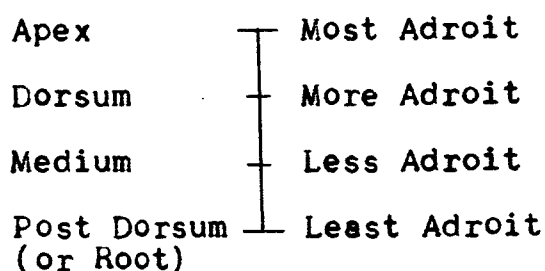


Diagram O-1. Scale of Adroitness of Lingual Articulators

Inasmuch as the lingual articulators and the labia are closely linked with each other in the production of speech sounds, we may have a de facto placement of the lower lip on the scale of adroitness of lingual articulators. The fleshy musculature of the lower lip makes it a highly flexible articulator that may be placed below the apex and above the medium (somewhere close to dorsum) on the scale of adroitness of articulators.

(f) The Medium-Dorsum Mass as the Articulator for Vowels

As pointed out above, the non-apical portions of the tongue have greater physical mass than has the apex. The heavy mass, the positioning, and the rectangular

shape of the medium-dorsum, in combination with the labia, are ideally suited for the formation of two resonant cavities, one in front and one behind the mass of the medium-dorsum, that are needed in the production of clearly audible sounds, generally referred to as vowels. On the contrary, the apex, with its triangular shape and light mass, is not suitable for forming resonance chambers for the production of vocalic sounds. It may be noted that the excitation for the resonant cavities is provided by the larynx through the vibration of the glottis.

The musculature of the medium-dorsum mass may be divided into three articulators -- the medium, front dorsum, and back dorsum, traditionally known as "front", "central", and "back". These articulators, along with labia, combine with apertures 4 and above to produce potentially a large number of clearly audible sounds.

#### (g) Asymmetry of the Vocal Tract

As pointed out by Martinet, the Vocal tract is asymmetrical. This asymmetry is mainly caused by the angle of the jaws. With its vertex at the joint of the upper and lower jaws, this angle is formed when the oral cavity is opened by the movement of the lower jaw. As a result, the medial ("front") articulator has more vertical space for maneuver than does the back dorsal ("back") articulator.

This asymmetry in the physiology of the vocal tract has its impact on the makeup and distribution of

phonological units, both consonantal and vocalic. Given the disparity in the vertical space in the front and the back of the vocal tract, we expect that more phonological units may be formed by the front articulator than by the back articulator. This is particularly significant for the vocalic units of a language, for we find that quite a few languages have fewer vowels in the back than in the front.

### (3) Acoustic Medium

Language signals are transmitted through a particular medium, the acoustic. Therefore, acoustic medium, as an orienting principle, becomes significant in the analysis of speech sounds, both consonantal and vocalic.

Thus, vocalic sounds can be acoustically analyzed and properly identified in terms of the frequencies of the first three formants ( $F_1$ ,  $F_2$ ,  $F_3$ ) as seen in the sound spectrograms. Likewise, for the identification and classification of consonantal sounds, the acoustic cues are obtained through spectrographic research.

It is worth noting that breakthroughs have been made in the analysis of speech sounds through acoustic research. For example, in their study of the stop categories across languages, Lisker and Abramson have successfully demonstrated that at least three stop types (b d g, etc; p t k, etc; ph th kh, etc.) can be clearly distinguished from one another by the single phenomenon of voice onset time. But, as they have themselves pointed

out, the characteristics of the fourth stop category, the voiced aspirates (bh dh gh, etc.) cannot be accounted for by the voice onset continuum alone.

As for the voiced h and the voiced aspirates, they can be properly analyzed in terms of both physiology and acoustics. For the "breathy voice" in these sounds is produced when the air from the lungs is forced through an unusual, narrow triangular configuration of the glottis. (Cf. 0.3.1.(2)(d), and 1.1.1.(6).)

Finally, some vocalic categories can also be analyzed in terms of physiologico-acoustic rationale. It is to be noted that a large resonance chamber is formed, extending from the glottis to the medium, for the production of the front vowels. And notwithstanding the angle of the jaws, there is sufficient vertical space in this chamber above the medium. This large chamber is more than adequate for the production and perception of front vowels. On the other hand, a much smaller chamber, from the glottis to the back dorsum, is formed in the production of back vowels. It is to be noted that the width of this chamber is greatly reduced because of the angle of the jaws. As a result, the vocalic distinctions at the back dorsum would require greater precision of control in the production of the back vowels and painstaking effort in the perception of these vowels. This problem is solved by the formation of another resonance chamber from the back dorsum to the lips, through the rounding of the lips.

For the vocalic distinctions made at the back dorsum are amplified through this front chamber. That is why, rounding of the back vowels and the converse unroundedness of the front vowels is widespread in the languages of the world.

#### (4) Human Behavior

Language is unique in that it alone is used as a vehicle of communication by human beings themselves, and not by manmade tools, as is the case with other devices of communication, such as traffic light system or morse code. As such, language is a particular instance of human behavior.

Humans seek a minimax solution between accomplishment and effort (maximum output with minimum input) in all their endeavors. This same psychological trait of human beings is manifest in the functioning of language. In language, the minimax solution is achieved by the human beings through human traits of intelligence and laziness.

Human intelligence or problem solving ability makes it possible to put together messages of a much higher degree of complexity and to infer the point of communication even on the basis of quite meagre information. The inference is made through intelligence with the help of speech surroundings or contexts. Human laziness, on the other hand, refers to the economy of effort, that is, a general avoidance of the use of a greater degree of precision than is necessary for the accomplishment of any given task. Thus, the power of inference and the economy of effort are the products of human intelligence and

Human laziness. And it is both inference and economy that together provide human rationale for the analysis of a language, both phonological and grammatical.

Finally, it may be noted that quite a few phonological skewings in the number of units and their frequency of usage, as encountered in languages, are explainable in terms of human behavior. For example, it is through human trait of the economy of effort that we predict the preference of speech sounds (such as, p t k) produced by fewer articulators over speech sounds (such as, b d g) produced by more articulators.

#### (5) Vision

Vision plays a role in conversation, as it does in other interactions between people. Even in speech, though we talk with our vocal organs, we also communicate through gestures, which are observed by the hearer. Further, of the vocal organs, the labia are so visible that their movement can clearly be observed in speech by the hearer. That is why, the deaf are often taught to recognize a speaker's words through lip reading.

Like physiology and acoustics, the vision as an orienting principle applies only to phonology. Further, even in phonology, the role of vision is mainly confined to the syntagmatic organization of the word. For example, the visibility of the labia makes the labial consonants ideally suited to appear in comparatively large numbers (vis-a-vis the apical, dorsal or medial consonants) in the communicatively important word initial position.



### O.3.2. Double Articulation

Double articulation of language refers to the manifestation of language on two different planes. The first articulation of language is that whereby every fact of experience that is communicated, is analyzed into a succession of signes, each of which is composed of a vocal form (signal) and a meaning. Although their number is quite high, these signes, both lexical and grammatical, frequently recur in the speech chain, and thus partake in the economy of articulation in a language. Further, a different kind of economy is achieved in that an infinite number of messages are conveyed through the meaning of each of these signes by means of human intelligence.

Each of the units of the first articulation, as pointed out above, has a signal and a meaning. The signal part of the signal-meaning units cannot be further analyzed into smaller meaningful units. At the same time, however, it is very much possible to subdivide the signal part of these units into smaller units, each distinct from the other on the basis of the phoneme principle. These limited number of distinctive phonemes recur, on a large-scale, in different combinations to form an entire inventory of the signals as morphemes and words of a language. This vast economy achieved through a handful of (10-60) distinctive phonological units, is termed the second articulation of language.

Finally, it may be noted that the concept of "double articulation", based on economy of articulation, is fully developed by André Martinet, and has become a criterion

for distinguishing phonology from grammar, particularly in the theoretical framework of Columbia school linguistics.

### 0.3.3. Phonemic Inventory versus Phonological Grid

The concept of "phonemic inventory" is particularly associated with American descriptive linguistics, and is considerably different from the "phonological grid" of Columbia school linguistics.

Traditional American phonemicists seem to regard the "phonemic inventory" of a language as a mere collection or listing of phonemes of that language. To be sure, this listing is presented with reference to points of articulation and manner of articulation for the consonants, and in terms of part of the tongue raised and height of the tongue raised for the vowels. However, these reference points are just names for the convenient identification of the phonemes of a language. Further, the criteria of pattern congruity and economy utilized in descriptive phonemics do not seem to be relevant to the actual manifestation of the phonology of a language.

Unlike phonemic inventory, phonological grid is characterized by its organization in terms of articulators and apertures based on physiology and acoustics.

Furthermore, rather than a mere listing of phonemes, phonological grid is a paradigm of phonological units; that is, these units are interrelated with each other.

As noted above, different reference points are used

to identify the consonants (points and manners of articulation) and the vowels (part and height of the tongue) in the inventory of phonemes. It may however be noted that the same parameters (articulators and apertures) are used to classify both consonants and vowels in the phonological grid.

#### 0.3.4. Syntagmatic versus Paradigmatic Relations

Based on the concepts of "syntagmatic" versus "associative" relations, introduced by Ferdinand de Saussure with particular reference to lexicon and grammar, the Prague school phonologist N. Trubetzkoy advanced the dichotomy of syntagmatic versus paradigmatic relations to particularly refer to phonology.

Syntagmatic relation in phonology refers to the combinatory relation of phonological units in a linear sequence in the written text or the speech chain. On the other hand, paradigmatic relation refers to the inter-relationship of phonological units in the paradigm of these units. The establishment of phonological grid, as outlined in the preceding section, is mainly based on the paradigmatic relationship of phonological units.

#### 0.3.5. Substance and Value in Phonological Analysis

Substance refers to the directly observable physical properties of phonological units as they appear in the speech chain. Although it can scientifically be studied in terms of acoustics, the substance can also be identified by

physiological criteria. In contrast, the value of the phonological units is determined by their interrelationship with each other in the phonological paradigm. Thus, both substance and value play a significant role in the establishment of phonological units.

The concept of value was formally introduced by Ferdinand de Saussure at the beginning of the twentieth century. It may be noted that Saussure's contemporaries of the last quarter of the nineteenth century, particularly the Neogrammarians, were steeped in substance. As a reaction, Saussure highlighted the role of value at the expense of substance.

Afterwards, Saussure's concept of value was formally adopted by the European schools of linguistics. In phonology, the rigorous application of value relation can clearly be seen in the works of Trubetzkoy and Jakobson. These Prague school phonologists claimed that study of phonology should ideally be entirely independent of substance. They thus define phonetics to be the study of substance of sounds and phonology to be the study of value relationships.

Unlike Saussure and the Prague school linguists, André Martinet emphasized the importance of weighing both substance and value on equal scales. Following Martinet, intensive research has been conducted in Columbia school of linguistics, with the assumption that both substance and value are equally important for any analysis in linguistics.

As implicitly stated in section 0.3.3, the makeup of the phonological grid is determined by both the substantive characteristics of the phonological units and the value relationship of these units in the paradigm.

#### 0.3.6. Validation of the Analysis

The postulated phonological units that make up the grid and form the morphemes and words of a language are the result of the analysis carried out on the basis of the observed data (sounds in the speech chain) on the one hand, and in terms of the motivating principles (communication, physiology, etc.) on the other. The procedure of validating the hypothesized phonological units, both in the paradigm and in the syntagmatic organization of the word, is, in principle, the reverse of the analytical procedure. That, is, we prove that what we have hypothesized, is fully justified in terms of the orienting principles, and that it provides a close fit with the observed phenomena. In practice, both procedures (analysis and validation) go hand in hand, though it is only the validated analysis that is presented as the finished product.

In validating a phonological analysis, we particularly look for skewings. For they are readily observable, both in the formation of units in the phonological paradigm and in their frequencies of occurrence in the word. As a matter of fact, the frequency counts provide reinforcement, through statistical support, to the validity of the phonological analysis. For the point of validation is a

demonstration that the skewings are produced by the orienting principles themselves.

#### Section 0.4. Scope of the Study

The present phonological analysis of Calcutta Urdu is limited both in the utilization of the data and in the application of the orienting principles for phonology.

The data is limited in that only the monosyllabic words have been collected and analyzed on an exhaustive basis. In fact, the quantitative validation in terms of frequency counts is based on only the monosyllabic words. However, we have also utilized bisyllabic and longer words for illustrative examples (as in contrast through minimal pairs) in the present work.

As mentioned earlier, the phonological analysis of a language or dialect is to be justified in terms of the five orienting principles, namely, communication, physiological mechanism, acoustic medium, human behavior (psychology) and vision. But the present phonological analysis of Calcutta Urdu is primarily carried out in terms of only one orienting principle, namely, communication. As it is not possible to form the phonological grid without recourse to physiological mechanism, we have also partially made use of this principle in the phonological analysis presented in this dissertation. A complete phonological analysis of Calcutta Urdu in terms of all the five orienting principles will be taken up in our doctoral research.

## CHAPTER 1

### Physiological Base of Calcutta Urdu Phonology : A Brief Account

In this chapter, we briefly study the role that physiological mechanism plays in the phonology of Calcutta Urdu. Our presentation here is limited in that it does not include all the physiological factors that play a role in the phonology of a language or a dialect. For we treat only two aspects of Calcutta Urdu phonology in terms of physiological mechanism as an orienting principle : (1) the role of physiology in the paradigmatic makeup of the phonological units : the phonological grid, and (2) the impact of the hierarchy of adroitness of articulators on the distribution of phonological units in the syntagmatic organization of the word. The other physiological factors that affect the makeup and distribution of phonological units in Calcutta Urdu will be fully treated when we take up our doctoral research.

This chapter is composed of three sections. In section 1.1, we present and justify the phonological grid of Calcutta Urdu. In section 1.2, we analyze the distribution of the consonantal units in the syntagmatic organization of the word in terms of the hierarchy of adroitness of articulators. In section 1.3, we present the summary with the concluding remarks on the physiological base of Calcutta Urdu phonology.

#### Section 1.1. Presentation of the Phonological Grid of Calcutta Urdu

The makeup of the phonological units in the phonological grid of a language or a dialect is motivated by four orienting principles, namely, communication, physiological mechanism,

acoustic medium, and human behavior. It may however be noted that the establishment of these units in the paradigm (the grid) is primarily based on communication and physiological mechanism. Thus, of the 54 phonological units established for Calcutta Urdu, 50 units, traditionally called "phonemes", are first determined by way of contrast through minimal pairs in terms of communication. (For details, cf. Chapter 2). These communicatively based phonological units are then placed, on the basis of their phonetic substance, on the intersections of the relevant physiological axes of articulators and apertures. (For remaining 4 units, see comment (4) below.)

Thus, in terms of physiological mechanism and communication (supported by other orienting principles), we postulate 54 phonological units for Calcutta Urdu : 34 consonants and 20 vowels. Following the traditional terminology, we may classify the 34 consonants into 20 stops, 5 nasals, 2 fricatives, and 7 liquids. The 20 vowels comprise 16 monophthongs and 4 diphthongs. The 16 monophthongs are further classified into 10 long vowels (5 oral and 5 nasal) and 6 short vowels (3 oral and 3 nasal). Of the 4 diphthongs, 2 are oral and 2 nasal. The network of these 54 phonological units set up at the relevant intersections of articulators and apertures, termed the phonological grid of Calcutta Urdu, is presented in Diagram 1-1. Brief comments on the various aspects of this grid are then offered in subsection 1.1.1.

#### 1.1.1. Comments on the Phonological Grid of Calcutta Urdu

As noted earlier, the phonological grid of Calcutta Urdu (Diagram 1-1) is established on the basis of four



ARTICULATORS LABIUM APEX → APEX → MEDIUM FRONT BACK VELUM GLOTTIS  
 APERTURES TEETH PALATE DORSUM DORSUM

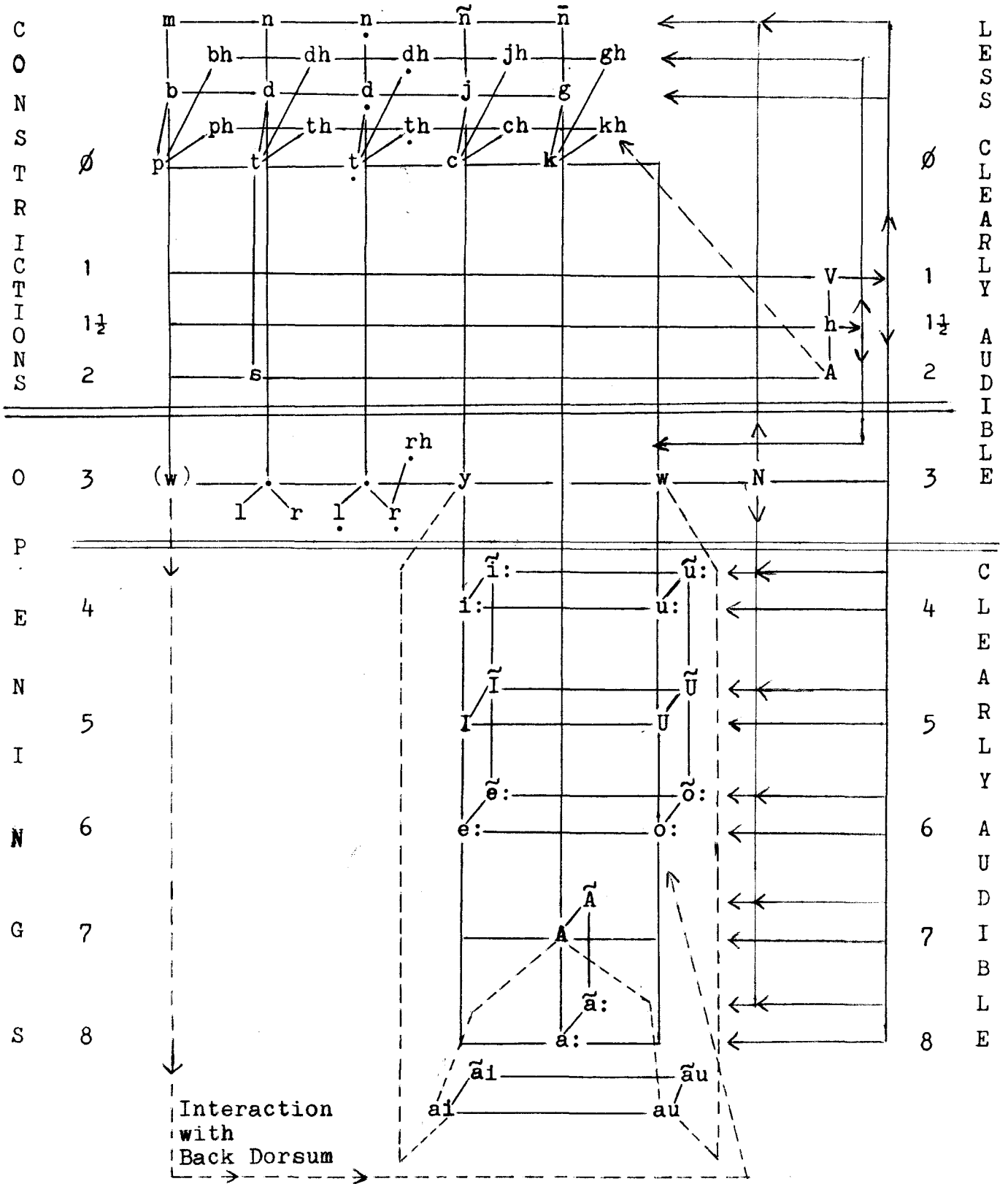


Diagram 1-1: Phonological Grid of Calcutta Urdu

orienting principles, namely, communication, physiology, acoustics, and human behavior. It may however be noted that here our comments will mainly be restricted to the physiological justification of this phonological grid.

### (1) Mechanics of Diagramming

The Calcutta Urdu phonological grid (Diagram 1-1) has been drawn in such a way that it successfully highlights the physiological characteristics of Calcutta Urdu phonological units.

Here the phonological units are classified horizontally in terms of articulators and vertically in terms of apertures.

The phonological units are represented or symbolized by both lower case and capital letters. It may be noted that V, A and N are abstract units of V(oiceing), A(spiration) and N(asalinity).

The black solid lines connecting the letters show the interrelationship of units in the grid. The single red solid lines indicate the voicing (coming from V on aperture 1 at glottis). The blue solid lines connect the voiced aspirated units of the system (aspiration comes from h (voiced) on aperture  $1\frac{1}{2}$  at glottis). The blue broken line connects the A (voiceless) of aperture 2 with voiceless aspirated units at aperture  $\emptyset$ . The green solid lines represent the interrelationship of nasal consonants and N on the one hand, and between the nasalized vowels and N on the other.

It may further be noted that the red broken line shows the interaction of w with back dorsum. The black broken lines

connect the diphthongs ai and au to their base units A at aperture 7 and y and w respectively at aperture 3.

Red double solid lines divide the entire grid into constrictions (from aperture  $\emptyset$  through 2) and openings (from aperture 3 through 8). The division of the grid into clearly audible (from 4 through 8) and less clearly audible (from  $\emptyset$  through 3) is indicated by the green double solid lines.

Arrows, as in apex  $\rightarrow$  teeth; and apex  $\rightarrow$  palate, signify that apex is the common articulator to establish contact with two points of articulation, namely, the teeth and the hard palate. The forks at aperture 3, signal that though the forked phonological units are at the intersection of the same articulator and the same aperture, distinction has to be made in terms of their physiological makeup.

## (2) Constrictions versus Openings

Two types of apertures are to be distinguished in the phonological grid of Calcutta Urdu (Diagram 1-1) : The constriction apertures of Calcutta Urdu extend from  $\emptyset$  through 2 and include 20 stops, 5 nasals, and 2 fricatives. The opening apertures, on the other hand, extend from 3 through 8 and include 7 liquids and 20 vowels (16 monophthongs and 4 diphthongs).

As pointed out in the theoretical background (cf. 0.3.2(b) above), the phonological units formed at constriction apertures are marked by the close contact of the articulators with the associated places of articulation. Due to this close contact and narrow distance between the degrees of constriction apertures, they can be measured in exact or absolute terms. Further, inasmuch as the local supraglottal articulator, in combination with constriction apertures can both shape and excite the vocal cavity in the production of phonological units at these small apertures, there is no obligatory, physiological requirement to utilize an extra articulator, such as larynx, for the production of these units.

Thus, voicelessness is basic and simplest phenomenon in the production of phonological units of constriction apertures. To be sure, both voiced and aspirated phonological units are formed at these apertures. But these units are physiologically more complex, as they require the use of larynx as an extra articulator.

In contradistinction to the small and absolutely defined apertures of constriction, the apertures of opening are large, and their position vis-a-vis each other, can only be defined in relative terms. It is to be noted that as the opening apertures are large, the local supraglottal articulator can only shape the vocal cavity, the required excitation, for the production of phonological units, is brought about by introducing the vibration of the glottis. Thus, voicing is a necessary concomitant in the production of phonological units at opening apertures. Therefore, it is not surprising that we find only the voiced phonological units at these apertures for Calcutta Urdu.

### (3) Clearly Audible versus Less Clearly Audible

As seen in the phonological grid of Calcutta Urdu (Diagram 1-1), there is another broad division of phonological units based on physiology and acoustics : the clearly audible (apertures 4 to 8), and less clearly audible (apertures  $\emptyset$  to 3). This distinction is parallel to the traditional classification of speech sounds into the "vowels" and the "consonants".

It is well known that the speech sounds are produced through the control of the musculature of the vocal tract. The basic requirement is that the sounds produced be sufficiently audible, if the communication is to be transmitted from one person to another.

In the production of the clearly audible sounds (the vowels), it may be noted that the medium-dorsum mass as articulator divides the vocal cavity into two cavities, the front and the back, each with its own resonant frequency. Whereas the medium or dorsum as articulator determines both the size and the opening of the back cavity, this medial or dorsal articulator can only control the size of the front cavity; the opening of the front cavity is determined by the positioning of the lips. But it is noteworthy that the medium-dorsum and the labium as supraglottal articulators can only shape the two resonant cavities. For it is the vibration of the vocal folds that excites the two cavities in the production of the clearly audible sounds. Finally, it may be noted that irrespective of the variations in the size and opening of the two resonant cavities in the production of the various clearly audible sounds, there is no impediment in the flow of air coming from the lungs through the vocal tract.

In comparison, the speech sounds produced at apertures  $\emptyset$  to 3 (stops, fricatives, liquids), are less clearly audible. For these consonantal sounds are produced by impeding to a greater or lesser degree the air passing through the vocal cavity by means of the vocal organs.

The impact of the two-way classification of phonological

units in terms of audibility, can clearly be seen in the use of these units in the formation of morphemes and words. The clearly audible units of a language regularly form what Professor Diver calls the keystone in the arch of the structure of the morpheme. It is rare indeed to construct a word without one of the clearly audible units as keystone. In fact, the clearly audible units may be used alone as keystone for the formation of morphemes, as in Calcutta Urdu a: 'come'. But generally, the less clearly audible units are placed in flanking position, before and after the keystone, in the formation of the morpheme. The clearly audible and the less clearly audible units are thus termed the keystone and the flanking members in the syntagmatic organization of the word.

#### (4) Phonemes versus Phonological Units

At first glance, the phonological units (in the grid) and the "phonemes" (in the inventory) of a language show apparent similarities, but there are characteristic differences between them. Thus, postulated phonological units of Calcutta Urdu (Diagram 1-1) differ in their makeup and organization, when compared with the "phonemes" presented in the "phonemic inventory" of this dialect of Urdu (Cf. Chapter 2, Diagram 2-1.)

As pointed out earlier in the Introduction (cf. O.3.3), the phonological units in the grid are organized in terms of articulators and apertures mainly based on the physiology of the vocal tract. The establishment of the phonological units at the intersections of the relevant axes of articulators and

apertures is based on the substantive characteristics of these units. Further, what is more important from our point of view is the fact that these phonological units are tied with each other in terms of the value relationships which are most significant in the paradigmatic makeup of the grid.

It is to be noted that the American Structural linguists formally establish the phonemes of a language through substitutional-distributional criteria in practice. But they resort to meaning distinctions, in minimal and sub-minimal pairs of words for the establishment of these phonemes. Inasmuch as 'meaning' is considered a taboo in the phonemic analysis of American Structural linguistics, the descriptive phonemists do not seem to recognize the role of 'meaning' in the establishment of phonemes. For us, however, communication as an orienting principle justifies the use of meaning in the phonological analysis. In fact, the phonemes of Calcutta Urdu have been established in terms of distinctiveness of meaning in minimal and subminimal pairs.

Thus, the phonological units projected at the intersections of the relevant physiological axes (articulators and apertures) in the grid of Calcutta Urdu include all the "phonemes", in addition to some "positional variants" ("allophones"). It is to be noted that only those non-distinctive positional variants, whose phonetic substances fall at the intersections of articulators and apertures, are elevated to the status of full-fledged phonological units. Therefore, the number of phonological units as presented in the grid (Diagram 1-1) of Calcutta Urdu, is higher (54) than

the number of phonemes (50) as presented in the phonemic inventory of this Urdu dialect. (Cf. Diagram 2-1.) The 4 positional variants (from the traditional viewpoint) that are raised to the status of phonological units, are the apico→palatal  $\eta$  and the medial  $\tilde{n}$  (nasals) at aperture  $\emptyset$  and the apico→palatal  $l$  and  $rh$  at aperture 3.

#### (5) Status of N, V and A as Phonological Units

The phonological units V(oiceing), A(spiration) and N(ality) have a different status, as compared to other phonological units, in the grid of Calcutta Urdu (cf. Diagram 1-1). Unlike other phonological units V, A and N do not occur as separate individual entities in the speech chain. Rather, they are superimposed on the independent phonological units (both consonantal and vocalic) of Calcutta Urdu.

Furthermore like other phonological units, V, A and N are also derived by the combination of articulators and apertures. It may be noted that all phonological units are abstractions, but V, A and N represent a higher degree of abstraction than the other units of the grid.

The makeup of V, A and N is taken up below:

V: This phonological unit is established at the intersection of the glottal axis horizontally and the axis of aperture 1 vertically, in the phonological grid of Calcutta Urdu.

It is to be noted that voicing to all the supraglottal phonological units, which are termed "voiced" (except aspirated voiced units), is provided by the glottal unit V. Thus, all the supraglottal phonological units of Calcutta



Urdu formed at apertures 3 through 8, except  $\text{rh}$ , are produced in combination with the V(oicing). Further, the V in combination with aperture  $\emptyset$  produces unaspirated voiced stops and nasals.

The phonological unit A(spiration) falls at the intersection of Glottis and aperture 2. The supraglottal voiceless aspirated stops of Calcutta Urdu are produced at aperture 1 in combination with A at aperture 2 (cf. Diagram 1-1).

N : The phonological unit N(astity) is projected at the intersection of the articulator velum and the aperture 3. It is to be noted that the lowering of the velum allows the air to pass through the nasal cavity as well as through the oral cavity and hence, facilitates the production of nasal consonants and nasalized vowels of Calcutta Urdu (cf. Diagram 1-1).

The N(asality) at aperture 3 combines with relevant articulators at aperture  $\emptyset$  to produce the nasal consonants of Calcutta Urdu. The nasalized vowels of Calcutta Urdu are produced by the medium and the two-part dorsum at aperture 4 through 8, again in combination with the N at aperture-3.

#### (6) The Production of V, A and the Voiced h

As shown in Diagram 1-1, the phonological grid of Calcutta Urdu has three phonological units at the glottis: The V(oicing) at aperture 1, the A(spiration) at aperture 2 and the voiced h at aperture  $1\frac{1}{2}$ . The glottal configurations during the production of V, A and voiced h are presented in Diagram 1-2.

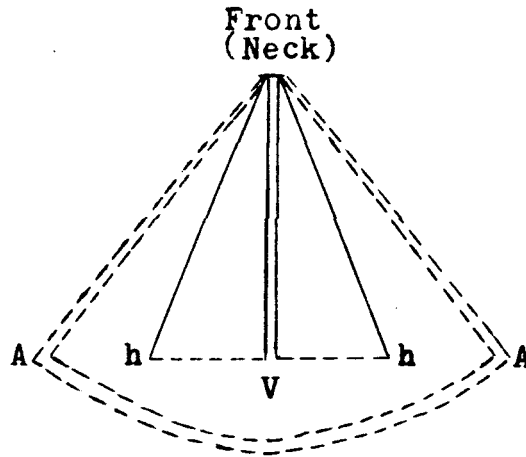


Diagram 1-2: Configurations of the Vocal Folds in the Production of V, h, and A

We now briefly discuss the three glottal configurations for V, h and A, as shown in the above diagram.

V: In the production of V(oicing), the vocal folds form a narrow slit at aperture 1. The edges of the two vocal folds vibrate as the air from the lungs is forced through them. The Voice thus produced combines with supraglottal articulations at different apertures to produce many phonological units of Calcutta Urdu (cf. Chapter 1:1.1.1(5).)

The glottal position assumed during the production of V(oicing) is considered natural. For this glottal configuration is also utilized for other non-linguistic functions.

A: The Vocal folds form a wide triangular configuration during the production of A(spiration), Sufficient air from the lungs is required to push through this relatively larger opening of the vocal folds. This voiceless A(spiration) produced at aperture 2 combines with simple supraglottal units, such as p t k at aperture  $\emptyset$ , to produce complex units such as ph th kh, in Calcutta Urdu.

The glottal configuration assumed during the production

of A (spiration) or the voiceless h is also considered natural. For this glottal configuration is also utilized in other non-linguistic biological functions like hard breathing.

Voiceless h : During the production of voiceless h in some Indo-Aryan languages and dialects, including Calcutta Urdu, the vocal folds assume a narrow triangular configuration that is exactly half the size of the wider triangle formed in the production of voiceless h and the voiceless aspirates discussed above.

The voiceless h also combines with the simple supraglottal phonological units, such as p t k at aperture  $\emptyset$ , to produce complex units, such as the voiceless aspirates bh dh gh, in Calcutta Urdu. Finally, it may be noted that unlike V and A, the voiceless h is also used as an independent phonological unit in Calcutta Urdu.

The glottal configuration in the production of voiceless h is considered to be unnatural. For this unusual configuration of the glottis is not utilized for any other non-linguistic function by the human beings.

#### (7) Four Stop Categories

The phonological grid of Calcutta Urdu presents a network of 20 stops which are projected at the intersections of aperture  $\emptyset$  and the relevant articulators. The 20 stop units of Calcutta Urdu are, p ph b bh, t th d dh, ṭ ṭh ḍ ḍh, c ch h j jh, k kh g gh. These stops are of four types : the voiceless stops (p ph t th ṭ ṭh c ch k kh), the voiceless aspirates (b bh d dh ḍ ḍh j jh g gh), the unaspirated stops (p b t d ṭ ḍ c j k g), and the aspirated stops (ph bh th dh ṭh ḍh ch jh kh gh).

(8) Units Formed at Two Points of Articulation with the Same  
Articulator : Apico→dentals vs Apico→Palatals

Two orders of distinct phonological units are produced, in Calcutta Urdu, with the same articulator, viz, apex. The apex, a highly adroit articulator, when comes in contact with the 'teeth', produces apico→dental units -- t th d dh l n s r. The apex also comes in contact with the 'palate' in the production of the apico→palatal (or " retroflex" ) units -- ṭ tḥ ḍ dḥ ḷ ṇ ṛ rḥ.

It is important to note that although most of the phonological units of apico→dental and apico→palatal axes are characterized by distinctiveness and are recognized as opposing phonemes, two apico→palatal units, namely, ṇ ḷ have a non-distinctive opposition with their apico→dental counterparts n l. (Cf. Comment (4) above.)

Further, it may be noted that some apico→dental phonological units of Calcutta Urdu show variation in their place of articulation. The place of articulation for the units l r n ranges from upper teeth to alveolar ridge, although these units are clearly realized as apico→dental before the apico→dental stops. Inasmuch as we do not have distinction between the apico→dental and the apico-alveolar, we have disregarded this variation and have set up only one axis, namely, apex → teeth, for Calcutta Urdu.

(9) Units Formed with Two Articulators : Labio-Dorsals

Two articulators are combined in the makeup of some phonological units in Calcutta Urdu. That is, the phonological

unit w (semi-vowel) at aperture 3 and vowels u: ũ: ʊ Ū o: Ȯ: at aperture 4 through 6, placed in the column of back dorsum in the grid (Diagram 1-1), are simultaneously produced by two articulators: Back dorsum and Labium. That labium (for lip-rounding) is employed as an additional articulator for the back dorsal vowels and semi-vowel is not accidental. There is definite acoustic rationale for the simultaneous use of the two articulators. (Cf. Introduction: 0.3.1(3)). A detailed account of this acoustic rationale will be taken up in our doctoral research.

(10) Units Formed with the Combination of Two Apertures :

Diphthongs

Finally, four more phonological units of Calcutta Urdu that need comments are the ones which are formed by the combination of two apertures. The four units are the diphthongs, ai au and their nasalized counterparts ǎi ǎu.

As shown in Diagram 1-1, the diphthongs ai au and ǎi ǎu are produced by combination of two apertures. The diphthongs begin with the larger opening at aperture 7 and move towards the smaller opening at aperture 3.

The 'diphthong' ai is the combination of the vowel A (at the intersection of the articulator Front Dorsum and aperture 7) and the semi-vowel y (at the intersection of medium and aperture 3). Likewise, the diphthong ǎi is formed by the combination of ǎ and the semi-vowel y.

The diphthong au, on the other hand, is a combination of the vowel A and the semi-vowel w (back dorsal-cum-labial at aperture 3). Similarly, the diphthong ǎu is formed by the combination of ǎ and the semi-vowel w.

Section 1.2. The Hierarchy of Adroitness of Articulators :  
The Makeup and Distribution of\*Less Clearly  
Audible Units

As outlined in the Introduction (cf. O.3.1.(2)(e)), the apex occupies the top position, in terms of hierarchy of adroitness of articulators, not only among the lingual articulators but of all the supraglottal articulators. The apex is followed by the dorsum, the medium and the root on the scale of adroitness of articulators (cf. Diagram O-1). It may be recalled that we also made a de facto placement of labium, somewhere close to dorsum, on the scale of hierarchy of adroitness of articulators.

It is to be emphasized here that the relative adroitness of articulators has an impact on both the paradigmatic makeup, and the syntagmatic distribution of the phonological units. However, the impact of hierarchy of adroitness of articulators is relevant only to the less clearly audible units (Consonants) which appear on apertures 0 through 3 ("stops" , " fricatives" , " liquids" and " nasals" ).

In section 1.2.1, we examine the effect of the hierarchy of adroitness of articulators on the number of less clearly audible or consonantal units in the paradigm of Calcutta Urdu. In section 1.2.2, we deal with the impact of the hierarchy of adroitness on the frequency of occurrences

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\*It may be noted that here and elsewhere in the dissertation, we have used the terms, less clearly audible units and consonantal units, interchangeably.

of consonantal units in the monosyllabic words in Calcutta Urdu.

### 1.2.1. Effect of the Hierarchy of the Adroitness of Articulators on the Number of Phonological Units in the Paradigm

In this section, we make an attempt to validate our claim that the hierarchy of adroitness of articulators produce their effect on the makeup of the consonantal units in the paradigm (cf. Diagram 1-1).

Thus, given the hierarchy of adroitness of articulators, we expect the number of apical consonants, in the paradigm, to be the highest, followed by dorsal-labial, medial and post-dorsal units in that order. We examine our claim with the help of the table 1-1 based on the grid of Calcutta Urdu (cf. Diagram 1-1). The table 1-1 is presented below.

Apertures Articulators	∅	1	2	3	Total
Apex { Teeth Palate	t d; th dh; n		s	l r	<u>8</u>
	ṭ ḍ; tḥ dḥ; ṇ			ḷ ṛ rḥ	<u>8</u>
Labium	p b; ph bh; m			w	<u>6</u>
Dorsum	k g; kh gh; ṅ			w	<u>6</u>
Medium	c j; ch jh; ñ			y	<u>6</u>
Grand Total					<u>34</u>

Table 1-1 : Hierarchy of Adroitness of Articulators and the Makeup of the Less Clearly Audible Units

Comments on Table 1-1

1. The table 1-1, shows that of the total of 34 consonantal units in Calcutta Urdu, 16 units are produced by the most adroit apex. The 16 apical consonants consists of 8 apico→dental and 8 apico→palatal units. The labium and dorsum produce 6 units each. The medium is utilized in the production of 6 consonantal units.

2. As expected, the figures of the above table clearly indicate that the apex by producing the maximum number of phonological units in Calcutta Urdu, is at the top of the hierarchy of adroitness of articulators. Furthermore, our claim that the apex is the most adroit articulator is also reinforced by the fact that the apex comes in contact with two separate, distinct places of articulation, namely, the teeth and the palate, to produce two distinct orders of consonants (apico→dentals and apico→palatals) in Calcutta Urdu. It is interesting to note that no phonological unit in Calcutta Urdu is formed by the least adroit post dorsum. The absence of post-dorsal axis in Calcutta Urdu is quite understandable in the light of its being the least adroit of all the articulators. It is to be noted that the labial and dorsal units are equal in number, which again is in consonance with our expectation.

3. Further, whereas we expect fewer medial consonants as compared to the labial and dorsal consonants, we actually encounter 6 units under each category, which is against our expectation. But the disfavoring for the medial consonants



shows up in the frequency of usage of these units in the word in Calcutta Urdu (cf. 1.2.2).

1.2.2. Effect of the Hierarchy of the Adroitness of Articulators on the Frequency of Occurrence of the Less Clearly Audible Units.

In the previous section we observed the effect of hierarchy of adroitness of articulators on the paradigmatic makeup of the less clearly audible (consonantal) units. However, in the present section, we will assess the impact of hierarchy of adroitness of articulators on the syntagmatic usage of the consonantal units, in Calcutta Urdu. Given the scale of adroitness (cf. Diagram 0-1), we expect the apical consonants to be most frequently used, followed by the labial-dorsal, and the medial consonants. The statistical support in terms of frequency counts for the present claim, is based on the \*monosyllabic words in Calcutta, Urdu. This quantitative validation is presented in sections below.

(1) Less Clearly Audible Units in Terms of Articulators in the Hierarchy of Adroitness : Apertures  $\emptyset$ , 1,2,3

In this section, we assess the effect of the hierarchy of Adroitness on the frequency of occurrence of all the consonantal units in terms of articulators in the monosyllabic

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\*It is to be noted that, among monosyllabic words, Calcutta Urdu is marked by the conspicuous absence of CCVC words. We will provide rationales for this skewing, in terms of all orienting principles, in our doctoral research.

words in Calcutta Urdu. The relative frequencies of consonantal units are presented in Table 1-2.

Consonantal Units (Apertures Ø, 1, 2, 3)		CVC Words		CVCC Words		Monosyllables	
Articulators	No	%	No	%	No	%	
Apico-Dental	<u>861</u>	73.71	<u>29</u>	76.31	<u>890</u>	73.80	
Apico-Palatal	<u>307</u>	26.29	<u>9</u>	23.69	<u>316</u>	26.20	
Apical	<u>1168</u>	51.54	<u>38</u>	51.37	<u>1206</u>	51.54	
Labial	<u>462</u>	20.40	<u>12</u>	16.21	<u>474</u>	20.26	
Dorsal	<u>365</u>	16.10	<u>14</u>	18.91	<u>379</u>	16.20	
Medial	<u>271</u>	11.96	<u>10</u>	13.51	<u>281</u>	12.00	
Total	<u>2266</u>	100	<u>74</u>	100	<u>2340</u>	100	
Grand Total					2340		

Table 1-2 : Frequency of Occurrence of the Less Clearly Audible Units in the Monosyllabic Words in Terms of Articulators

#### Comments on Table 1-2

1. Out of a total of 2340 occurrences of consonants (stops, fricatives, liquids and nasals combined), in the monosyllabic words of Calcutta Urdu, 1206 (51.54%) are of apicals, 474 (20.26%) are of labials, 379 (16.20%) are of dorsals, and 281 (12.00%) are of medials. This distribution of

consonantal units, in the monosyllabic words, clearly conform to our expectations in terms of the hierarchy of adroitness of articulators.

It is noteworthy that more than half of the consonantal occurrences are produced by the most adroit articulator\*apex alone.

In accordance with our expectations, the apical consonants, in terms of frequency of usage, are followed by the labial and dorsal consonants. The fair competition in the frequencies of labial and dorsal consonants, is in line with our expectation. For, in terms of hierarchy of adroitness of articulators, labium and dorsum are placed on the same position.

As pointed out in section 1.2.1, that though the number of medial consonants (6) is equal to dorsal and labial (6 each), the frequency of occurrence of medial consonants is greatly decreased as compared to the labial and dorsal consonants. This again is in conformity with our expectation.

2. When we look at the figures of the CVC words, we again see that the skewings in the occurrences of the consonantal units are in accordance with the hierarchy of adroitness

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\* Among the apical consonants, there is a skewing in favor of the apico→dental 861 (73.71%) over the apico→palatal ("retroflex") 307 (26.29%). The rationale for this skewing comes from the human trait of preferring the proximate point of articulation over the remote point of articulation. However, human behavior as a principle of phonological analysis is beyond the scope of the present research.

of articulators. Of the 2266 consonantal occurrences in the CVC words, there are 1168 (51.54%) occurrences of the apical consonants alone. Thus, the most adroit apex is instrumental in producing more than half of the total occurrences of consonantal units in the CVC words.

In view of their parallel placement on the scale of adroitness of articulators, the labials 462 (20.40%) and dorsals 365 (16.10%) compete well with each other. However, quite reasonably, the frequency of medial consonants 271 (11.96%) goes down vis-a-vis the labials and dorsals.

3. In the CVCC words also, all the figures conform to our expectations based on the hierarchy of adroitness. The figures of the table show that the apical consonants 38 (51.37%) account for half of the total occurrences of consonants 74, in the CVCC words. The figures for labials 12 (16.21%), dorsals 14 (18.91%) and medial 10 (13.51%) consonants are clearly in consonance with our expectations.

Thus, our claim that the distribution of consonantal units in the speech chain is guided by the hierarchy of adroitness of articulators, is validated by the figures of table 1-2.

(2) Stops in Terms of Articulators in the Hierarchy of Adroitness : Aperture  $\emptyset$

In this section, we propose to assess the effect of the hierarchy of adroitness of articulators on the frequency of occurrence of apical, labial, dorsal and medial stops in the monosyllabic words in Calcutta Urdu. The

figures are presented in Table 1-3.

Stops (Aperture $\emptyset$ )	CVC Words		CVCC Words		Monosyllables		
	Articulators	No.	%	No.	%	No.	%
Apico-Dental	<u>233</u>	50.44	<u>15</u>	62.50	<u>248</u>	51.02	
Apico-Palatal	<u>229</u>	49.56	<u>9</u>	37.50	<u>238</u>	48.98	
Apical	<u>462</u>	32.60	<u>24</u>	45.28	<u>486</u>	33.06	
Labial	<u>345</u>	24.33	<u>11</u>	20.76	<u>356</u>	24.20	
Dorsal	<u>344</u>	24.30	<u>8</u>	15.10	<u>352</u>	23.94	
Medial	<u>266</u>	18.77	<u>10</u>	18.86	<u>276</u>	18.80	
Total	<u>1417</u>	100	<u>53</u>	100	<u>1470</u>	100	
Grand Total						1470	

Table 1-3 : Frequency of Occurrence of Stops in the Monosyllabic Words in Terms of Articulators

Comments on Table 1-3

1. The figures of the table show that out of a total of 1470 occurrences of stops in the monosyllabic words, the apical stops, by accounting for 486 (33.06%) occurrences, top the table. The apical stops are followed, in descending order, by the labial 356 (24.20%), the dorsal 352 (23.94%) and the medial 276 (18.80%) stops, in the frequencies of occurrences in the monosyllabic words in

Calcutta Urdu. The figures adequately suit our expectations regarding the effect of the hierarchy of adroitness.

2. A quick glance at the figures and percentages for stops, in the CVC words, shows that the same trend of preferring the apicals 462 (32.60%) over the labials 345 (24.33%) and dorsals 344 (24.30%), continues to prevail. The competitive figures for labial and dorsal stops are justified in terms of the hierarchy of adroitness of articulators. The medial stops, produced by the less adroit medium, account for 266 (18.77%) occurrences in the CVC words.

3. Out of a total of 53 CVCC stops, the apical stops comprise almost half 24 (45.28%) of the total number of occurrence. The apicals are, again, followed by the labial stops 11 (20.76%), the dorsal stops 8 (15.10%) and the medial stops 10 (18.86%). The frequency of occurrence of medial stops vis-a-vis, the dorsal stops in the CVCC words do not conform to our expectation.

### (3) Most Frequently Used Consonants in Calcutta Urdu

In this section, general comments on the most frequently used consonants in Calcutta Urdu, are made. The frequently used consonants are presented in the table 1-4 below.

Consonants	Initial				Final				Monosyllables	
	CVC	CVCC	<u>Total</u>	%	CVC	CVCC	<u>Total</u>	%	No.	%
			No.				No.			
s	92	2	<u>94</u>	38.37	84	4	<u>88</u>	22.17	<u>182</u>	28.35
l	47	3	<u>50</u>	20.41	125	0	<u>125</u>	31.49	<u>175</u>	27.25
n	51	3	<u>54</u>	22.04	101	0	<u>101</u>	25.44	<u>155</u>	24.15
r	45	2	<u>47</u>	19.18	83	0	<u>83</u>	20.90	<u>130</u>	20.25
Total	235	10	<u>245</u>	100	393	4	<u>397</u>	100	<u>642</u>	100
Grand Total										642

Table 1-4 Most Frequently Used Consonantal Phonemes in Calcutta Urdu.

## Comments on Table 1-4

The table 1-4, shows the figures for the most frequently used phonemes in Calcutta Urdu.

1. The combined frequency of occurrence of s l n r , is 642. Out of this, the s occurs in 182 (28.35%) monosyllabic words. The l with 175 (27.25%), the n with 155 (24.15%) and the r with 130 (20.25%) follow the s, in descending order.

2. It is noteworthy that the most frequently used phonemes in Calcutta Urdu are all apicals. This phenomenon provide reinforcement to our claim that the consonants produced by the most adroit articulator apex will be preferred over the consonants produced by more adroit articulators labium and dorsum, on the one hand, and the less adroit medium, on the other hand.

3. Further, it is not a coincidence that the most frequently used phoneme in the dialect is the apical s (182/28.35%), the only fricative established at aperture 2 for Calcutta Urdu. Inasmuch as, the s is the only supraglottal fricative in the phonological system of Calcutta Urdu, the communicative load is much higher on this fricative (cf. Chapter 2).

### Section 1.3 Summary and Conclusions

In this chapter, an attempt has been made to present a brief account of the physiological base of Calcutta Urdu phonology in terms of the physiological mechanism, an orienting principle of the Columbia School phonological theory. We have tried to assess the role of physiology in the non-random distribution of phonological units of Calcutta Urdu, in terms



of both the paradigmatic makeup of these units (the grid) and the frequency of usage of these units in the syntagm. It may however be noted that we have limited our presentation to only two aspects of physiology, namely, the presentation of the grid, and the effect of hierarachy of adroitness of articulators on both, the makeup of the phonological units in the grid and the frequency of occurrence of these units in the monosyllabic words of Calcutta Urdu.

In section 1.1, we have introduced the phonological grid of Calcutta Urdu (cf. Diagram 1-1), followed by explanatory comments on the various aspects of the grid. The phonological units presented in the grid are primarily based on communication. However, on the basis of their substantive characteristics, the phonological units of Calcutta Urdu were placed at the intersections of relevant physiological axes of articulators and apertures. We recognize ten (10) degrees of aperture and eight (8) articulators in the establishment of phonological units in the grid for Calcutta Urdu. The degrees of aperture are subjected to two broad divisions. The first division is that of constriction versus opening. The constriction apertures, extending from 0 through 2 represent the ''stops'' and the ''fricative'' while the opening apertures extending from 3 through 8 represent the ''liquids'' and ''vowels'' of Calcutta Urdu. Another major division groups the apertures into the clearly audible and the less clearly audible. The less clearly audible units (the consonants) of Calcutta Urdu are formed at apertures  $\emptyset$  through 3, while

the clearly audible units (vowels) are projected at apertures 4 through 8. It is to be noted that we have established 54 phonological units in Calcutta Urdu. Of these 54 phonological Units, four (4) units are non-distinctive positional variants, while three (3), V(oicing), A(spiration) and N(asality) are highly abstract and dependent units. The four (4) positional variants whose substances fall at the intersection of relevant axes, are raised to the status of phonological units in Calcutta Urdu.

In section 1.2, we have assessed the impact of the hierarchy of adroitness of articulators on the paradigmatic makeup of the consonantal units and the frequency of usage of these units in the monosyllabic words of Calcutta Urdu. As we know that in terms of the hierarchy of adroitness, the apical consonants are most preferred, followed by the more preferred labial-dorsal consonants and the less preferred medial consonants in that order.

In the subsection 1.2.1, we have successfully demonstrated that the paradigmatic makeup, in terms of number of phonological units in Calcutta Urdu, clearly follows the hierarchy of adroitness of articulators. In section 1.2.2, we have analyzed the effect of hierarchy on the frequency of occurrence of the consonantal units in the speech chain. The figures of the tables 1-2, 1-3, 1-4, provide validation to our claim that hierarchy of adroitness favors apicals, followed by labial -dorsal and the medial consonantal units

in descending order, in their frequency of usage in the word in Calcutta Urdu. It may be noted that the effect of hierarchy of adroitness is more pronounced in the syntagmatic distribution of consonantal units than in the paradigmatic makeup of these units, in Calcutta Urdu.

To conclude : (1) Phonological Grid of Calcutta Urdu (Diagram 1-1) is a systematic presentation of all its phonological units on the basis of articulators and apertures. The phonetic substance of these physiologically motivated phonological units is determined by their articulatory characteristics. (2) The network of phonological units presented in the grid also highlights the interrelationship of these units. That is, the grid also indicates the value relationship of the phonological units. Thus, equal weightage is given to both, the phonetic substance and phonological value, in the present analysis of Calcutta Urdu (3) A total number of fifty four 54 phonological units have been set up in Calcutta Urdu. Of these fifty four 54 units, fifty 50 units are distinctive phonemes and four 4 are positional variants (4) Some non-distinctive positional variants whose phonetic substances fall at the intersection of articulators and apertures are raised to the status of full fledged phonological units. (5) The phonological units appearing at apertures 0 through 3 are preferred in terms of the hierarchy of adroitness of articulators. In terms of this hierarchy the phonological units produced with the most adroit apex are preferred over the more adroit labial-dorsal and the less adroit medium. The frequency counts validate our claim.

## CHAPTER 2

### Role of Communication in the Phonology of Calcutta Urdu

There is nothing new in saying that language is used by human beings for communication. Rather, the novelty lies in claiming that the very makeup and structure of language are directly motivated by communication. The present chapter is devoted to validating this claim by analyzing the role of communication in the phonological analysis of Calcutta Urdu.

It has been debated for a long time that whether or not communication is a controlling factor in the structure of language. As far as grammar is concerned, everyone agrees that communication is the basic determining factor. For Saussure's concept of signe (significant or signal and signifié or meaning), and Bloomfield's minimal unit of form and meaning (morphemes) are clearly based on communication. But so far as phonology is concerned, traditional phonemicists have argued that meaning, which directly flows from communication, is not a determining factor in the phonological structure of a language.

André Martinet was the first scholar to recognize the importance of communication as a principle of phonological analysis. He introduced the role of meaning in phonology through his concepts of "functional load" and "functional yield". Further, Martinet suggests that factors of functional importance exert influence on both the paradigmatic makeup and syntagmatic organization of phonological units. Inasmuch as the term "function" is loaded with various connotations in modern linguistics, the term communication is used instead in

Columbia school linguistics.

It is important to note that even in traditional American phonemics, the phonemes are established through meaning distinctions in minimal and sub-minimal pairs of words. However, formally the phonemes are established through substitutional-distributional criteria. Inasmuch as, communication as an orienting principle is fully recognized in Columbia school phonological theory, we do not have to apologize for the use of meaning in the establishment of phonemes. Infact, the phonemes of Calcutta Urdu have been established in terms of distinctiveness of meaning in minimal and sub-minimal pairs of words.

The phonological analysis of Calcutta Urdu in terms of communication as an orienting principle is presented in the following five sections. In section 2.1, we deal with the role of communication in the makeup of phonological units in the paradigm of Calcutta Urdu. In section 2.2, we study the effect of communication on the syntagmatic distribution of phonological units in the word. In section 2.3, we propose to study the phenomenon of phonological mergers in Calcutta Urdu. In section 2.4, we deal with homonymy, a communicative problem. Finally, in section 2.5, we present summary and conclusion with regard to the role of communication in the phonology of Calcutta Urdu.

#### Section 2.1. Impact of Communication on the Paradigmatic Makeup of Phonological Units

In this section, we deal with the role of communication on the paradigmatic relations of the phonological units in Calcutta Urdu.

In chapter 1, we highlighted the role of physiology in the makeup of phonological units in the grid of Calcutta Urdu (cf. Diagram 1-1). However, even there we mentioned that though the phonological units of Calcutta Urdu are projected, on the basis of their substance, at the intersections of the relevant physiological axes of articulators and apertures, these units are primarily determined by the distinctiveness of meaning (communication) in minimally different words. It may be noted that all the phonological units, presented in the grid, do not have the status of "phonemes". Some non-distinctive (non-phonemic) positional variants whose substances fall at the intersections of the relevant axes are also elevated to the status of phonological units in the grid of Calcutta Urdu. Thus, out of a total of 54 phonological units, we identify 50 "phonemes" (distinctive sound units) and 4 positional variants (non-distinctive sound units) in Calcutta Urdu phonology.

Thus, the 50 distinct phonological units established with an implicit use of "phoneme" principle in chapter 1, are here explicitly established by way of contrast (in terms of meaning) through minimal and sub-minimal pairs of words. This highlights the role of communication in the distinctiveness of phonological units.

In section 2.1.1, we present the "inventory of phonemes" of Calcutta Urdu. In section 2.1.2, we justify the "phonemic inventory" of Calcutta Urdu through phonemic contrasts, both consonantal and vocalic.

### 2.1.1 The Phonemic Inventory of Calcutta Urdu

The "phonemic inventory" as presented in Diagram 2-1

## Consonantal Phonemes

Points of Articulation      Bilabial      Dental      Retroflex      Palatal      Velar      Glottal

Manner of Articulation

Stops	p	b	t	d	ṭ	ḍ	c	j	k	g
	ph	bh	th	dh	tḥ	dḥ	ch	jh	kh	gh
Fricatives			s							h
Nasals		m		n					ṅ	
Lateral				l						
Rolled				r		ṛ				
Semi-vowels		w						y		

## Vowel Phonemes

## Class I: Short Vowels

## Class II: Long Vowels

<u>Oral</u>	<u>Front</u>	<u>Central</u>	<u>Back</u>	<u>Front</u>	<u>Central</u>	<u>Back</u>
	<u>Unrounded</u>	<u>Unrounded</u>	<u>Rounded</u>	<u>Unrounded</u>	<u>Unrounded</u>	<u>Rounded</u>
High				i:		u:
Lower High	I		U			
Mid				e:		o:
Lower Mid		A				
Low					a:	

Nasal

High				ĩ:		ũ:
Lower High	ĩ		ũ			
Mid				ẽ:		õ:
Lower Mid		ã				
Low					ã:	

## Class III: Diphthongs

<u>Oral</u>		ai		au
<u>Nasal</u>		ãi		ãu

Diagram 2-1: The Phonemic Inventory of Calcutta Urdu

lists all the 50 " phonemes" of Calcutta Urdu. It may be noted here that in the presentation of the inventory, we are not following such concepts as the " pattern congruity" or "economy" that are associated with it in traditional phonemic analysis. We are interested in the " phonemic inventory" only because all the " phonemes" presented in it are communicatively motivated phonological units.

#### Comments on the Phonemic Inventory

1. The " phonemic inventory" differs in its makeup when compared with the phonological grid (cf. Diagram 1-1). Whereas phonological grid of Calcutta Urdu represents a network of phonological units primarily based on the physiological mechanism and communication, the inventory is a mere listing of the phonemes of Calcutta Urdu.
2. Whereas the consonantal phonemes in the " phonemic inventory" are classified on the basis of manner and place of articulation, the vowel phonemes are classified in terms of the height of the tongue raised, part of the tongue raised, and the position of the lips.
3. As represented in the " inventory" , the consonants are classified on the basis of manner of articulation into stops, fricatives, nasals, laterals, rolled and semi-vowels . On the basis of points of articulation, on the other hand, the consonants are classified into bilabials, dentals, retroflexes, palatals, velars and glottals.
4. The vowels can be divided into three (3) classes : long vowels, short vowels, and diphthongs.



5. The "phonemic inventory" (cf. Diagram 2-1) presents a list of all the "phonemes" of Calcutta Urdu. Its importance is limited to merely listing of "phonemes". Thus, an "inventory" is basically a convenient device to present the "phonemes" in a diagramatic form.

### 2.1.2. Phonemic Contrast

The individual phonological units or "phonemes" of Calcutta Urdu are established on the basis of meaning distinctions, in minimal and sub-minimal pairs of words. In providing contrasts, besides, using the monosyllabic words, we have also utilized randomly collected typical bisyllabic and longer words of Calcutta Urdu.

The contrast of individual units is restricted to only those units that are closely opposed to each other. However, in principle, the individual units are interrelated with all other in the grid.

Finally, it may be noted that though the phonemic contrasts are provided for all three initial, medial, and final positions of the word, the phonemes are mainly determined by the contrast in communicatively important, initial position of the word. As far as vocalic units are concerned, we can have only one position in the monosyllabic words treated here.

#### (1) Consonantal Contrasts :

The consonantal contrasts, in minimal and sub-minimal pairs of words, of Calcutta Urdu are presented below.

## (a) Four Stop Types Contrasted

<u>Contrast</u>	<u>Initial</u>	<u>Gloss</u>	<u>Medial</u>	<u>*Gloss</u>	<u>Final</u>	<u>Gloss</u>
p ph b bh						
p/ph	pAṭ	sound of falling	kaupi:	copy	ma:p	measurement
	phAṭ	be torn	kauphi:	coffee	ma:ph	forgiven
ph/bh	pha:ṛa:	tore				
	bha:ṛa:	rent				
p/b	pa:s	near	kAṛa:	cloth	cUp	quiet
	ba:s	foul odor	jAbṛa:	jaw	cUb	be pierced
b/bh	bAs	enough				
	bhAs	be immersed				
t th d dh						
t/th	te:	you			sa:t	seven
	the:	were			sa:th	company
th/dh	thā:n	bolt(of cloth)				
	dhā:n	paddy				
t/d	ta:s	playing card	khUdra:	change	bUt	idol
	da:s	<u>Das</u> (title)	khAtra:	danger	bUd	Wednesday
d/dh	du:r	far	sa:da:	white		
	dhu:r	stupid	si:dha:	straight		
ṭ ṭh ḍ ḍh						
ṭ/ṭh	ṭi:k	teakwood				
	ṭhi:k	right				

\*For form classes and further details of meaning see glossary of monosyllabic words.

<u>Contrast</u>	<u>Initial</u>	<u>Gloss</u>	<u>Medial</u>	<u>Gloss</u>	<u>Final</u>	<u>Gloss</u>
th/dh	tho:	pleonastic word (added to numbers)				
	dhoh:	carry				
t/d	ta:l	heap	mAtAr		khAt	work hard
	da:l	branch	mAdAr	murder	khAd	ditch
d/dh	da:l	put				
	dha:l	slope				
c ch j jh						
c/ch	ci:n	recognize	põ:ca:	rotten	pã:c	five
	chi:n	snatch	põ:cha:	sweep	pũ:ch	tail
ch/jh	cha:r	place where herd is kept				
	jha:r	shrub, bush				
c/j	ca:	tea			sAc	truth
	ja:	go			sAj	be deco- rated
j/jh	ja:l	net				
	jha:l	hot taste				
k kh g gh						
k/kh	kã:m	work	rAkÃm	amount	ro:k	restric- tion
	khã:m	envelope	jAkKhÃm	wound	ra:kh	ash
kh/gh	kha:t	cot				
	gha:t	wharf				
k/g	ka:ch	upper part of the thigh			hAk	right
	ga:ch	tree			hAg	go to stool

<u>Contrast</u>	<u>Initial</u>	<u>Gloss</u>	<u>Medial</u>	<u>Gloss</u>	<u>Final</u>	<u>Gloss</u>
g/gh	go:s	meat				
	gho:s	Ghosh (title)				

## (b) Contrast of Stops in Terms of Articulators

<u>Contrast</u>	<u>Initial</u>	<u>Gloss</u>	<u>Medial</u>	<u>Gloss</u>	<u>Final</u>	<u>Gloss</u>
p t ṭ c k						
p/t	pi:s	grind	kAṗra:	cloth	ba:p	father
	ti:s	thirty	kAtra:	droplet	ba:t	talk
t/ṭ	tā:n	tune	kAtra:	droplet	sAt	juice, taste
	ṭā:n	pull	kAṭra:	small shop	sAṭ	join, stick
ṭ/c	ṭa:l	heap			bAṭ	tripe
	ca:l	ḡait			bAc	be saved
c/k	cā:n	moon			sAc	truth
	kā:n	ear			sAk	be able
ph th ṭh ch kh						
ph/th	phā:n	jump				
	thā:n	bolt (of cloth)				
th/ṭh	thā:n	bolt (of cloth)				
	ṭhā:n	resolve				
ṭh/ch	ṭhā:n	resolve				
	chā:n	sift, strain				

<u>Contrast</u>	<u>Initial</u>	<u>Gloss</u>	<u>Medial</u>	<u>Gloss</u>	<u>Final</u>	<u>Gloss</u>
ch/kh	cha:l	bark (of a tree)				
	kha:l	skin				
b d ḍ j ḡ						
b/d	ba:l	hair	kAbAr	grave	kAb	when
	da:l	pulse	kAdAr	appreciation	kAd	height
d/ḍ	dAs	ten				
	ḍAs	bite, sting				
ḍ/j	ḍo:r	string			bhã:ḍ	jester
	jo:r	force			bhã:j	twist
j/g	jo:s	zeal			ra:j	secret
	go:s	meat			ra:g	raga
bh dh ḍh jh ḡh						
bh/dh	bhu:l	err				
	dhu:l	dust				
dh/ḍh	dho:	wash				
	ḍho:	carry				
ḍh/jh	ḍhã:k	cover				
	jhã:k	peep				
jh/ḡh	jho:l	gravy				
	gho:l	solution				

## (c) Nasals Contrasted in Terms of Articulators

m n ñ

m/n	mAg	mug			kã:m	work
	nAg	stone (of a ring)			kã:n	ear

<u>Contrast</u>	<u>Initial</u>	<u>Gloss</u>	<u>Medical</u>	<u>Gloss</u>	<u>Final</u>	<u>Gloss</u>
m n ñ						
n/ñ					sĀñ	year
					sĀñ	in company
m/ñ					lā:m	thirtieth Urdu letter
					lā:ñ	jump over

## (d) Contrast of s and h

s	h					
s/h	sa:l	year	mAsAl	crush	la:s	corpse
	ha:l		mAhAl	palace	la:h	sealing wax

(e) The s Contrasted with Some Apico-dental Consonants :s versus t l r

s/t	sAk	doubt	khAsra:	measles	lAs	stickiness
	tAk	till	khAtra:	danger	lAt	bad habit
s/l	sa:s	mother- in-law			khŪs	happy
	la:s	corpse			khŪl	open
s/r	so:	sleep	kAsAm	promise	bhAs	be immersed
	ro:	weep	kArAm	deeds	bhAr	be filled

## (f) Liquids Contrasted in Terms of Articulators :

## w l r ṛ y

w/l	wa:h	well done				
	la:h	sealing wax				
l/r	la:t	leg	kha:la:	mother's sister	kAl	tomorrow
	ra:t	night	kha:ra:	saline	kAr	do, make

<u>Contrast</u>	<u>Initial</u>	<u>Gloss</u>	<u>Medial</u>	<u>Gloss</u>	<u>Final</u>	<u>Gloss</u>
r/ṛ	re:	14th letter of Urdu alphabet	sArAk	get aside	sAr	head
	ṛe:	15th letter of Urdu alphabet	sArAk	road	sAr	rot
y/w	yAhã:	here				
	wAhã:	there				
y/l	ya:d	rememberance				
	la:d	load				

## (g) Retroflex Stop and Flap Contrasted

d versus ṛ

ḍ/ṛ

bhã:ḍ jester

bhã:ṛ cup made of  
clay

## (2) Vocalic Contrasts:

Vocalic contrasts in Calcutta Urdu are presented below :

(a) Contrast of Short Vowels versus Long Vowels

<u>Contrast</u>	<u>Pairs</u>	<u>Gloss</u>
I/i:	ṭIk	stay, remain
	ṭi:k	teakwood
I/i:	dĩn	day
	dĩ:n	faith
A/a:	pAl	moment
	pa:l	rear

<u>Contrast</u>	<u>Pairs</u>	<u>Gloss</u>
Ā/ā:	sĀn	year
	sā:n	mash
U/u:	dhU1	be washed
	dhu:l	dust
Ū/ū:	dhŪn	tune, melody
	dhū:n	comb (cotton)
I/e:	sIr	head
	se:r	lion
ĩ/ē	dĩn	day
	dē:n	gift (particularly from God)
U/o:	pu1	bridge
	po:l	pole
Ū/ō:	gŪn	virtue, merit
	gō:n	gum

(b) Contrast of Nasal Vowels versus Oral Vowels

ĩ/i:	pi:t	beat
	ĩ:t	brick
ĩ/I	sĩñā:r	make-up
	sIka:r	target
ē:/e:	bē:n	frog
	be:g	bag
ā:/a:	khā:s	cough
	kha:s	special



<u>Contrast</u>	<u>Pairs</u>	<u>Gloss</u>
Ā/A	bĀt	be divided
	bAt	tripe
ū:/u:	bhū:k	bark
	bhu:k	hunger
ũ/ū	bũn	weave
	būd	Wednesday
ō:/o:	gō:d	gum
	go:d	lap

(c) Contrast of Front Unrounded versus Back Rounded Vowels

i:/u:	bhi:k	alms
	bhu:k	hunger
I/u	dIk	be seen
	dUk	sorrow, grief
ĩ:/ũ:	sĩ:n̄	horn
	sũ:n̄	smell
ĩ/ũ	ṭĩn	tin
	ṭũn	intoxicated
e:/o:	de:s	native place
	do:s	blame, fault
ē:/ō:	bē:n̄	frog
	bō:n̄	shin-bone

(d) Contrast of Central Schwa A versus I and U, and  
Ā versus Ī and Ū

A/I	ghAr	house
	ghIr	be surrounded

<u>Contrast</u>	<u>Pairs</u>	<u>Gloss</u>
A/U	chAp chUp	be printed hide
Ǻ/ǻ	chǺn chǻn	be sifted, be strained be snatched
Ǻ/ǻ	sǺn sǻn	year hear

(e) Contrast of Diphthongs : ai versus au; Ǻi versus ǻu

ai/au	gair gaur	stranger close attention
Ǻi/ǻu	nǺi nǻu	not, no nine

(f) Contrast of Central a: versus ai and au; Ǻ: versus Ǻi and ǻu

a:/ai	ba:l bail	hair ox
a:/au	ga:r gaur	strain, filter close attention
Ǻ:/Ǻi	bǺ:n bǺin	rope sister
Ǻ:/ǻu	pǺ:n pǻun	betel leaf three quarters

(g) Contrast of Nasal Diphthongs versus Oral Diphthongs

Ǻi/ai	bhǺis gais	cow buffalo gas
ǻu/au	cǻuk cauk	be startled chalk

Section 2.2. Effect of Communication on the Syntagmatic  
Distribution of Phonological Units.

In this section, we propose to assess the effect of communication on the syntagmatic distribution of phonological units in monosyllabic words of Calcutta Urdu. In the subsection 2.2.1, we deal with the impact of communicative load on the relative position of the phonological units in the monosyllabic words. In 2.2.2, we deal with the communicative economy achieved through pairs of words with the same phonological units in the reverse order.

2.2.1. Communicative Load and the Position of the Phonological  
Units in the Word

Besides, the paradigmatic makeup of phonological units, communication also plays a significant role in the syntagmatic organization of phonological units in the word. It is a common experience that the beginning of the word carries a greater communicative load (the need for communicative differentiation) than does the end of the word. In fact the communicative load decreases element by element and syllable by syllable from the word initial position to the word final position. We therefore, expect that the maximum utilization of phonological units should occur in the word initial position, whereas these units could be selectively underutilized at the final position of the word.

With a view to analyzing the role of communication, we

now examine the occurrence of various categories of consonants in word initial and final positions. Our analysis here is limited to the CVC words of Calcutta Urdu.

(1) Communicative Load and the Hierarchy of Adroitness of Articulators

In our chapter on physiological mechanism we showed that the hierarchy of adroitness of articulators has an impact on both the paradigmatic makeup of phonological units and the syntagmatic organization of these units in the speech chain. Keeping in /view the physiology of the articulators, we found that the apicals produced by the most adroit apex were most favored. The apicals were followed by labials-dorsals, produced by the more adroit labium and dorsum, and the medials produced by the less adroit medium.

However, here we propose to see the effect of communication or communicative load on the frequency of occurrence of phonological units of Calcutta Urdu in both word initial and word final positions in terms of the hierarchy of adroitness of articulators.

As said above, the initial position of the word carries more communicative load than does the final position of the word. Thus, communication suggests that there should be a competitive use of phonological units in the word initial position and a selective use of these units in the word final position.

It is to be noted that we have restricted our analysis only to the CVC words of Calcutta Urdu. In the subsequent

sections, we propose to assess the impact of communication on the relative preference of the consonantal units (the stops, the fricative, the liquids and the nasals), in the initial and final positions of the word, in terms of the hierarchy of articulators. Explanatory comments have been provided after each tabular presentation.

(a) Impact of Communication on the Relative Preference of the Consonantal Units in Terms of Articulators in the CVC Words

As it has already been discussed earlier (cf. Section 1.2) that the order of preference, in terms of hierarchy of adroitness of articulators, for the consonantal units is generally the apical, the labial-dorsal, and the medial units. However, here we assess the distribution of the consonantal units, from the viewpoint of communication, in the initial and the final position of the CVC words in terms of articulators through the Table 2-1.

Consonants	INITIAL		FINAL		TOTAL		
	No.	%	No	%	No	%	
Apico-dental	368	42.75 31.91	493	57.26 43.88	861	100 37.80	
Apico-palatal	92	29.96 7.99	215	70.04 19.12	307	100 13.50	
APICAL	460	39.40 39.90	708	60.60 63.00	1168	100 51.30	
LABIAL	320	69.27 27.75	142	30.73 12.63	462	100 20.30	
DORSAL	199	52.93 17.25	177	47.07 15.75	376	100 16.50	
MEDIAL	174	64.20 15.10	97	35.80 8.62	271	100 11.90	
TOTAL	1153	50.63 100	1124	49.37 100	2277	100 100	
Grand Total						2277	

Table 2-1 : Frequency of Consonants in the Initial and Final Position of the CVC Words in Terms of Articulators

Comments on Table 2-1 :

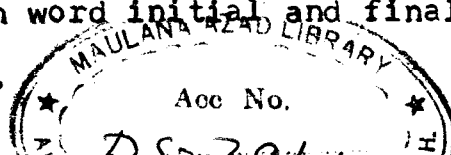
1. The frequency of occurrence of consonantal units in the CVC words refers to the stops, fricative, liquids and nasals in terms of articulators.

2. In terms of hierarchy of adroitness of articulators, the figures of the table are clearly in accordance with our expectations. That is, out of a total of 2277 occurrences of consonantal units in the CVC words, we have 1168 apical units, 462 labial units, 376 dorsal units and 271 medial units.
  
3. In terms of communication, we made a theoretical claim above that the beginning of the word carries greater communicative load than the end of the word. When we observe the figures of the table 2-1, in the light of the above claim, we see that our claim is validated. That is, we clearly see that out of a total of 1153 initial occurrences of consonantal units, there is more or less a competitive use of the apicals 460 (39.90%), labials 320 (27.75%), dorsals 199 (17.25%), and medials 174 (15.10%) in the communicatively important word initial position. But despite their competitive use in the word initial position, the frequency of apicals (produced by the most adroit apex), are still the highest as compared to labials, dorsals, and medials. However, the frequency of labials are higher as compared to dorsals (whereas both communication and hierarchy of adroitness suggest competitive use of labials and dorsals). The rationale for this skewing against our expectation comes from vision. Vision strongly favors the use of visually observable, labial units in the word initial position (vision as an orienting principle will be dealt in detail in our doctoral research).
  
4. It may however be noted that in the communicatively less

important word final position, we expect the more favored units (in terms of hierarchy) like apicals will be additionally favored and the less favored units like medials will be additionally disfavored. Thus, out of a total of 1124 final occurrences of consonants we find 708 (63.00%) apicals, 142 (12.63%) labials, 177 (15.75%) dorsals, and 97 (8.62%) medials. These figures are clearly in conformity with our expectations. The apicals are being additionally favored (708/63.0%) as compared to other less preferred units in the word final position. However, it is to be noted that the frequency of labials, which went up (due to vision) as compared to the dorsals in the word initial position, goes drastically down in the word final position. Inasmuch as the communicative load and impact of vision both decreased in the word/<sup>final</sup>position, the labials are disfavored in this position of the word. The labials now compete well with the dorsals in the word final position. Further, the less favored medials, which showed a competitive use in the word initial position, are additionally disfavored in the word final position (97/8.62%).

(b) Impact of Communication on the Relative Preference of the Stops in Terms of Articulators in the CVC Words

In this subsection, we attempt to evaluate the role of communication in the relative preference of opposing stop units, in terms of articulators, in the initial and final positions of the CVC words of Calcutta Urdu. The actual occurrences of the stops in word initial and final positions are presented in Table 2-2.





Stops	INITIAL		FINAL		TOTAL	
	No.	%	No	%	No	%
Apico-dental	133	57.10 15.83	100	42.90 17.33	233	100 16.44
Apico-palatal	91	39.73 10.83	138	60.27 23.91	229	100 16.16
APICAL	224	48.50 26.66	238	51.50 41.24	462	100 32.60
LABIAL	252	73.04 30.00	93	26.96 16.12	345	100 24.35
DORSAL	195	56.69 23.22	149	43.31 25.83	344	100 24.27
MEDIAL	169	63.53 20.12	97	36.47 16.81	266	100 18.78
TOTAL	840	59.29 100	577	40.71 100	1417	100 100
Grand Total					1417	

Table 2-2 : Frequency of Stops in the Initial and Final Position of the CVC Words in Terms of Articulators

Comments on Table 2-2 :

1. In this table, we compare the figures of apical stops (apico-dental : t d th dh; apico-palatal : ʈ ɖ ʈh ɖh), labial stops (p b ph bh), dorsal stops (k g kh gh), and medial stops (c j ch jh) of Calcutta Urdu.

2. The figures of the above table clearly conform to our expectations in terms of hierarchy of adroitness. That is, out of a total of 1417 occurrences of stop units, the apicals (produced by the most adroit apex) with 462 (32.60%) occurrences are expectedly the most favored units among the stops in terms of hierarchy of adroitness of articulators. Inasmuch as labials and dorsals are placed at the same position on the scale of hierarchy of adroitness, we expect that both of them would compete well with each other. Our claim is validated when we look at the figures of labials and dorsals. The labials with 345 (24.35%) occurrences and dorsals with 344 (24.27%) occurrences clearly compete with each other. Quite expectedly, the medials with 266 (18.78%) occurrences are clearly at the bottom of the hierarchy of adroitness.
3. As said before, the phonological units carry greater communicative load at the beginning of the word than at the end of the word. We therefore, expect that all categories of stop units (apicals, labials, etc) would compete well with each other in the communicatively important word initial position. However, there will be skewed occurrences of these units in the communicatively less important word final position. The figures of the above table are fully in accordance with our expectations. The frequency of most favored apical stops 224 (26.66%), the more favored dorsal stops 195 (23.22%), and the less favored medial stops 169 (20.12%), compete well with

each other in the initial position of the word. It is to be noted that labials with 252 (30.00%) occurrences are the most frequent stops in word initial position. The unexpected high frequency of labials vis-a-vis the apicals, in the word initial position, is motivated by vision. Thus, besides physiology and communication, \*vision (visibility of the lips in articulation) also plays a role in the substantial increase in the number of occurrences for labial stops.

4. In the communicatively less important word final position, however, the frequency of labial stops, with 93 (16.12%) occurrences is drastically reduced. For both visibility impact and communicative load, on these units, get lessened at the end of the word. Further, as expected, the more favored apical stops, with 238 (41.24%) occurrences, and dorsal stops, with 149 (25.83%), have been additionally favored in the final position of the word. Again the less favored medial units, with 97 (16.81%) occurrences, have been additionally disfavored at the word final position.

(c) Impact of Communication on the Apical s in the CVC Words

Here we will discuss the frequency of occurrence of the apical s in both the initial and final position of the CVC words in Calcutta Urdu.

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\* Vision as an orienting principle, in the phonological analysis of Calcutta Urdu, is beyond the scope of this dissertation and will be taken up in our doctoral research.

Consonant	INITIAL		FINAL		TOTAL	
	No.	%	No.	%	No.	%
APICAL <u>s</u>	92	52.28	84	47.72	176	100
Grand Total					176	

Table 2-3 : Frequency of Apical Fricative s in the Initial and Final Position of the CVC Words

Comment on Table 2-3

The apical s being the only supraglottal fricative in the phonological system of Calcutta Urdu, is not surprisingly the most frequent of all the phonological units. The frequency of occurrence of the s in the initial and final positions of the word, clearly conforms to our expectations in terms of communication.

(d) Impact of Communication on the Relative Preference of the Liquids in Terms of Articulators in the CVC Words

In this section, we will examine the effect of communicative load on the frequency of usage of the liquids in the initial and final position of the CVC words in Calcutta Urdu. The figures are presented in the table 2-4, below.

Liquids	INITIAL		FINAL		TOTAL	
	No.	%	No.	%	No.	%
Apico-dental	92	30.67	208	69.33	300	100
Apico-palatal	01	86.79	77	98.72	78	100
		1.28		25.75		19.25
APICAL	93	24.60	285	75.40	378	100
		87.73		95.32		93.33
LABIAL	4	36.37	7	63.63	11	100
		3.78		2.34		2.72
DORSAL	4	36.37	7	63.63	11	100
		3.78		2.34		2.72
MEDIAL	5	100	0		5	100
		4.71				1.23
TOTAL	106	26.18	299	72.82	405	100
		100		100		100
Grand Total					405	

Table 2-4 : Frequency of Liquids in the Initial and Final Position of the CVC Words in Terms of Articulators

Comments on Table 2-4

1. Out of a total of 405 occurrences of liquids, the apicals with 378 (93.33%), the labials with 11 (2.72%), dorsals with 11 (2.72%), and medials with 5 (1.23%) occurrences clearly correspond to our expectations in terms of

hierarchy of adroitness of articulators. It is to be noted that the liquid w is both labial and dorsal, therefore, the frequency of w has been counted twice -- once as labial and once as dorsal.

2. In terms of communication, we claim that the communicative load progressively decreases from the word initial position to the word final position. In the light of this claim we can expect that physiologically favored units will be additionally favored in the word final position. Physiologically less favored units, on the other hand, will be additionally disfavored in word final position. The figures of the table clearly show that out of a total of 299 final occurrences of liquids, the apicals with 285 (95.32%) labial and dorsals with 7 (2.34%) each, and medial Q, occurrences are in accordance with our claim.

Further, in line with our expectation, the labial liquids (4/ 3.78%), the dorsal liquids (4/3.78%) and the medial liquids (5/4.71%) compete well with each other in the word initial position in terms of communication. Due to their high degree of adroitness, the apical liquids with 93 (87.73%) occurrences word initially, are the highest.

(e) Impact of Communication on the Relative Preference of the Nasals in Terms of Articulators in the CVC words

Here we assess the effect of communication on the frequency of occurrence of the nasals in word initial and final positions in terms of hierarchy of adroitness of articulators in the CVC words. The actual frequencies are

systematically presented in Table 2-5, below.

Nasals	INITIAL		FINAL		TOTAL	
	No.	%	No.	%	No.	%
Apico-dental	51	33.56	101	66.44	152	100
Apico-palatal	0	44.35	0	61.60	0	54.48
APICAL	51	33.56	101	66.44	152	100
LABIAL	64	60.38	42	39.62	106	100
DORSAL	0	55.65	21	25.60	21	38.00
MEDIAL	0	100	0	12.80	0	100
TOTAL	115	41.22	164	58.78	279	100
Grand Total		100		100	279	100

Table 2-5 : Frequency of Nasals in the Initial and the Final Position of the CVC Words in Terms of Articulators

Comments on Table 2-5

1. Out of a total of 279 occurrences of nasal units in the CVC words, we have 152 (54.48%) occurrences of the apical nasal, 106 (38.00%) occurrences of labial nasal and only 21 (7.52%) occurrences of the dorsal nasal,

whereas there is a total skewing against the use of medial nasal. These figures are clearly justified in terms of hierarchy of adroitness of articulators.

2. Inasmuch as the communicative load is highest in the word initial position, we expect a fairly good competition among different units. Thus, of a total of 115 initial occurrences of nasals, we have 51 (33.56%) apical nasal occurrences and 64 (60.38%) labial nasal occurrences. The labials however, outnumber the apicals. This skewing, against apicals in favor of labials, is explainable in terms of vision (visibility of labial units). Vision, as an orienting principle will be dealt with later in our doctoral research.

Whereas the medial nasal does not occur in the CVC words of Calcutta Urdu, the dorsal nasal is used only in the word final position of the CVC words.

3. In the communicatively less important word final position, we expect the physiologically favored units to be additionally favored and physiologically disfavored units to be additionally disfavored. Thus, out of 164 final occurrences of nasals, the apical nasal with 101 (61.60%) occurrences, the labial nasal with 42 (25.60%) occurrences and dorsal nasal with 21 (12.80%), conform to our expectations. It is to be noted that as soon as the visibility impact on labial nasal, in the word final position, gets lessened, the frequency of this unit is drastically reduced from 55.65% (initially) to 25.60%



(finally). The dorsal nasal, which occurs only in the word final position, is quite understandably low in frequency of occurrence.

(2) Communicative Load on the Initial and Final Positions of the Word in Terms of Number of Articulators

As pointed out earlier (cf. Introduction : 0.3.1(4)), humans seek a minimax solution between accomplishment and effort (maximum output with minimum input) in all their endeavors. This same psychological trait of human beings is also manifested in the functioning of language. Thus, in terms of \*human behaviour, we expect that phonological units involving fewer articulators will be preferred over those utilizing more articulators.

However, from the viewpoint of communication we expect a rather competitive use of the phonological units (voiceless versus voiced, unaspirated versus aspirated) in the initial position of the word (higher communicative load), and a selective utilization of the same units in the final position of the word (lesser communicative load).

In this section, we make an attempt to examine the effect of communication on the frequency of occurrence of units utilizing both few and more articulators in the word initial and final positions. The analysis here is limited to the CVC words of Calcutta Urdu.

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\*Human Behaviour, as an orienting principle for the phonological analysis of Calcutta Urdu will be taken up, in detail, in our doctoral research.

## (a) Unaspirated and Aspirated Stops in the CVC Words.

Here we assess the effect of communicative load on the distribution of the unaspirated and aspirated stop units in the initial and final position of the CVC words in Calcutta Urdu. The figures in terms of frequency counts are presented in the table 2-6, below.

Stops	INITIAL		FINAL		TOTAL		
	No.	%	No.	%	No.	%	
Unaspirated	534	50.96	514	49.04	1048	100	
		63.57		89.08		73.96	
Aspirated	306	82.93	63	17.07	369	100	
		36.43		10.92		26.04	
Total	840	59.28	577	40.72	1417	100	
		100		100		100	
Grand Total						1417	

Table 2-6 : Frequency of the Unaspirated and the Aspirated Stops in the Initial and Final Position of the CVC Words

Comments on Table 2-6 :

1. The frequency of occurrence of all the unaspirated stops (p b t d ṭ ḍ c j k g) and of all the aspirated stops (ph bh th dh ṭh ḍh ch jh kh gh) are compared here, in both the initial and final positions of the CVC words.
2. The figures of the above table 2-6, show that out of a total of 1417 occurrences of stops, there is a general preference for the unaspirated stops 1048 (73.96%) vis-a-vis

their aspirated counterparts 369 (26.04%). This skewing against the use of aspirated stops and in favor of unaspirated stops is explainable in terms of both physiological mechanism and human behaviour.

3. \*Physiologically, in the production of aspiration a greater amount of energy (in the form of a puff of breath emitted from the lungs and forced through the larynx with triangular configurations of the glottis) is required. Thus, the aspirated stops are physiologically more complex than their unaspirated counterparts. This physiological disfavoring is manifested through the figures. 1048 (73.96%) out of 1417 are unaspirated and 369 (26.04%) are aspirated stops.
4. In terms of human behavior, the aspirated stops are disfavored vis-a-vis their unaspirated counterparts, owing to their (aspirated stops') use of an extra articulator larynx (for aspiration). It may however be noted that unaspirated voiced stops (b d g, etc.) also require larynx, as an extra articulator (for voicing). But, as noted above physiologically, voicing, in the production of unaspirated stops, is a less complex phenomenon as compared to aspiration. Thus, physiologically more complex aspirated stops are also disfavored in terms of human behavior. The figures of the table 2-6 clearly display this fact.

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\*As stated in our chapter on physiological base (cf. Chapter 1), we have not dealt with all the physiological factors that play a role in the phonology of Calcutta Urdu. All aspects of physiological mechanism will be taken up in our doctoral research.

5. It may however be noted that in terms of communication, we know that the last phonological unit of a word carries the minimum communicative load of that word. Therefore, we expect that the unaspirated stops which are preferred over aspirated stops, for reasons stated above, would be additionally preferred in the word final position. Expectedly, the figures of the table 2-6, show that out of a total of 577 final occurrences of stops, the unaspirated stops with 514 (89.08%) of occurrences drastically outnumber the 63 (10.92%) occurrences of aspirated stops. In the communicatively important word initial position too, the more favored unaspirated stops outnumber the less favored aspirated stops. As such, out of a total of 840 initial occurrences of stops, unaspirated stops with 534 (63.57%) occurrences are clearly ahead of aspirated stops 306 (36.43%).

Furthermore, the drastic increase in the percentage of aspirated stops from 63 (17.07%) in the word final position to 306 (82.93%) in the word initial position is partly motivated by physiology, in that, more air from the lungs is available at the beginning of the word than at the end of the word. However, the relative preference of aspiration in the word initial position is mainly motivated by the heavy communicative load carried by the first phonological unit of the word.

(b) Voiceless and Voiced Stops in the CVC Words

Here we will be highlighting the effect of communication on the frequency of occurrence of voiceless and voiced

stops in the initial and final position of the CVC words in Calcutta Urdu. The actual occurrences of the opposing stop units in word initial and final positions are presented in the table 2-7, below.

Stops	INITIAL		FINAL		TOTAL	
	No.	%	No.	%	No.	%
Voiceless	437	51.41	413	48.59	850	100
		52.02		71.58		59.99
Voiced	403	71.08	164	28.92	567	100
		47.98		28.42		40.01
Total	840	59.28	577	40.72	1417	100
		100		100		100
Grand Total					1417	

Table 2-7 : Frequency of the Voiceless and Voiced Stops in the Initial and Final Position of the CVC Words

Comments on Table 2-7 :

1. The table presented above, displays figures for all the 10 voiceless stops (p t ṭ c k ph th ṭh ch kh) and all the 10 voiced stops (b d ḍ j g bh dh ḍh jh gh), as they occur in all instances of the CVC words.
2. The voiced stops are produced by an additional articulator, larynx (for voicing) vis-a-vis the voiceless stops. Thus, being more complex phonological units in terms of number of articulators, the voiced stops should be disfavored in

comparison with the voiceless stops. The preference for voiceless stops over the voiced stops is clearly shown by the figures of the above table. Of the total stop occurrences of 1417, the voiceless stops with 850 (59.99%) outnumber the voiced stops 567 (40.01%).

3. In terms of communication, however, we know that the communicative load is higher in word initial position and is lowest in word final position. We therefore, expect that the contrasting phonological units should compete well in their occurrences in the initial position of the word. And, as expected, the less favored voiced stops of Calcutta Urdu compete well with their voiceless counterparts in the communicatively important word initial position. That is, out of a total of 840 initial occurrences of stops, the voiceless stops account for 437 (52.02%) occurrences and voiced stops occur in 403 (47.98%) instances. These figures clearly correspond to our claim in terms of communication. Furthermore, in the communicatively less important word final position, whereas the more favored voiceless stops are additionally favored, the less favored voiced stops are additionally disfavored. Therefore, out of a total of 577 final occurrences of stops, the voiceless stops with 413 (71.58%) drastically outnumber the voiced stops 164 (28.42%). Thus, our claim in terms of communication is clearly validated by the figures of the table 2-7.
4. It may further be noted that, as stated above, the communicatively least important final position of the word is

best suited for the least complex phonological units, such as voiceless stops which are clearly favored over the voiced stops. This skewing in favor of voiceless stops, in the final position of the word, is partial in Calcutta Urdu. But, when all the voiced stops are eliminated in the word final position, as it happens in New High German, there is a total skewing in favor of voiceless stops. This total skewing is clearly motivated by communication and is termed 'neutralization' by N. Trubetzkoy. Thus, neutralization is an extreme case of disfavoring in terms of communication.

#### 2.2.2. Pairs of Words with the Same Phonological Units in Reverse Order

The CVC monosyllabic words, analyzed here, begin and end with a consonant, except few words where C may be zero initially and/or finally. The C in the CVC words represents any of the thirty-four (34) consonants (cf. Diagram 1-1).

It is important to note <sup>that</sup> there are many instances in Calcutta Urdu, where an interchange of initial and final consonants bring about a drastic change in meaning. That is, interchange of consonants syntagmatically like  $C_1VC_2$  and  $C_2VC_1$  may represent two distinct words with different meanings. This syntagmatic interchange of consonants is illustrated with the help of the following pairs of monosyllabic words.

<u>Consonants</u> <u>Interchanged</u>	<u>Pairs of</u> <u>Words</u>	<u>Gloss</u>
ø/p	a:p pa:	you(honorific) obtain, find
ø/j	a:j ja:	today go
ø/g	a:g ga:	fire sing
ø/s	a:s sa:	hope like, resembling
ø/k	e:k ke:	one of, pertaining to
ø/s	o:s so:	dew sleep
ø/h	o:h ho:	Oh!, hey be, become
ø/m	ã:m mã:	mango mother
ø/n	ã:n nã:	self-respect no
ø/n	ãin nãí	twentyfourth letter of Urdu alphabet no, not
ø/n	ũ:n nũ:	wool Noah
p/ṭ	pAṭ ṭAp	sound of falling jump over
p/c	pAc cAp	be digested be pressed
p/ch	pUch chUp	be wiped be hidden
p/k	pAk kAp	be cooked cup
p/s	pa:s sa:p	near clean



<u>Consonants</u> <u>Interchanged</u>	<u>Pairs of</u> <u>Words</u>	<u>Gloss</u>
p/ṭ	pi:t	beat, strike
	ṭi:p	compress
p/s	pi:s	grind
	si:p	oyster-shell
p/ṭ	pe:t	belly
	ṭe:p	tape
p/l	pe:l	drive on forcibly
	le:p	ointment plastered on a wound
p/t	po:t	whitewash
	to:p	cannon
p/ṭ	po:t	flatter
	ṭo:p	hat
p/c	pā:c	five
	cā:p	lamb or mutton chop
p/n	pā:n	betel leaf
	nā:p	measure
b/ṭ	bAt	tripe
	ṭAb	tub
b/c	bAc	be saved
	cAb	be chewed
b/j	bAj	be rung
	jAb	when(relative)
b/k	bAk	chatter
	kAb	when(interrogative)

<u>Consonants</u> <u>Interchanged</u>	<u>Pairs of</u> <u>Words</u>	<u>Gloss</u>
b/s	bAs sAb	enough all
b/r	bAr rAb	prospective groom Lord
b/d	ba:d da:b	after press
b/s	ba:s sa:b	foul odor Sir, Lord
b/l	ba:l la:b	hair profit
b/j	bi:j ji:b	seed tongue
b/r	bo:r ro:b	bore awe inspiring presence
t/l	tAl lAt	fry bad habit
t/j	ta:j ja:t	crown caste
t/s	ta:s sa:t	playing cards seven
t/l	ta:l la:t	pond, lake leg
t/r	ta:r ra:t	wire, telegram night
t/j	ti:j ji:t	third day after death victory
d/l	dAl lAd	group, party be loaded
d/l	da:l la:d	pulse load
d/n	dī:n nī:d	faith, religion sleep

<u>Consonants</u> <u>Interchanged</u>	<u>Pairs of</u> <u>Words</u>	<u>Gloss</u>
t/k	tAk kAt	be stitched be cut
t/l	tAl lAt	pass off lock of hair
t/r	tAr rAt	croak memorize
t/k	ta:k ka:t	stitch cut
t/l	ta:l la:t	put off lot
t/l	tu:l lu:t	stool loot
t/k	to:k ko:t	interrupt coat
d/r	dAr rAd	fear rod
d/k	da:k ka:d	call card
d/l	da:l la:d	put extraordinary show of love
d/l	do:l lo:d	shake burden
d/r	do:r ro:d	string road
c/n	cŨn nŨc	select be scratched
c/kh	ci:kh khi:c	cry pull
c/n	cã:n nã:c	moon dance
c/m	cũ:m mũ:c	kiss moustache

<u>Consonants</u> <u>Interchanged</u>	<u>Pairs of</u> <u>Words</u>	<u>Gloss</u>
j/g	jAg gAj	jug yard
j/g	ja:g ga:j	be awakened foam
j/l	ja:l la:j	net modesty
j/s	ju:s su:j	juice swell
j/r	jo:r ro:j	force daily
j/m	ĵā:m mā:j	jam clean
k/s	kAs sAk	tighten be able
k/r	kAr rAk	do keep
k/s	kIs sIk	who what be baked
k/s	ke:s se:k	case heat
k/l	ki:l li:k	nail young of a louse
k/r	ko:r ro:k	edge obstruction
k/n	kā:n nā:k	ear nose
kh/s	khŪs sUkh	happy comfort
kh/l	khIl lIkh	blooꝝ write
kh/l	kha:l la:kh	skin lakh

<u>Consonants</u> <u>Interchanged</u>	<u>Pairs of</u> <u>Words</u>	<u>Gloss</u>
g/l	gAl	be cooked
	lAg	be attached
g/r	gAr	be squeezed
	rAg	vein
g/r	ga:r	squeeze
	ra:g	raga, a musical mode
g/s	go:s	meat
	so:g	grief
g/l	go:l	round
	lo:g	people
m/n	mā:n	agree, accept
	nā:m	name
n/s	nās	vein
	sān	year
s/r	sAr	head
	rAs	juice
s/l	sa:l	year
	la:s	corpse
h/l	ha:l	condition
	la:h	wax
h/r	hu:r	hourī
	ru:h	soul

Comments on the monosyllabic words presented above :

1. Inasmuch as the interchange of initial and final consonants, in many Calcutta Urdu CVC words, signal a change in meaning, hence it is communicatively oriented. The pairs of words presented above are good examples of communicative economy achieved through combinatory phonology.
2. Communicative economy through combinatory phonology.
  - (i) The theoretical rationale for communicative facility (with more than one meaningful units), by employing the same number of phonological units in different orders, can be provided in terms of "double articulation" of a language (or dialect).
  - (ii) The first articulation (grammar) of a language or dialect provides communicative facility in the sense that only a finite number of signes (signal-meaning units) combine to cover all human experience,
  - (iii) However, a greater economy is achieved at the level of second articulation (phonology) where a handful (only a few dozen) of distinctive phonological units combine judiciously to keep distinct all the signes we need. It minimizes effort on the part of memory since, smaller number of phonological units recur in different combinations and make the communication easy. This concept of communicative economy through combinatory phonology is fully developed in terms of 'double articulation' by the famous French linguist Andre Martinet.
3. Thus, in the phonology of Calcutta Urdu, economy in the

formation of signal-meaning units is achieved by arranging the same phonological units in the reverse order to form two distinct signal-meaning units.

### Section 2.3. Phonological Mergers

As we know that phonological units are not utilized randomly in a language or dialect, therefore, we expect skewings, both in the makeup of the phonological units and in the frequency of usage of these units in the word.

Keeping the above fact in mind, in the previous section (cf. 2.2.1.), we discussed how communicative load affects the frequency of occurrence of the phonological units in the initial and final positions of the word. In this section, however, we will try to examine as to how the phonological mergers are brought about by the variations of the communicative load. André Martinet defines the concept of 'functional load' (communicative load), as the measure of the value of a phonological unit in the total functioning of the language, based on the units' ability to differentiate communicative messages.

It is to be noted that phonological units appearing in large number of words have a higher communicative load than do those units which occur in fewer words. We can, therefore, expect that the phonological units with low communicative load may be eliminated or merged with the neighboring units, whereas the phonological units with high communicative load are likely to survive in a language (or dialect).

Mergers, of both consonantal and vocalic units, can take place in a language or dialect. However, Calcutta dialect of Urdu language is characterized by consonantal mergers only. Ten consonantal units, set up in classical and modern standard Urdu, are found to be completely merged with their neighbouring units in Calcutta Urdu. This paradigmatic merger is shown in Diagram 2-2, below.

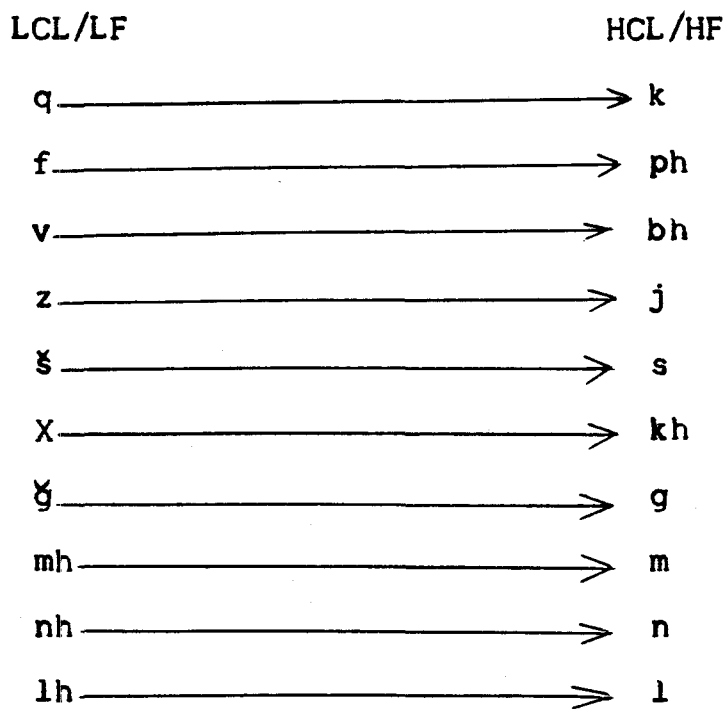


Diagram 2-2 : The Mergers of Consonantal Units

Comments on Diagram 2-2 :

As shown in the diagram above, the classical and modern standard Urdu, consonantal units q f v z ž X ğ mh nh lh, have merged with k ph bh j s kh g m n l, respectively, in Calcutta dialect of Urdu. Inasmuch as the merged consonantal units have a low communicative load (LCL), in terms of their occurrences in words, these units are found to be merged



with those neighboring units which have high communicative load (HCL).

It is interesting to note that out of the ten merged consonants, six are fricatives (cf. Diagram 2-2). This largescale merger of fricatives is quite understandable in the light of the fact that most of these fricatives occur only in Perso-Arabic words which are fewer in number. Therefore, it is not surprising that these less frequent (LF) fricatives, having low communicative load (LCL) have been merged with the neighbouring units having high communicative load (HCL) and high frequency (HF). The consonantal unit q, which occurs only in few Arabic words, has the same communicative explanation for its merger with k in Calcutta Urdu.

As far as the classical Urdu and modern standard Urdu aspirated nasals mh nh and aspirated liquid lh are concerned, owing to their low communicative load, they too have merged with their more frequent unaspirated counterparts in Calcutta Urdu.

Though communication is the main factor behind the merger of consonantal units, discussed above, there are other factors like physiology and human behaviour which also favor the mergers of these units. However, physiology and human behaviour explanations are beyond the scope of this dissertation and will be taken up in our doctoral research.

The paradigmatic merger of classical and modern standard Urdu phonological units, as discussed above, is illustrated with the following examples.

Merged Units	Standard Urdu	Calcutta Urdu	* Item No.	Gloss
q	qAbz	kAbj	718	constipation
	qAd	kAd	719	height
	qa:f	ka:ph	729	twentyeighth letter of Urdu alphabet
	qlst	kIst	744	instalment
	qai	kai	769	vomiting
	qaid	kaid	772	confinement, imprisonment
	qãum	kãum	773	people, community
f	fAṭ	phAṭ	127	promptness
	fAsṭ	phAsṭ	131	first
	fa:l	pha:l	136	omen, augury
	fi:s	phi:s	144	fee
	fũ:n	phu:n	157	telephone
	fe:	phe:	158	twentysixth letter of Urdu alphabet
	fauj	phauj	169	army
	faul	phaul	170	fall(of a sari)
v	vo:ṭ	bho:ṭ		vote
z	zĀññ	jĀññ	646	rust
	za:t	ja:t	648	caste
	za:l	ja:l	652	thirtieth letter of Urdu alphabet
	zId	jId	661	stubbornness

\* For form class and further details of meaning, see glossary of monosyllabic words.

Merged Units	Standard Urdu	Calcutta Urdu	Item No.	Gloss
z	ze:	je:	676	sixteenth letter of Urdu alphabet
	ze:r	je:r	680	vowel marker for I and i:
	zo:	jo:	681	twentythird letter of Urdu alphabet
	zo:r	jo:r	685	force, pressure
š	šAt	sAt	1035	shirt
	šAk	sAk	1039	doubt; suspicion
	šArt	sArt	1042	condition; bet
	ša:l	sa:l	1061	shawl
	šā:m	sā:m	1064	evening
	šī:n	sī:n	1084	eighteenth and nineteenth letter of Urdu alphabet
	še:x	se:kh	1110	Sheikh:one of the four classes of muslims
	še:r	se:r	1111	tiger, lion
	šo:r	so:r	1120	noise, uproar
	šauk	sauk	1126	desire, fancy
x	xAbt	khApt	776	madness, sanity
	xAt	khAt	777	letter
	xAs	khAs	781	fragrant grass
	xAr	khAr	784	sound of snoring
	xwa:b	kha:b	786	dream
	xa:k	kha:k	789	dust, ashes
	xa:s	kha:s	790	special
	xā:m	khā:m	792	envelope; wrapper
	xā:n	khā:n	794	Khan:common adjunct of Pathan names
	xUd	khUd	804	self
	xUs	khUs	805	happy, glad

Merged Units	Standard Urdu	Calcutta Urdu	Item No.	Gloss
x	xu:b	khū:b	808	pleasing; well
	xū:n	khū:n	810	blood
	xe:	khe:	811	tenth letter of Urdu alphabet
	xo:l	kho:l	823	cover, case
	xair	khair	826	well-being; any way
ǧ	ǧAt	gAt	831	sound of gulping
	ǧĀm	gĀm	837	sorrow, grief
	ǧa:r	ga:r	847	cave
	ǧair	gair	878	stranger; unknown
	ǧāin	gāin	879	twentyfifth letter of Urdu alphabet
	ǧaus	gaus	880	name of a Muslim saint
	ǧaur	gaur	881	deliberation
mh	tŪmhe:	tŪme:		for you
nh	Ūnhe:	Ūne:		for him, for her
lh	du:lha:	du:la:		groom
	cu:lha:	cu:la:		stove

It is to be noted here that we have taken only those words as illustrative examples in which the merger has taken place only in the initial position or both in the initial and the final positions of the word. All those words in which the merger has taken place only in the final position of the word have been left out. Parenthetically, it may be noted here that the number of words in which the merger has taken place in the final position and the medial position is also very small.

Section 2.4. Homonymy

Homonymy refers to the process whereby a word remains the same in form as another word, but differs drastically in terms of meaning. These homonymous pairs of words create communicative problems for the speakers of a language. For they have to infer the correct meaning with the help of the context. Though, certain amount of homonymy is tolerated by means of human intelligence, however, large-scale homonymy is generally avoided in languages.

In section 2.4.1, we present a list of all the homonymous pairs of words that are encountered among the monosyllabic words of Calcutta Urdu. In section 2.4.2, we propose to see how mergers of certain consonantal units lead to homonymous pairs of words in Calcutta Urdu. Section 2.4.3 will deal with word final deaspiration and homonymy in Calcutta Urdu. In section 2.4.4, we analyze as to how sometimes aspiration is preserved to avoid homonymy.

## 2.4.1. Homonymous Pairs of Words

In the following list, we have presented all the homonymous pairs of words that are encountered among the monosyllabic words of Calcutta Urdu.

<u>Serial No.</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>
1.	a:	Ah! Alas!	a:	come
2.	ã:m	mango	ã:m	common
3.	pAṭ	leaf of a door	pAṭ	lying flat on one's stomach
4.	pAs	pus	pAs	be skimmed
5.	pAl	moment	pAl	be brought up
6.	pAr	feather	pAr	on, upon
7.	pAṛ	fall down	pAṛ	read, study

<u>Serial No.</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>
8.	pa:t	slab	pa:t	cover
9.	pa:s	pass	pa:s	near, at
10.	pa:l	layers of straw	pa:l	bring up
11.	pi:s	piece	pi:s	grind
12.	pe:	third letter of Urdu alphabet	pe:	on, upon
13.	po:l	pole	po:l	secret
14.	phAt	promptness	phAt	be burst
15.	pha:l	omen, augury	pha:l	fall(of a sari)
16.	phā:k	slice	phā:k	chuck
17.	phu:t	rift	phu:t	be broken
18.	phu:l	flower	phu:l	swell
19.	bAt	tripe	bAt	be divided
20.	bAs	bus(vehicle)	bAs	enough, sufficient
21.	bAr	prospective groom	bAr	wasp
22.	bAr	banyan tree	bAr	increase
23.	bĀn	forest	bĀn	close
24.	ba:g	tiger	ba:g	garden
25.	bā:dh	tie, fasten	bā:dh	embankment
26.	bā:n	rope	bā:n	tie, fasten
27.	bIl	burrow	bIl	bill
28.	bĪn	weave	bĪn	be cleaned(as rice)
29.	bī:n	Indian flute	bī:n	pick, gather
30.	bUt	idol	bUt	be extinguished
31.	be:l	<u>bel</u> : wood- ap ple	be:l	roll dough
32.	bait	bat	bait	sit down
33.	bha:g	luck, fate	bha:g	run, flee
34.	bhā:j	twist, twine	bhā:j	lie, fabricate

<u>Serial No.</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>
35.	bhā:r	cup made of clay	bhā:r	fireplace
36.	bhu:k	hunger	bhu:k	bark
37.	bhō:k	pierce	bhō:k	bark
38.	tĀn	body	tĀn	be stretched
39.	ta:k	niche, arch	ta:k	stare, look at
40.	te:	fourth letter of Urdu alphabet	te:	you(familiar)
41.	ta:r	palm tree	ta:r	guess
42.	to:	twentysecond letter of Urdu alphabet	to:	then, so
43.	da:l	split pulse	da:l	eleventh letter of Urdu alphabet
44.	do:s	friend	do:s	blame, fault
45.	dhUt	away! be off!	dhUt	stupefied(by liquor)
46.	dhŪn	tune, melody	dhŪn	comb(cotton)
47.	tAp	drip: sound of falling drops	tAp	jump over
48.	tĀn	ton	tĀn	sound of a bell
49.	ta:l	heap	ta:l	put off
50.	tā:n	leg	tā:n	hang
51.	ti:k	teakwood	ti:k	topknot(of hair)
52.	da:k	mail	da:k	call
53.	da:l	branch	da:l	pour, put
54.	dha:l	slope, shield	dha:l	mould
55.	dhi:l	laxity	dhi:l	louse
56.	cAt	mat	cAt	crackling sound
57.	cAr	sound of tearing	cAr	climb
58.	ca:l	gait, move	ca:l	sieve
59.	cā:p	mutton chop	cā:p	press, squeeze
60.	cī:n	China	cī:n	recognize
61.	cāin	chain	cāin	comfort

<u>Serial</u> <u>No.</u>	<u>Calcutta</u> <u>Urdu</u>	<u>Gloss</u>	<u>Calcutta</u> <u>Urdu</u>	<u>Gloss</u>
62.	chAṭ	Hindu festival	chAṭ	be sorted
63.	chĩ:ṭ	chintz	chĩ:ṭ	scatter
64.	jAg	jug	jAg	be awakened
65.	jAṛ	root	jAṛ	fix, stud
66.	jĀññ	war	jĀññ	rust
67.	ja:l	net, trap	ja:l	thirteenth letter of Urdu alphabet
68.	jā:m	jam	jā:m	traific jam
69.	jā:n	life	jā:n	know
70.	jĩñ	Jinni	jĩñ	who, which
71.	jo:	twentythird letter of Urdu alphabet	jo:	which, what
72.	jha:ṛ	bush, shrub	jha:ṛ	sweep, dust
73.	kAph	cuff	kAph	phlegm
74.	kAl	tap	kAl	tomorrow
75.	ka:	what	ka:	of, pertaining to
76.	ka:ṭ	wood, timber	ka:ṭ	cut, bite
77.	ku:ṭ	paper used for making pasteboard	ku:ṭ	pound, crush
78.	ke:s	case	ke:s	hair
79.	ko:ṭ	coat	ko:ṭ	court
80.	ko:s	<u>kos</u> : measure of distance	ko:s	curse
81.	ko:ṛ	leprosy	ko:ṛ	dig out, bore
82.	kai	vomitting	kai	say, speak
83.	khAṭ	noise	khAṭ	work hard
84.	khAl	vessel for grinding spices	khAl	be distasteful
85.	khā:n	mine	khā:n	Khan: common adjunct of Pathan names
86.	khUd	self	khUd	be dug
87.	kho:	cave, den	kho:	be lost



<u>Serial No.</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>
88.	kho:l	cover, case	kho:l	open, unlock
89.	gAr	fort, citadel	gAr	be pierced
90.	ga:	sing	ga:	will, shall
91.	ga:r	cave	ga:r	squeeze, strain
92.	go:d	lap, bosom	go:d	tattoo
93.	mĀn	heart, mind	mĀn	maund: a unit of weight equal to 40 kgs.
94.	mIl	mill	mIl	meet, be found
95.	mUr	bend, turn	mUr	be shaved
96.	mā:n	hair-parting	mā:n	demand
97.	na:l	horse-shoe	na:l	barrel(of a gun)
98.	nū:	Noah	nū:	thirtysecond letter of Urdu alphabet
99.	sAt	shirt	sAt	adhere, stick
100.	sAk	doubt	sAk	be able
101.	sĀn	year	sĀn	fibre used for making ropes
102.	sa:t	seven	sa:t	accompaniment
103.	sa:l	shawl	sa:l	year
104.	sā:n	whetstone	sā:n	mash
105.	sIl	flat stone on which spices are ground by a muller	sIl	be sewn
106.	si:	sew, stitch	si:	as, like
107.	sī:n	scene	sī:n	eighteenth and nineteenth letter of Urdu alphabet
108.	sŪn	numb	sŪn	hear
109.	su:j	swell	su:j	be visible
110.	se:	from, with	se:	hatch
111.	se:r	lion, tiger	se:r	measure of weight
112.	hAl	plough	hAl	solution
113.	ha:r	necklace	ha:r	defeat

<u>Serial No.</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>
114.	hã:	there	hã:	yes
115.	lAt	bad habit	lAt	creeper plant
116.	la:d	entrails, guts	la:d	load
117.	le:ṭ	late	le:ṭ	lie down
118.	lau	lobe(of ear)	lau	flame
119.	ra:j	secret	ra:j	raj, government
120.	re:	Oh!, Hey!	re:	fourteenth letter of Urdu alphabet
121.	ya:	O!, Oh!	ya:	or, either

A cursory glance on the homonymous pairs of words, listed above, shows that in many instances homonymy have been created by way of certain phonological changes. It is to be noted that unlike computers, human beings can easily disambiguate the limited number of homonymous pairs in the context of situation with their intelligence.

#### 2.4.2. Consonantal Mergers and Homonymy

In our section on mergers (cf. 2.3.), we presented list of words which have been affected by consonantal mergers. In this section, however, we provide a list of all those homonymous pairs of words which have been created as a result of mergers of consonantal units.

<u>Serial No.</u>	<u>Standard Urdu</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta and Standard Urdu</u>	<u>Gloss</u>
1.	qai	kai	vomitting	kai	say, speak
2.	fAṭ	phAṭ	promptness	phAṭ	be burst
3.	ʃAṭ	sAṭ	shirt	sAṭ	stick, adhere
4.	ʃAk	sAk	doubt	sAk	be able

<u>Serial No.</u>	<u>Standard Urdu</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta Standard</u>	<u>and Urdu</u>	<u>Gloss</u>
5.	ʃa:l	sa:l	shawl	sa:l		year
6.	ʃi:n	si:n	nineteenth letter of Urdu alphabet	si:n		scene
7.	ʃe:r	se:r	tiger	se:r		measure of weight
8.	za:l	ja:l	thirteenth letter of Urdu alphabet	ja:l		net, trap
9.	zĀnn̄	jĀnn̄	rust	jĀnn̄		war
10.	zo:	jo:	twentythird letter of Urdu alphabet	jo:		which, what
11.	Xā:n	khā:n	Khan: common adjunct of Patnan names	khā:n		mine
12.	Xo:l	kho:l	cover, case	kho:l		open, unlock
13.	ǧa:r	ga:r	cave	ga:r		strain, squeeze
14.	ra:z	ra:j	secret	ra:j		raj, government

If we compare the above list of homonymy, with the list provided in section 2.3, we clearly observe that only a handful of homonymous pairs have been created as a result of mergers of consonantal units in Calcutta Urdu.

### 2.4.3. Word Final Deaspiration and Homonymy

As hinted in the previous sections, aspiration is disfavored in terms of both physiological and human behavior reasons. As a result of this disfavoring, we get an almost total skewing against the aspirated stops in the communicatively less important word final position. It is interesting to note that the dropping of aspiration in word final position (cf. Glossary), does not create large-scale homonymy in Calcutta Urdu. However, a small number of homonymous

pairs, due the loss of word final h and aspiration of Standard Urdu, do result in Calcutta Urdu. It is to be noted that we analyze the word final deaspiration from the CVC words only. The homonymous pairs so created are listed below.

<u>Serial No.</u>	<u>Standard Urdu</u>	<u>Calcutta Urdu</u>	<u>Gloss</u>	<u>Calcutta and Standard Urdu</u>	<u>Gloss</u>
1.	a:h	a:	Ah! alas!	a:	come
2.	pArh	pAr	read, study	pAr	fall down
3.	bArh	bAr	increase	bAr	banyan tree
4.	ba:gh	ba:g	tiger, lion	ba:g	garden
5.	ba:ndh	ba:n	tie, fasten	ba:n	rope
6.	baith	bait	sit down	bait	bat
7.	bhu:kh	bhu:k	hunger	bhu:k	bark
8.	cArh	cAr	climb, mount	cAr	sound of tearing
9.	chAth	chAt	Hindu festival	chAt	be sorted
10.	ka:th	ka:t	wood, timber	ka:t	cut, bite
11.	ko:rh	ko:r	leprosy	ko:r	dig out
12.	kaih	kai	say, speak	kai	vomitting
13.	kho:h	kho:	cave, den	kho:	lose
14.	gArh	gAr	fort, citadel	gAr	be pierced
15.	sa:th	sa:t	together	sa:t	seven
16.	su:jh	su:j	be visible	su:j	swell

#### 2.4.4. Preservation of Aspiration in Homonymous Context

As said above, aspiration is generally disfavored for physiological and human behavior reasons. Therefore, we observe vast skewing against aspirated stops in the communicatively less important word final position. Notwithstanding this fact, there are some words in Calcutta Urdu which have retained their aspiration

in word final position in homonymous context. These Calcutta Urdu CVC words are presented below.

I		II	
<u>Words of Calcutta Urdu</u>	<u>Gloss</u>	<u>Words of Calcutta</u>	<u>Gloss</u>
<u>Retaining Word Final</u>		<u>Urdu with No Word</u>	
<u>Aspiration</u>		<u>Final Aspiration</u>	
a:h	Ah! alas!	a:	come
pArh	read, study	pAr	fall down
pi:th	back	pi:t	beat, strike
ba:gh	tiger, lion	ba:g	garden
baith	sit down	bait	bat
ca:h	love; wish	ca:	tea
ci:kh	scream	ci:k	butcher
kAph	phlegm	kAp	cup
ka:th	wood	ka:t	cut
ma:ph	forgiven	ma:p	measure
na:ph	navel	na:p	measure
sa:th	company	sa:t	seven
sa:th	sixty	sa:t	stick
sIkh	Sikh	sIk	be baked
si:kh	learn	si:k	skewer
se:kh	Sheikh	se:k	warm; bake
lAth	stick	lAt	lock of hair
la:h	sealing wax	la:	bring

It may be noted that if the words of column I drop their aspiration in word final position, they will become identical to the words of column II and will create problem of homonymy. To avoid this problem, words of column I preserve their aspiration in homonymous context. It may further be noted that some of the words of column I do have alternate deaspirated forms.

## Section 2.5. Summary and Conclusions

In this chapter, we have made an attempt to assess the role of communication in the phonology of Calcutta Urdu. This assessment is done by examining the non-random character of phonological units at both the paradigmatic and syntagmatic levels.

Section 2.1, is devoted to studying the impact of communication on the paradigm of most of the phonological units of Calcutta Urdu presented in the phonological grid (Diagram 1-1). We have presented the "inventory" of Calcutta Urdu phonemes by contrasting them in minimal and sub-minimal pairs of words. The establishment of these phonemes is clearly based on communication.

In Section 2.2, we have dealt with the combinatory pattern of phonological units that is clearly motivated by communication. In the subsection 2.2.1, we have examined, through frequency counts, the impact of communicative load on the initial and final positions of monosyllabic words of Calcutta Urdu. Here we found that the consonantal units that are favored in terms of hierarchy of adroitness of articulators, are additionally favored at the expense of the disfavored units in word final position. However, the preference of favored units is slightly reduced to the advantage of the unfavored units in the initial position of the word. This deviation from the norm in the two positions of the word is brought about by the communicative factor. We have displayed this fact through frequency counts of different categories of consonants (stops, fricative, etc.). We have also shown

through statistical counts the preference for the voiceless stops over the voiced stops (produced by an extra articulator, larynx), and the favoring of unaspirated stops over the aspirated stops, in the communicatively less important word final position. It was also shown here that pairs of words with the same phonological units in reverse order, in CVC words, effect a change in meaning.

In section 2.3, we have dealt with the mergers of Standard Urdu phonological units into their neighboring units in Calcutta Urdu. The mergers are mainly brought about by the low communicative load of the phonological units in the word. We have presented a list of words in which mergers have taken place.

Section 2.4, deals with homonymy, a communicative problem. We have listed all the homonymous pairs of words that are encountered among the monosyllabic words of Calcutta Urdu. We have also given examples to show that how mergers of phonological units and drop of aspiration produces homonymy in Calcutta Urdu. Examples have also been given to show that sometimes aspiration is retained to avoid homonymy.

In the chapter under review, an attempt has been made to assess the contribution of communication in the non-random distribution of phonological units on both the syntagmatic and paradigmatic levels of Calcutta Urdu phonology.

To conclude : (1) The phonological units of Calcutta Urdu are established through meaning distinctions (communication) in minimally different words (2) The communicative load is maximum in the word initial position. In contrast,

the final position of the word carries the minimum communicative load. Thus, the frequency counts for different categories of consonantal units (stops, fricative, liquids, etc.), show that the units produced with the most adroit apex are additionally preferred in the word final position. Whereas the more adroit labial-dorsal and less adroit medium are additionally disfavored at the end of the word. However, in the communicatively important word initial position the apicals, the labials, the dorsals and the medials compete well with each other. (3) The same phonological units can be used in reverse order to produce distinct signal-meaning units (the signe) in Calcutta Urdu. Thus, for effective, successful communication, the multiplicity of signals is achieved by an economic use of the phonological units in combinatory phonology. (4) As we know that phonological units produced with fewer articulators are preferred over the units produced with more articulators. In terms of communication therefore, the units produced with fewer articulators are additionally preferred in the communicatively less important word final position. However, there is a competitive use of phonological units utilizing fewer and more articulators, in the communicatively important word initial position. In support of this claim we have shown through frequency counts, the preference for voiceless and unaspirated stops over their voiced and aspirated counterparts. As a result, there is a partial 'neutralization' of voiceless-voiced contrast (in favor of voiceless stops) and of unaspirated-aspirated contrast (in favor of unaspirated stops) in word final position in Calcutta Urdu. Thus, Trubetzkoy's concept of neutralization can be



explained in terms of communication. (5) Calcutta Urdu phonology is marked by mergers of many consonantal units. Inasmuch as, the communicative load is not the same for all phonological units, the units with least communicative load are likely to merge with the paradigmatically appropriate units. Therefore, many consonantal units are found to be merged with their neighboring units in Calcutta Urdu. (6) Finally, we have also dealt with homonymy, which may sometime create communicative problems. We have listed all the homonymous pairs encountered in Calcutta Urdu. We have also identified the homonymous pairs of words which have been created by mergers and drop of aspiration. It may be noted that large-scale homonymy has not been created in the phonological system of Calcutta Urdu.

Summary and Conclusions

A phonological analysis of the monosyllabic words of Calcutta Urdu has been presented in this dissertation, with a view to explaining the non-random character of the phonological units both in terms of their paradigmatic makeup and the frequency of usage of these units in the speech chain. The phonological principles of Columbia school of linguistics form the basis of the analysis presented in this dissertation. The analysis undertaken here is limited to highlighting the role of communication in the makeup and the distribution of the phonological units in the monosyllabic words of Calcutta Urdu. However, a brief account of the physiological makeup of the phonological units and their syntagmatic distribution have also been presented.

This chapter is divided into two sections. A chapter-wise summary of the analysis is presented in section 3.1. In section 3.2, we present our conclusions.

Section 3.1. Summary

The introductory chapter deals with the historical setting of Calcutta Urdu, the field procedures adopted in the collection of phonological data, the theoretical framework for the analysis, and the scope of the present research.

In chapter one, an attempt has been made to provide a brief account of the physiological base for the establishment of the phonological units, and their distribution in the syntagmatic organization of the word. In section 1.1, we

present and justify the phonological grid of Calcutta Urdu. This grid is made up of all the 54 phonological units (34 consonants and 20 vowels), plus three abstract units - V(oicing), A(spiration) and N(asality). We then present explanatory comments on the various physiological features that affect the makeup of the phonological units. It is demonstrated here that the phonological grid of Calcutta Urdu is a network of its phonological units that are realized on the intersections of the relevant physiological axes of articulators and apertures. We have also highlighted the fact that unlike "phonemic inventory", which merely lists the "phonemes", the phonological grid represents both the interrelationship of the phonological units (value relationship) and their substantive characteristics in terms of physiology.

In section 1.2 of this chapter, it has been demonstrated that the relative adroitness of various supraglottal articulators (the apex, labium, dorsum and medium) affect both the makeup of the consonantal units and their frequency of usage in the speech chain. Thus, the most adroit apex is involved in the production of 16 (8 apico→dentals and 8 apico→palatals) consonants followed by 6 consonants each by the more adroit labium and dorsum. The less adroit medium is also instrumental in producing 6 consonantal units which is against our hypothesis, but as expected their frequency of usage goes drastically down in the speech chain.

The relative adroitness of the supraglottal articulators that has a bearing on the makeup of the consonantal units, also has a great impact on the frequency of usage of these units in

the syntagmatic organization of the monosyllabic words in Calcutta Urdu. It has been shown through frequency counts that the apical consonants produced by the most adroit apex are most preferred, followed by the almost parallel preference for the labial-dorsal units produced by the more adroit labium and dorsum, and finally the medial units produced by the less adroit medium of the tongue.

In chapter two of this dissertation, we have evaluated the role of communication in the paradigmatic makeup of the phonological units and the frequency of occurrence of these units in the syntagmatic organization of the word in Calcutta Urdu. In section 2.1, we have presented the "phonemic inventory" of Calcutta Urdu. This inventory consists of 50 out of 54 phonological units. These 50 units which are traditionally known as "phonemes" are established through communication by way of contrast in minimal and sub-minimal pairs of words using meaning distinctions. The remaining 4 units are non-distinctive positional variants.

In section 2.2 of this chapter, we have dealt with the combinatory phonology of Calcutta Urdu. In terms of communication we made a claim that the initial position of the word carries greater communicative load than does the final position of the word. We have shown through frequency counts that there is a competitive use of the favored and the disfavored consonants, in the communicatively important initial position of the monosyllabic words of Calcutta Urdu. However, this competition is greatly minimized in the communicatively least important final position of the word where the favored

consonants are additionally favored and the disfavored consonants are additionally disfavored. Thus, despite the given hierarchy of adroitness of articulators, the apical, the labial, the dorsal and the medial consonants compete well with each other in the word initial position. In the final position of the word however, there is much preference for the consonants produced by the most adroit articulator, apex, followed by the consonants produced by the more adroit labium-dorsum and the less adroit medium. Similarly, the disfavored voiced and aspirated stops (produced by an extra articulator, larynx) compete well with their favored voiceless and unaspirated counterparts in word initial position. However, in the word final position, the voiceless and the unaspirated stops are highly favored over their voiced and aspirated counterparts.

In section 2.3, we have provided the communicative rationale for the phonological mergers of certain consonants from Standard Urdu to Calcutta Urdu. It is explained that the phonological units having low communicative load are prone to elimination and mergers and that they generally merge with their neighboring units having high communicative load. Thus, the consonants q f v s z x g lh mh nh with their low communicative load in Standard Urdu, are totally lost in Calcutta Urdu and merge respectively with their neighboring units k p-ph bh s j kh g m n l in Calcutta Urdu.

In dealing with homonymy in section 2.4, we have given a list of all the homonymous pairs of words encountered among the monosyllabic words of Calcutta Urdu. We have also explained as to how mergers and dropping of aspiration

contribute to the creation of homonymy in Calcutta Urdu. It is also demonstrated here that whereas large-scale homonymy is avoided in languages, a small amount of homonymy is easily borne by a language, and a limited number of homonymous pairs are found in almost all languages.

### Section 3.2. Conclusions

The following points may be presented by way of conclusion :

- (1) A total number of 54 phonological units (34 consonantal and 20 vocalic) have been set up for Calcutta Urdu and presented in phonological grid (Diagram 1-1).
- (2) The phonological grid of Calcutta Urdu is different from the phonemic inventory (Diagram 2-1) that may be established for this dialect of Urdu. Although, in the framework of traditional American phonemics, the "phonemes" listed in the inventory are theoretically established through substitutional-distributional criteria, as a short cut they are generally set up by contrast through minimal and sub-minimal pairs, which imply meaning distinctions. On the other hand, the phonological units in the grid are explicitly established in terms of contrast through minimal pairs. For, communication, one of our orienting principles, justifies the use of meaning in phonological analysis.
- (3) The phonological units in the grid have not been placed vacuously. That is, unlike phonemes which are merely listed in the inventory, the phonological units in the

grid are tied with each other in terms of value relationship. At the same time, the phonetic substance of the phonological units in the grid is determined by their physiological makeup in terms of intersecting axes of articulators and apertures. Thus, the phonetic substance and phonological value are weighed on equal scales.

- (4) Modern Standard Urdu and some of its important dialects like Dakkhini Urdu, Delhi Urdu, Bihar Urdu, etc., have been analyzed in the framework of descriptive linguistics. Phonetic and phonological descriptions have also been written for these dialects. Based on selective data, these works simply present the phonemic analysis in the framework of traditional phonemics.
- (5) The phonological analysis presented here provide explanation for the non-random distribution of phonological units both in the paradigmatic makeup of these units in the grid and their combinatory characteristics in the syntagm, in terms of two orienting principles, namely, communication and physiology.
- (6) The quantitative support through frequency counts based on exhaustively collected data (comprising monosyllabic words) further validates the phonological analysis presented here. The dissertation contains both theoretical and methodological innovations.

The evidence that we have presented for the establishment of 54 phonological units in the grid of Calcutta Urdu, and for the non-random arrangement of these units in the

various positions of the monosyllabic words, in terms two of the five phonological principles of Columbia School of Linguistics, seems to prove the validity of our analysis beyond reasonable doubt. Therefore, the dissertation may not only contribute to our understanding of the inner mechanism of Calcutta Urdu phonology, but also to our understanding of the theory of phonology in general.



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Glossary of Monosyllabic Words  
In Calcutta Urdu

The glossary presented here is based on the monosyllabic words of Calcutta dialect of Urdu. A selected group of Calcutta Urdu speakers were employed for the collection of these monosyllabic words. The informants selected for the collection of the data had Urdu as their native or mother language.

The following glossary includes only those monosyllabic words which occur only as free forms. All other kinds of forms are not being included. But, inflected feminine and plural forms of postpositions and verbal auxiliaries have been listed as separate items in the glossary.

Itemwise presentation of the glossary is made in the following five columns. The first column is of item number or serial number of the entries being included in the glossary. The second column lists the entries, written on the basis of the established phonological units of Calcutta Urdu (Diagram 1-1). Thus, entries having same meaning but with a difference of any phonological unit have been listed as separate entries, and cross references have also been made for these entries. The third column indicates the form classes to which each entry of the present glossary belongs. The fourth column presents the Urdu orthography for each entry. Each orthographic entry represents the equivalent of its spoken counterpart presented in the second column. At the same time any deviation from the Standard Urdu is being shown by giving Standard Urdu version in paranthesis. The fifth column provides gloss of the entries in English.

Alphabetic Order of the Phonological Units in the Glossary

## Vowels and Diphthongs:

A Ā a: ā: I Ī i: ĩ: U Ū u: ũ: e: ě: o: ō: ai ái au áu

## Consonants:

p ph b bh t th d dh ṭ ṭh ḍ ḍh c ch j jh k kh g gh m n ṇ ñ  
 ṅ s h w l r ṛ ṛh y

Abbreviations

Following is the list of abbreviations used in the glossary

Abbreviations	Meaning
Adj	Adjective
Adv	Adverb
Aux	Auxilliary
Conj	Conjunction
demon.	demonstrative
emph.	emphatic
encl.	enclitic
fem.	feminine
Fut	Future
interrog	interrogative
intrans.	intransitive
Intrj	Interjection
masc.	masculine
N	Noun
Nf	Noun feminine
Nm	Noun masculine
Neg	Negative
obl.	oblique
Pcl	Particle

## Abbreviations

pl.

Postp

Pred

Pres

Pron

prox.

sg.

trans.

V

Vi

Vt

## Meaning

plural

Postposition

Predicate

Present

Pronoun

proximate

singular

transitive

Verb

Verb intransitive

Verb transitive

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1.	Ab	Adv	اب	now
2.	At	Vi	اٹ	be filled, be contained
3.	Ar	Vi	اڑ	be obstinate
4.	a:	Vi	آ	come
5.	a: (cf. a:h)	Intrj	آ (آہ)	Ah! alas!
6.	a:p (cf. tŪm)	Pron	آپ	you(honorific)
7.	a:t (cf. a:th)	Adj	آٹ (آٹھ)	eight
8.	a:th (cf. a:t)	Adj	آٹھ	eight
9.	a:j	Nm; Adv	آج	today
10.	a:g	Nm	آگ	fire
11.	a:s	Nm	آس	hope
12.	a:h (cf. a:)	Intrj	آہ	Ah! alas!
13.	a:r	Conj	آر (اور)	and; more
14.	a:r	Nm	آڑ	shelter, screen
15.	ã:c (cf. dha:)	Nm	آجھ	heat, flame
16.	ã:kh	Nm	آنکھ	eye
17.	ã:m	Nm	آم	mango
18.	ã:m	Adj	آم (عام)	common, ordinary
19.	ã:n	Nm	آن	self-respect
20.	ã:r	Nm	آنڑ	testicle
21.	Is (cf. ye:)	Pron	اس	this; him, her, it (prox. demon.; obl. sg.)
22.	Īn (cf. ye:)	Pron	ان	these; them (prox. demon.; obl. pl.)
23.	ĩnc	Nm	انچ	inch

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
24.	i: (cf. ye:)	Pron	ای (یا)	this; he, she, it; these; they (prox. demon.)
25.	i:d	Nm	ایدا (عید)	Eid: a muslim festival
26.	Ut (cf. Uth)	Vi	اٹ (اٹھ)	get up, arise
27.	Uth (cf. Ut)	Vi	اٹھ	get up, arise
28.	Ug	Vi	اگ	grow
29.	Us (cf. wo:)	Pron	اس	that; him, her, it (remote demon. ; obl. sg.)
30.	Ur	Vi	اڑ	fly
31.	Ūn (cf. wo:)	Pron	ان	those; them (remote demon.; obl. pl.)
32.	u: (cf. wo:)	Pron	او (وہ)	that; he, she, it; those; they (remote demon.)
33.	ū:t	Nm	اونٹ	camel
34.	ū:n	Nm	اون	wool
35.	ū:n̄ (cf. ō:n̄)	Vi	اونگ (اونگہ)	doze
36.	e:	Intrj	اے	hey!
37.	e:k	Adj	ایک	one
38.	o: (cf. o:h)	Intrj	او (اودہ)	Oh! hey!
39.	o:s	Nm	اوس	dew
40.	o:h (cf. o:)	Intrj	اودہ	Oh!
41.	o:l	Nm	اول	pungent root vegetable
42.	o:r (cf. o:rh)	Vt	اوپر (اوپرہ)	wrap (with a quilt, sheet, etc.), cover
43.	o:rh (cf. o:r)	Vt	اوپرہ	wrap (with a quilt, sheet, etc.), cover
44.	ō:th (cf. hō:t)	Nm	اونٹھ (ہونٹھ)	lip

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
45.	ō:n (cf. ū:n)	Vi	اونگ	doze
46.	āit (cf. āith)	Vi	آینٹ (آینٹ)	twist, twinge
47.	āith (cf. āit)	Vi	ایٹھ	twist, twinge
48.	āin	Nm	این (ع)	twentyfourth letter of Urdu alphabet
49.	aur	Conj	اور	and; more
50.	pAt	Nm	پٹ	leaf of a door or window; sound of closing the door
51.	pAt	Nm	پٹ	sound of falling
52.	pAt	Pred Adj	پٹ	lying flat on one's stomach
53.	pAt	Vt	پٹ	be carried on satisfactorily
54.	pAc	Vi	پنچ	be digested
55.	pAk	Vi	پک	be cooked
56.	pAs	Nm	پس	pus
57.	pAs	Vi	پس	be skimmed
58.	pAl	Nm	پل	eyelid; moment
59.	pAl	Vi	پل	be brought up
60.	pAr	Nm	پر	feather
61.	pAr	Postp	پر	on, upon
62.	pArs	Nm	پرس	purse
63.	pAr	Vi	پر	fall down
64.	pAr (cf. pArh)	Vt	پڑ (پڑھ)	read; study
65.	pArh (cf. pAr)	Vt	پڑھ	read; study
66.	pĀmp	Nm	پمپ	pump
67.	pĀnkh	Nm	پنکھ	feather, wing
68.	pa:	Vt	پا	obtain, find
69.	pa:p	Nm	پاپ	sin

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
70.	pa:d	Nm	پاد	fart
71.	pa:d	Vi/Vt	پادر	break wind, fart
72.	pa:t	Nm	پاٹ	slab
73.	pa:t	Vt	پاٹ	cover
74.	pa:k	Adj	پاک	pure, clean; holy
75.	pa:s	Pred Adj	پاس	pass(in an examination)
76.	pa:s	Adv	پاس	near, at
77.	pa:l	Nm	پال	layers of atraw used for ripening the unripe mangoes
78.	pa:l	Vt	پال	bring up
79.	pa:r	Adv	پار	across, on the other side
80.	pa:r	Nm	پار	border of a sari
81.	pā:c	Adj	پانچ	five
82.	pā:n	Nm	پان	betel leaf
83.	pā:w	Nm	پاؤں	foot, leg
84.	pIt	Nm	پیت	gall-bladder
85.	pIt	Vi	پیت	be beaten
86.	pIc	N	پچ	sound of spitting
87.	pIs	Vi	پس	be ground, be crushed
88.	pIn	Nm	پین	pin
89.	pi:	Vi	پی	drink; smoke
90.	pi:p	Nm	پیپ	pus
91.	pi:t (cf. pi:k)	Nm	پیت (پیک)	juice of the betel leaf chewed and spit out
92.	pi:t	Vt	پیٹ	beat, strike
93.	pi:th	Nm	پیٹھ	back
94.	pi:k (cf. pi:t)	Nm	پیک	juice of the betel leaf chewed and spit out
95.	pi:s	Nm	پیس	piece



Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
96.	pi:s	Vt	پیس	grind
97.	pi:r	Nm		spiritual guide, saint
98.	pUt	Vi	پت	be whitewashed
99.	pUt (cf. pUth)	Nm	پٹ (پہڑ)	rump, hip
100.	pUth	Nm	پٹھ	rump, hip
101.	pUch	Vi	پچھ	be wiped, be dusted
102.	pUl	Nm	پل	bridge
103.	pu:ch	Vt	پوچھ	ask
104.	pu:j	Vi	پوج	worship; adore
105.	pũ:ch	Nm	پونچھ	tail
106.	pe:	Nm	پے (اپ)	third letter of Urdu alphabet
107.	pe:	Postp	پے	on, upon
108.	pe:t	Nm	پیٹ	stomach, belly
109.	pe:c	Nm	پیچ	screw
110.	pe:j	Nm	پیج	page
111.	pe:s	Nm	پیس (پیش)	vowel marker for U and u:
112.	pe:l	Vt	پیل	drive on forcibly; crush
113.	pe:r	Nm	پیڑ	tree
114.	pē:n	Nm	پین	pen
115.	po:t	Vt	پوت	whitewash
116.	po:t	Vt	پوٹ	flatter
117.	po:ch (cf. pō:ch)	Vt	پوچھ	wipe, dust
118.	po:s	Vt	پوس	rear, nourish
119.	po:l	Nm	پول	pole
120.	pō:l	Nm	پول	emptiness, hollowness, secret
121.	po:r	Nm	پور	spaces between joints of a finger

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
122.	pō:ch (cf. po:ch)	Vt	پونچھ (پونچھ)	wipe, dust
123.	pair	Nm	پیر	leg; foot
124.	pāit (cf. pāint)	Nm	پینٹ	slack
125.	pāint (cf. pāit)	Nm	پینٹ	pair of pants; slack
126.	pāun	Adj	پون	three quarters
127.	phAt	N	پھٹ	promptness
128.	phAt	Vi	پھٹ	be burst; be torn
129.	phAc	Nm	پھج	splash
130.	phAs (cf. phās)	Vi	پھس (پھنس)	be trapped, be entangled
131.	phAst	Adj	پھسٹ (فہرٹ)	first
132.	phAl	Nm	پھل	fruit
133.	phAr (cf. phUr)	N	پھرا (پھرا)	sound of flapping of wings (by birds)
134.	phĀn	Nm	پھن	hood of a snake
135.	phās (cf. phAs)	Vi	پھنس	be trapped, be entangled
136.	pha:l	Nm	پھال (فال)	omen, augury
137.	pha:l (cf. phaul)	Nm	پھال (فول)	fall (of a sari)
138.	pha:r	Vt	پھاڑ	tear, rip
139.	phā:k	Nm	پھانک	slice, piece, bit; gap
140.	phā:k	Vt	پھانک	chuck (dry grain, sugar, etc., into the mouth from the palm of the hand)
141.	phā:n	Vi/Vt	پھان (پھاندا)	leap, spring, jump over
142.	phā:s	Nm	پھانس	splinter
143.	phIr	Adv	پھر	again, then
144.	phi:s	Nm	پھیس (فیس)	fee

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
145.	phi:c (cf. phĩ:c)	Vt	پسچ	wash(clothes)
146.	phĩ:c (cf. phi:c)	Vt	پسچ	wash(clothes)
147.	phUt	Vi	پٹ	get lost; be boiled(water)
148.	phUr (cf. phAr)	N	پسر	sound of flapping of wings(by birds)
149.	phUs	Nm	پس	hissing sound; whispering
150.	phu:t	Nm	پھوٹ	rift, break; cracked melon
151.	phu:t	Vi	پھوٹ	be broken, be burst
152.	phu:l	Nm	پھول	flower
153.	phu:l	Vi	پھول	swell; bloom
154.	phu:k (cf. phũ:k)	Vt	پھوک (پھونک)	blow
155.	phu:s	Nm	پھوس	straw, old dry grass
156.	phũ:k (cf. phu:k)	Vt	پھونک	blow
157.	phũ:n (cf. phõ:n)	Nm	پھون (فون)	telephone
158.	phe:	Nm	پھے (ف)	twentysixth letter of Urdu alphabet
159.	phe:t (cf. phẽ:t)	Vt	پھیت (پھینٹ)	whip up, beat up (into froth)
160.	phe:k (cf. phẽ:k)	Vt	پھیک (پھینک)	throw, toss
161.	phe:l	Pred Adj	پھیل (فیل)	fail(in an examination)
162.	phẽ:t (cf. phe:t)	Vt	پھینٹ	beat up(into froth); whip up
163.	phẽ:k (cf. phe:k)	Vt	پھینک	throw; engage in idle talk
164.	phẽ:n	N	پھین	foam
165.	pho:r	Vt	پھوڑ	break, crack, split
166.	phõ:n (cf. phũ:n)	Nm	پھون (فون)	telephone

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
167.	phait	Nm	پھیت (فیت)	fist
168.	phail	Vi	پھیل	be spread; be expanded
169.	phauj	Nm	پھوج (فوج)	army
170.	phaul (cf. pha:l)	Nm	پھول (فول)	fall(of a sari)
171.	bAt	Nm	بٹ	tripe
172.	bAt (cf. bĀt)	Vi	بٹ	be divided, be distributed
173.	bAc	Vi	بچ	be saved
174.	bAj	Vi	بج	be rung
175.	bAk	Vi/Vt	بک	chatter, babble
176.	bAs	Nm	بس	bus(vehicle)
177.	bAs	Nm	بس	authority, power
178.	bAs	Intrj	بس	enough, sufficient
179.	bAs	Vi	بس	settle
180.	bAh	Vi	بہ	flow
181.	bAr	Nm	بہر	prospective groom
182.	bAr	N	بہر	wasp
183.	bAr	Nm	بہر	banyan tree
184.	bAr	Vi	بہر (بہرہ)	increase, extend, grow
185.	bĀt (cf. bAt)	Vi	بٹ	be divided, be distributed
186.	bĀm	Nm	بم	bomb
187.	bĀn	Nm	بن	forest
188.	bĀn (cf. bĀnd)	Adj	بن (بند)	close, shut
189.	bĀn	Vi	بن	be made, be formed
190.	bĀnd (cf. bĀn)	Adj	بند	close, shut
191.	ba:p	Nm	باپ	father

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
192.	ba:t	Nm	بات	talk
193.	ba:d	Adv	باد (بعد)	after
194.	ba:ṭ	Nm	باٹ	measure of weight, weight
195.	ba:j	Nm	باج (باز)	hawk
196.	ba:g (cf. ba:gh)	Nm	باگ (باگھ)	tiger, lion
197.	ba:g	Nm	باگ (باغ)	garden, orchard
198.	ba:gh (cf. ba:g)	Nm	باگھ	tiger, lion
199.	ba:s	Nm	باس	foul odor
200.	ba:l	Nm	بال	hair
201.	ba:r	Nm	بار	time, turn, occasion
202.	ba:ṛ	Nm	بار (بارھ)	flood
203.	bã:d (cf. bã:n, bã:dh)	Vt	بانڈ (بانڈھ)	tie, bind, fasten
204.	bã:dh (cf. bã:d)	Vt	بانڈھ	tie, bind, fasten
205.	bã:dh	Nm	بانڈھ	embankment, dam
206.	bã:ṭ	Vt	بانٹ	divide, distribute
207.	bã:j	Nm	بانج (بانجھ)	barren(woman)
208.	bã:m	Nm	بام	balm(ointment)
209.	bã:n	Nm	بان	rope
210.	bã:n (cf. bã:d)	Vt	بان (بانڈھ)	tie, bind, fasten
211.	bã:s	Nm	بانس	bamboo
212.	bIc (cf. bIch)	Vi	بیچ (بیچھ)	be spread, be laid out
213.	bIch (cf. bIc)	Vi	بیچھ	be spread, be laid out
214.	bIk	Vi	بیک	be sold
215.	bIl	Nm	بیل	hole, burrow

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
216.	bIl	Nm	بیل	bill
217.	bĪn (cf. bŪn)	Vt	بن	weave, knit
218.	bĪn (cf. cŪn)	Vt	بن	pick; be cleaned(as rice)
219.	bi:t	Vi	بیت	pass, elapse
220.	bi:t	Nm	بیٹ	dung(of birds)
221.	bi:c	Nm	بیچ	center, middle
222.	bi:j	Nm	بیج	seed
223.	bi:g	Vi/Vt	بیل	throw
224.	bi:s	Adj	بیس	twenty
225.	bī:m	Nm	بیم	iron beam
226.	bī:n	Nm	بین	Indian flute
227.	bī:n	Vt	بین	pick, gather
228.	bUt	Nm	بُت	idol, statue
229.	bUt (cf. bUjh)	Vi	بُت (بُجھ)	be extinguished, be put out
230.	bUd	Nm	بُدر (بُدرہ)	Wednesday
231.	bUj (cf. bUjh)	Vi	بُج (بُجھ)	be extinguished, be put out
232.	bUjh (cf. bUj, bUt)	Vi	بُجھ	be extinguished, be put out
233.	bŪn (cf. bĪn)	Vt	بن	weave, knit
234.	bUr (cf. bu:r)	Nm	بُڑ (بُڑ)	hole; vulva
235.	bu:t	Nm	بوٹ	boot
236.	bu:j (cf. bu:jh)	Vi/Vt	بُوج (بُوجھ)	understand(as a riddle)
237.	bu:jh (cf. bu:j)	Vi/Vt	بُوجھ	understand(as a riddle)

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
238.	bu:r (cf. bŪr)	N	بُوڑ	hole; vulva
239.	bū:d (cf. bū:n)	N	بُونَد	drop
240.	bū:n (cf. bū:d)	N	بُون (بُونَد)	drop
241.	be:	Nm	بے (ب)	second letter of Urdu alphabet
242.	be:t	Nm	بیت	cane
243.	be:s	Vt	بیچ	sell
244.	be:g (cf. baig)	Nm	بگ (بِیگ)	bag
245.	be:l	Vt	بیل	roll dough into a flat, round bread for baking
246.	be:l	Nm	بیل	<u>be:l</u> : wood-apple
247.	be:r	Nm	بیر	the <u>be:r</u> fruit
248.	bē:ñc	Nm	بِنچ	bench
249.	bē:n̄	Nm	بِنگ	frog
250.	bo:	Vt	بو	sow
251.	bo:t	Nm	بوٹ	boat
252.	bo:d	Nm	بوڈ (بوڈر)	board
253.	bo:j (cf. bo:jh)	Nm	بوج (بوجھ)	burden, load
254.	bo:jh (cf. bo:j)	Nm	بوجھ	burden, load
255.	bo:l	Vi	بول	speak, say, utter
256.	bo:r	Adj	بور	boring, tiresome
257.	bō:n̄	Nm	بونگ	shin bone
258.	baid	Nm	بید	physician practising indigenous medicine
259.	bait	Nm	بیت	bat(for playing cricket)
260.	bait (cf. baith)	Vi	بیت (بیتھا)	sit down

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
261.	baith (cf. bait)	Vi	بیتھ	sit down
262.	baig (cf. be:g)	Nm	بیگ	bag
263.	bail	Nm	بیل	ox, bullock
264.	bāin	Nf	بین (سہن)	sister
265.	bāind	Nm	بند	band
266.	bāīnk	Nm	بینک	bank
267.	baul	Nm	بول	ball
268.	bhAd	Nm	تھد	sound of a falling body
269.	bhAk	N	تھک	explosion, flash
270.	bhAs	Vi	تھس	be immersed
271.	bhAr	Vi/Vt	تھر	be filled; fill
272.	bhAr	Nm	تھڑ	crackle; sound of crackling(door, etc.)
273.	bha:p	Nm	تھاپ	steam
274.	bha:t	Nm	تھات	rice
275.	bha:k	Intrj	تھاک	expression of disbelief
276.	bha:g	Nm	تھاگ	luck, fate
277.	bha:g	Vi	تھاگ	run, flee
278.	bha:w	N	تھاؤ	rate
279.	bha:r	Nm	تھار	weight, burden
280.	bhā:ḍ	Nm	تھانڈ	strolling player; jester
281.	bhā:j	Nm	تھانج	twist, twine;
282.	bhā:j	Vt	تھانج	twist; lie, fabricate
283.	bhā:n	Nm	تھانگ	bhang
284.	bhā:r	Nm	تھانڑ	cup made up of clay
285.	bhā:r	Nm	تھانڑ (تھانڑ)	fireplace ; furnace
286.	bhIr	Vi	تھیر	come into collision; close



Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
287.	bhi:	Conj	بھی	also, too, even (encl. pcl.)
288.	bhi:j (cf. bhi:g)	Vi	بھیج (بھیج)	be wet
289.	bhi:k	Nm	بھیک	begging, alms
290.	bhi:g (cf. bhi:j, bhi:n̄)	Vi	بھیگ	be wet
291.	bhi:r	N	بھیڑ	crowd
292.	bhī:n̄ (cf. bhi:g)	Vi	بھینک	be wet
293.	bhūn	Vi	بھن	be roasted, be fried
294.	bhu:t	Nm	بھوت	evil spirit, ghost
295.	bhu:k	Nm	بھوک	hunger, appetite
296.	bhu:k (cf. bhū:k)	Vi	بھوک	bark
297.	bhu:s	Nm	بھوس (بھوس)	straw
298.	bhu:l	Vi	بھول	forget, err
299.	bhū:k (cf. bhu:k, bhō:k)	Vi	بھونک	bark
300.	bhū:n	Vt	بھون	roast, fry
301.	bhe:d	Nm	بھید	secret
302.	bhe:j	Vt	بھیج	send, dispatch
303.	bhe:s	Nm	بھیس	disguise; weird appearance
304.	bhē:r	Nm	بھینڑ	sheep
305.	bho:t	Nm	بھوٹ (ووٹ)	vote
306.	bho:r	Nm	بھور	break of day, dawn
307.	bhō:k	Vt	بھونک	pierce, stab
308.	bhō:k (cf. bhū:k)	Vi	بھونک	bark
309.	bhāis	Nf	بھائیس	cow buffalo
310.	bhāu	Nm	بھول	eyebrow
311.	tAp	Vi	تپ	be heated, be warmed

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
312.	tAb	Conj	تَب	theh; thereupon
313.	tAk	Postp	تَمَّك	upto, till
314.	tAl	Vt	تَمَل	fry
315.	tAr	Adj	تَر	wet
316.	tAr	Nm	تَر	sound produced in slapping
317.	tĀn	Nm	تَن	body
318.	tĀn	Vi	تَن	be stretched
319.	tĀnn̄	Adj	تَنگ	narrow, tight
320.	ta:p	Vt	تاپ	heat, warm; warm oneself (at fire)
321.	ta:j	Nm	تاج	crown
322.	ta:k	Nm	تاک (طاق)	niche, arch
323.	ta:k	Vt	تاک	stare, look at; glance
324.	ta:s	Nm	تاس (تاش)	playing cards
325.	ta:w	N	تاؤ	heat
326.	ta:l	Nm	تال	lake, pond
327.	ta:r	Nm	تار	telegram; wire, string
328.	ta:r	Nm	تار	palm tree
329.	ta:r	Vt	تار	perceive; guess
330.	tā:t	Nm	تانت	thread, fibre; loom
331.	tā:n	N	تان	a tune, stretch
332.	tIl	Nm	تیل	mole; sesame seed
333.	ti:j	Nm	تیس	third day after death
334.	ti:s	Adj	تیس	thirty
335.	ti:r	Nm	تیر	arrow
336.	tī:n	Adj	تین	three
337.	tUj (cf. tu:)	Pron	تو (تجھ)	Thee, You (obl. sg. of tu:)
338.	tUk	N	تک	rhyme; cadence

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
339.	tUl	Vi	تُل	be measured; be bent upon (a course of action)
340.	tŪm (cf. a:p,te:)	Pron	تُم	you(in between a:p and te: in formal usage)
341.	tu: (cf. tUj)	Pron	تُو	Thou, You(addressing the Almighty)
342.	tu:r	Nm	مُطوَر	Mount Sinai
343.	te:	Nm	تے (ت)	fourth letter of Urdu alphabet
344.	te: (cf. tŪm)	Pers Pron	تے	you(familiar)
345.	te:j	Adj	تِیج (تیز)	sharp, fast
346.	te:l	Nm	تیل	oil
347.	to:	Nm	تو (ط)	twenty-second letter of Urdu alphabet
348.	to:	Conj	تو	then, so
349.	to:p	Nm	توپ	cannon, large gun
350.	to:s	Nm	توس	toast
351.	to:r	Vt	توڑ	pluck, break
352.	tõ:d (cf. tõ:n)	Nm	توند	large belly, potbelly
353.	tõ:n (cf. tõ:d)	Nm	تون (توند)	large belly, potbelly
354.	tai	Pred Adj	طے	settled, decided, arranged
355.	tair	Vi/Vt	تیر	swim
356.	taul	Vt	تول	weigh, measure, balance
357.	thAk	Vi	تھک	be tired, be exhausted
358.	thĀm	Vi	تھم	cease, stop
359.	thĀn	N	تھن	udder
360.	tha: (cf. the:,thi:)	Past Aux	تھا	was(masc. sg.)
361.	tha:p	Nm	تھاپ	slap, thump
362.	tha:k	Nm	تھاک	heap, mass

Serial No.	Entries.	Form Classes	Urdu Orthography	Gloss
363.	tha:l	Nm	تھال	large metal plate; tray
364.	thā:m	Vi	تھام	hold, support
365.	thā:n	Nm	تھان	bolt(of cloth)
366.	thi: (cf. tha:)	Past Aux	تھی	was, were(fem.)
367.	thu:	Intrj	تھو	shame! fie!
368.	thu:p (cf. thu:k)	Nm	تھوپ	spitting; saliva
369.	thu:k (cf. thu:p)	Nm	تھوک	spitting; saliva
370.	thu:k	Vt	تھوک	spit
371.	the: (cf. tha:)	Past Aux	تھے	were(masc. pl.)
372.	tho:p	Vt	تھوپ	plaster; impose
373.	tho:k	N	تھوک	wholesale; heap, multitude
374.	dAb	Pred Adj	دب	of low quality; deficient
375.	dAb	Vi	دب	be pressed down, be compressed
376.	dAs	Adj	دس	ten
377.	dAst	Nm	دست	front leg(of animal); loose motion
378.	dAl	Nm	دل	group, party, faction
379.	dĀm	Nm	دم	breath; strength
380.	da:b	Vt	دب	press down, suppress
381.	da:g	Nm	داگ (داغ)	spot, scar
382.	da:g	Vt	داگ (داغ)	brand(with a hot iron)
383.	da:s	Nm	داس	<u>Das</u> : a family name in Bengal
384.	da:w	Nm	دالو	stratagem, trap, trick
385.	da:l	Nm	دال	split pulse
386.	da:l	Nm	دال (د)	eleventh letter of Urdu alphabet
387.	da:r	Nm	دالو (دالو)	jaw-tooth
388.	dā:t	Nm	دانت	tooth

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
389.	dā:m	Nm	دام	cost, price, value
390.	dā:n	Nm	دان	donation
391.	dIk (cf. dIkh)	Vi	دک (دکھ)	be seen; appear
392.	dIkh (cf. dIk)	Vi	دکھ	be seen; appear
393.	dIl	Nm	دل	heart
394.	dĪn	Nm	دین	day
395.	dī:n	Nm	دین	religion, faith
396.	dUt	Intrj	دُت (دُمت)	away! be off!
397.	dUk (cf. dUkh)	Nm	دُک (دُکھ)	pain, sorrow
398.	dUk (cf. dUkh)	Vi	دُک (دُکھ)	pain, ache
399.	dUkh (cf. dUk)	Nm	دُکھ	pain, sorrow
400.	dUkh (cf. dUk)	Vi	دُکھ	pain, ache
401.	dŪr	Intrj	دُور	away! be off!
402.	dŪm	Nm	دُم	tail
403.	du: (cf. du:h)	Vt	دُو (دُوہ)	milk
404.	du:d	Nm	دُوَد (دُوَدہ)	milk
405.	du:h (cf. du:)	Vt	دُوہ	milk
406.	du:r	Adj	دُور	far, distant
407.	de:	Vt	دے	give
408.	de:kh	Vt	دیکھ	see, look
409.	de:g	Nm	دِیگ	large metal cooking vessel; caldron
410.	de:s	Nm	دیس	native place ; country
411.	de:r	Nm	دیر	lateness, delay
412.	dē:n	Nm	دین	gift(particularly from God)

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
413.	do:	Adj	دو	two
414.	do:s (cf. do:st)	Nm	دوس (دوست)	friend
415.	do:s	Nm	دوس (دوش)	blame, fault; defect
416.	do:st (cf. do:s)	Nm	دوست	friend
417.	daur	N	دور	time, phase, period
418.	daur	Nm	دور	race
419.	daur	Vi	دور	run
420.	dhAp	N	دھپ	noise of a heavy body falling; thud
421.	dhAb	N	دھب	sound of footsteps
422.	dhAt	Intrj	دھت	away! begone!
423.	dhAk	Nm	دھک	sudden impression of terror
424.	dhAs (cf. dhAs)	Vi	دھس (دھنس)	sink, pierce
425.	dhAr	Vi	دھر	hold, lay down; catch, arrest
426.	dhAr	Nm	دھڑ	trunk of the body
427.	dhAm	N	دھم	loud noise; thud
428.	dhAn	Nm	دھن	wealth, property
429.	dhAs (cf. dhAs)	Vi	دھنس	sink; pierce
430.	dha:	Nm	دھا	heat, flame
431.	dha:t	Nm	دھات	metal
432.	dha:k	Nm	دھاک	fear, terror
433.	dha:r	N	دھار	sharp edge(of a knife); water stream
434.	dhā:n	Nm	دھان	paddy
435.	dhUt	Intrj	دھت	away! be off!
436.	dhUt	Pred Adj	دھت	stupefied(by liquor, etc.)
437.	dhUl	Vi	دھل	be washed, be cleaned

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
438.	dhŪn	N	دُھن	tune, melody
439.	dhŪn (cf. dhū:n)	Vt	دُھن	comb(cotton)
440.	dhu:p	N	دھوپ	sunshine, sunlight
441.	dhu:l	N	دھول	dust
442.	dhu:r	Adj	دھور	shabby; stupid
443.	dhū:m	Nm	دھوم	celebrity
444.	dhū:n (cf. dhŪn)	Vt	دھون	comb(cotton)
445.	dho:	Vt	دھو	wash, clean
446.	dhāus	N	دھونس	threatening menace; terror
447.	tAp	Nm	ٹپ	drip: sound of falling drops
448.	tAp	Vi	ٹپ	jump over
449.	tAb	Nm	ٹب	tub
450.	tAk	Vi	ٹنگ	be stitched
451.	tAl	Vi	ٹال	pass over, pass off
452.	tAr	Nm	ٹر	croak
453.	tĀn	Nm	ٹن	sound of a bell
454.	tĀn	Nm	ٹن	ton
455.	tĀn	Vi	ٹنگ	be hung
456.	ta:t	Nm	ٹاٹ	sackcloth, canvas, mat
457.	ta:k (cf. tã:k)	Vt	ٹاٹ (ٹانگ)	stitch
458.	ta:l	N	ٹال	heap; firewood store
459.	ta:l	Vt	ٹال	put off
460.	tã:k (cf. ta:k)	Vt	ٹانگ	stitch
461.	tã:n	Vt	ٹان	pull, stretch
462.	tã:n̄	Nm	ٹانگ	leg
463.	tã:n̄	Vt	ٹانگ	hang

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
464.	tIk	Vi	ٽٻڙ	stay, remain
465.	tĪn (cf. tī:n)	Nm	ٽين	tin
466.	ti:p	Vt	ٽپ	compress, squeeze
467.	ti:k	Nm	ٽيڪ	topknot(of hair)
468.	ti:k	Nm	ٽيڪ	teakwood
469.	tī:m	Nm	ٽيم	team
470.	tī:n (cf. tĪn)	Nm	ٽين	tin
471.	tŪn	Pred Adj	ٽن	stupefied(by liquors, etc.)
472.	tu:t	Vi	ٽوٽ	be broken
473.	tu:l	Nm	ٽول	stool(seat)
474.	te:	Nm	ٽے (ٹ)	fifth letter of Urdu alphabet
475.	te:p	Nm	ٽيپ	tape; tape recorder
476.	te:k	Nm	ٽياڪ	support, prop
477.	tē:	N	ٽيل	screech of a parrot; death
478.	to:	Vt	ٽو (ٽوڙ)	feel, touch; search for
479.	to:p	Nm	ٽوپ	hat
480.	to:k	Vt	ٽوڪ	check, interrupt; object to
481.	tait	Adj	ٽيٽ	tight
482.	tair	Nm	ٽيئر (ٽائرس)	tire
483.	tāim	Nm	ٽيم (ٽائيم)	time
484.	tauc	Nm	ٽوچ (ٽاچ)	torch
485.	thAp	Adj	ٽھپ	inert, inactive
486.	thAk	Nm	ٽھڪ	sound of knocking; knock, rap
487.	thAg	Nm	ٽھگ	thug, robber
488.	thAg	Vt	ٽھگ	cheat, deceive
489.	tha:t	N	ٽھاٽ	grandeur
490.	thā:n	Vt	ٽھان	set the heart upon; fix, resolve



Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
491.	thUk	Vi	ٹھک	be hammered
492.	thu:s (cf. thū:s)	Vt	ٹھوس (ٹھونس)	force in, press down
493.	thū:s (cf. thu:s)	Vt	ٹھونس	force in, press down
494.	thi:k	Adj	ٹھیک	right, fine, well
495.	the:t	Adj	ٹھیت (ٹھیت)	pure, real; chaste
496.	the:l	Vt	ٹھیل	push, move
497.	tho:	Pcl	ٹھو	pleonastic word added to numerals
498.	tho:k (cf. thō:k)	Vt	ٹھوک (ٹھونک)	hammer, strike
499.	tho:s	Adj	ٹھوس	firm, solid
500.	tho:r	Nm	ٹھور	beak(of a bird); mouth
501.	thō:k (cf. tho:k)	Vt	ٹھونک	hammer, strike
502.	dAt	Vi	ٹڈٹ	be firm
503.	dAs	Vt	ٹڈس	bite(as a snake), sting
504.	dAl	Vi	ٹڈل	be put, be thrown, be powered
505.	dAr	Nm	ڈر	fear, apprehension
506.	dAr	Vi	ڈر	fear; be afraid
507.	dĀnd	Nm	ڈنڈ	fine, penalty
508.	dĀnk	Nm	ڈنک	sting of a snake or an insect
509.	da:b	Nm	ڈاب	green coconut
510.	da:t	Nm	ڈاٹ	cork
511.	da:k	Nm	ڈاک	mail, post
512.	da:k	Vt	ڈاک	call
513.	da:l	Nm	ڈال	branch, bough
514.	da:l	Nm	ڈال (ڈو)	twelfth letter of Urdu alphabet
515.	da:l	Vt	ڈال	pour, lay, put

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
516.	dā:t	Nm	ڈانٹ	scolding, rebuke
517.	dā:t	Vt	ڈانٹ	scold, rebuke
518.	dā:ns	Nm	ڈانس	dance
519.	du:b	Vi	دوب	sink; be drowned
520.	de:g	Nm	دبک	large metal cooking vessel; caldron
521.	de:r	Adj	ڈیڑ (ڈیڑھا)	one and a half
522.	do:l	Vi	ڈول	swing; shake
523.	do:r	Nm	ڈور	thread, string, (as of a kite)
524.	dō:m	Nm	ڈوم	member of a low caste who make mats, baskets, etc., and remove carcasses
525.	dāim	Nm	ڈیم	dam
526.	dhAb	Nm	ڈھب	train, teach
527.	dhAk	Vt	ڈھک	cover, conceal
	(cf. dhā:k)			
528.	dhAl	Vi	ڈھال	be moulded, be fashioned; decline, fade
529.	dhĀn̄n	Nm	ڈھنک	style, manner
530.	dha:	Vt	ڈھا	raze to the ground; demolish
531.	dha:l	Nm	ڈھال	slope, bent; shield
532.	dha:l	Vt	ڈھال	mould, form
533.	dhā:k	Vt	ڈھانک	cover, conceal
	(cf. dhAk)			
534.	dhi:l	Nm	ڈھیل	loosening; laxity
535.	dhi:l	Nm	ڈھیل	louse
536.	dhUk	Vi	ڈھک	approach, get inside
537.	dhū:n	Vt	ڈھون (ڈھونٹا)	search, trace
538.	dhe:r	N	ڈھیر	mass, heap, pile
539.	dho:	V	ڈھو	carry, transport
540.	dho:l	Nm	ڈھول	drum
541.	dhai	Vi	ڈھے	fall down; be demolished

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
542.	cAp (cf. cĀp)	Vi	چپ	be pressed; be crushed
543.	cAb	Vi	چب	be chewed
544.	cAt	Nm	چٹ	crackling sound
545.	cAt	Nm	چٹ	mat
546.	cAk (cf. cAkh)	Vt.	چک (چکھ)	taste
547.	cAkh (cf. cAk)	Vt	چکھ	taste
548.	cAl	Vi	چل	move, go
549.	cAr	Vi	چر	graze(cattle, etc.)
550.	cArc	Nm	چرچ	church
551.	cAr	Nm	چرچر	sound of tearing or cracking
552.	cAr	Vi	چڑھ	climb, mount
553.	cĀp (cf. cAp)	Vi	چنپ	be pressed; be crushed
554.	ca:	Nm	چا (چائے)	tea
555.	ca:t	Nm	چاٹ	relish; delicacy
556.	ca:t	Vt	چاٹ	lick, taste
557.	ca:h	Vt	چاہ	love, adore; wish, desire
558.	ca:l	Nm	چال	gait, move
559.	ca:l	Vt	چال	sieve
560.	ca:r	Adj	چار	four
561.	cā:p	Nm	چانپ	lamb or mutton chop
562.	cā:p (cf. jā:p)	Vt	چانپ	press, squeeze
563.	cā:d (cf. cā:n)	Nm	چاند	moon
564.	cā:n (cf. cā:d)	Nm	چان اچاند	moon
565.	cIt	Pred Adj	چت	lying flat(on the back)

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
566.	cIr	Nm	جبر (چڑھ)	irritation, vexation
567.	cIr	Vi	چبر	become irritated
568.	ci:p	Vt	چپ	compress, squeeze
569.	ci:j	Nm	چج (چیز)	thing, object, article
570.	ci:k	Nm	چک	butcher
571.	ci:kh	Nm	چیکھ (چخ)	cry, scream
572.	ci:kh	Vi	چیکھ (چخ)	cry, scream
573.	ci:l	Nm	چیل	kite
574.	ci:r	Vi	چیر	saw; cut open, split
575.	cí:n	Nm	چین	China
576.	cí:n	Vt	چین	recognize
577.	cUp	Pred Adj	چپ	quit, silent
578.	cUb	Vi	چب (چبہ)	be pierced, be pricked
579.	cUd	Vi	چد	be subjected to sexual intercourse
580.	cUg	Vt	چگ	pick, peck
581.	cŪn	Vt	چن	choose, gather, pick
582.	cu:	Vi	چو	drop, leak
583.	cu:t	Nf	چوت	vulva
584.	cu:s	Vt	چوس	suck
585.	cu:l	Nm	چول	hair
586.	cu:r	Nm	چور	powder, dusttea
587.	cu:r	Vt	چور	crush, reduce to powder
588.	cu:	Nm	چوم	squeak; chirp
589.	cŪ:m	Vt	چوم	kiss
590.	ce:	Nm	چے (چ)	eighth letter of Urdu alphabet
591.	ce:k	Nm	چیک	cheque
592.	co:d	Vt	چود	copulate with

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
593.	co:t	Nm	چوٹ	wound, injury, hurt
594.	co:r	Nm	چور	thief
595.	cō:c	Nm	چوچ	beak, bill(of a bird)
596.	cāin	Nm	چین	comfort, peace, calm
597.	cāin	Nm	چین	chain
598.	cauk	Nm	چوک	chalk
599.	cāuk	Vi	چونک	be startled
600.	chAp	Vi	چھپ	be published, be printed
601.	chAt	Nm	چھت	roof, ceiling
602.	chAt	N	چھٹ	Hindu festival
603.	chAt	Vi	چھٹ (چھنٹ)	be picked out, be sorted
604.	chAk	Vi	چھک	be deceived, be tricked
605.	chAr	Nm	چھپر	iron rod
606.	chĀn (cf. chā:n)	Vi	چھن	be sifted; be cleaned
607.	cha:p	Vt	چھاپ	print, publish
608.	cha:l	Nm	چھال	peel, bark(of a tree, etc.)
609.	cha:r	Nm	چھاڑ	place where herd is kept
610.	chā: (cf. chā:w)	N	چھاڑ (چھاڑوں)	shade, shadow
611.	chā:t	Vt	چھانٹ	pick out; trim, prune
612.	chā:n (cf. chAn)	Vt	چھان	filter, sift, strain
613.	chā:w (cf. chā:)	N	چھاؤں	shade, shadow
614.	chIl	Vi	چھیل	be peeled, be scratched
615.	chĪn	Vi	چھین	be snatched, be taken away
616.	chi:	Intrj	چھی	shame!
617.	chi:l	Vt	چھیل	peel, scratch, remove
618.	chī:t	Nm	چھینٹ	chintz; stupid, mad

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
619.	chī:t	Vt	چھینٹ	sprinkle; scatter, spread
620.	chī:k	Nm	چھینک	sneeze
621.	chī:k	Vi/Vt	چھینک	sneeze
622.	chī:n	Vt	چھین	snatch, seize, take by force
623.	chUp	Vi	چھپ	be hidden, be concealed
624.	chu:	Vt	چھو	touch, feel
625.	chu:t	N	چھوت	touch of anything impure
626.	chu:t	N	چھوٹ	discount, sale
627.	chu:t	Vi	چھوٹ	get free; be separated
628.	che:	Adj	چھپے	six
629.	che:d	Nm	چھید	hole, opening
630.	che:d	Vt	چھید	make a hole; bore
631.	che:k (cf. chē:k)	Vt	چھید	select a prospective bride or groom
632.	che:r	Vt	چھیر	provoke; tease
633.	chē:k (cf. che:k)	Vt	چھید	select a prospective bride or groom
634.	cho:r	Vt	چھوڑ	let go, release; leave
635.	jAb	Conj	جب	when(relative)
636.	jAc	Vi	چھانچ	be tested, be examined
637.	jAj	Nm	چھانچ	judge
638.	jAg	Nm	چھانچ	jug
639.	jAg	Vi	چھانچ	be awakened; wake up(intran.)
640.	jAl	Vi	چھانچ	be burnt; burn(intran.)
641.	jAr	Nm	چھانچ	root
642.	jAr	Vt	چھانچ	fix, stud
643.	jĀm	Vi	چھانچ	be frozen, become firm
644.	jĀn	Nm	چھانچ	man, person
645.	jĀn̄n̄	Nm	چھانچ	war, battle

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
646.	jĀn̄n	Nm	جنگ (زنگ)	rust
647.	ja:	V	جا	go
648.	ja:t	N	جات (ذات)	caste
649.	ja:t	Nm	جاٹ	Jat
650.	ja:g (cf. jAg)	Vi	جاگ	be awaken; wake up (intran.)
651.	ja:l	Nm	جال	net, trap
652.	ja:l	Nm	جال (ذ)	thirteenth letter of Urdu alphabet
653.	jā:p (cf. cā:p)	Vt	جانپ	press, squeeze
654.	jā:t	Vt	جانت	press down
655.	jā:c	Vt	جانچ	examine, test; inspect
656.	jā:m	V	جام	traffic jam
657.	jā:m	Nm	جام	jam
658.	jā:n	Nm	جان	life
659.	jā:n	Vt	جان	know, recognize
660.	jā:n̄	Nm	جانگ (جانگہ)	thigh
661.	jId	N	جد (ضد)	obstinacy, stubbornness
662.	jIs (cf. jo:)	Pron	جس	who, which, what (relative; obl. sg.)
663.	jĪn	Nm	جن	Jinni
664.	jĪn	Pron	جن	who, which, what (relative; obl. pl.)
665.	ji:	Vt	جی	live; be alive
666.	ji:p	N	جیپ	jeep
667.	ji:b	Nm	جیب (زبان)	tongue
668.	ji:t	N	جیت	victory
669.	ji:t	Vt	جیت	win, conquer
670.	jī:m	Nm	جیم (ج)	seventh letter of Urdu alphabet

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
671.	jUt	Vi	جُٹ	be joined, be united
672.	jUr	Vi	جُر	be joined, be united
673.	ju:t	N	جوٹ	jute
674.	ju:s	Nm	جوس	juice
675.	jū:n	Nm	جون	June
676.	je:	Nm	جے (ز)	sixteenth letter of Urdu alphabet
677.	je:b	Nm	جیب	pocket
678.	je:th	Nm	جیتھ	husband's elder brother
679.	je:l	N	جیل	jail, prison
680.	je:r	Nm	جمیر (زیر)	vowel markers for I and i:
681.	jo:	Nm	جو (ظ)	twentythird letter of Urdu alphabet
682.	jo: (cf. jIs, jIn)	Pron	جو	who, which, what (relative)
683.	jo:t	Vt	جوت	plough, cultivate
684.	jo:s	Nm	جوس (جوش)	zeal, enthusiasm, excitement
685.	jo:r	Nm	جور (زور)	force, pressure, power
686.	jo:r	Nm	جوڑ	joint; total
687.	jo:r	Vt	جوڑ	join, unite, connect
688.	jō:k	Nm	جونک	leech
689.	jau	Nm	جو	barley
690.	jhAt	Adv	جھٹ	at once, immediately
691.	jhAk	Vi	جھک	rave, lament
692.	jhAl	Vt	جھل	move to and fro; fan
693.	jhAr	Vi	جھڑ	fall off; be shed
694.	jha:g	Nm	جھاب	froth, foam
695.	jha:l	Nm	جھال	hot taste, pungency (as of chillies)
696.	jha:r	N	جھاڑ	bush, shrub
697.	jha:r	Vt	جھاڑ	sweep, dust, comb; scold



Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
698.	jhã:p	Vt	جھانپ	cover, hide, conceal
699.	jhã:t	Nm	جھانٹ	pubic hair
700.	jhã:k	N	جھانک	peeping; spying
701.	jhã:k	Vt	جھانک	peep, peer
702.	jhi:l	Nm	جھیل	lake
703.	jhí:t	Vt	جھینٹ	wheedle, trick, deceive
704.	jhí:m	Vi	جھیم	doze
705.	jhUk	Vi	جھک	bend, bow
706.	jhu:t	N	جھوٹ	falsehood
707.	jhu:s	Vt	جھوس	cheat, deceive
708.	jhu:l	Vi	جھول	sway to and fro; swing
709.	jhũ:m	Vi	جھوم	shake; move about in ecstasy
710.	jhe:l	Vt	جھیل	bear, endure, suffer
711.	jho:k (jhõ:k)	Vt	جھونک (جھونک)	throw; supply(fuel to a furnace)
712.	jho:l	Nm	جھول	spicy gravy
713.	jhõ:k (jho:k)	Vt	جھونک	throw; supply(fuel to a furnace)
714.	kAp	Nm	کپ	cup
715.	kAph	Nm	کپ (کف)	cuff
716.	kAph	Nm	کپ (کف)	phlegm
717.	kAb	Adv	کب	when(interrogative)
718.	kAbj	N	کبج (قبض)	constipation
719.	kAd	Nm	کد (قد)	height, tallness
720.	kAt	Vi	کٹ	be cut
721.	kAs	Vt	کس	tighten, bind tightly
722.	kAl	Nm	کمل	component(of a machine); (water) tap
723.	kAl	Adv	کمل	tomorrow ; yesterday
724.	kAr	V	کرت	do, make

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
725.	kAr	Vi	کسڑا (کسڑہ)	be embroidered
726.	kĀm	Adj; Adv	کٹم	few, little(in amount); rarely
727.	ka: (cf. kĀun)	Pron	کا (کیا)	what(interrog.)
728.	ka: (cf. ki:, ke:)	Postp	کا	of, pertaining to
729.	ka:ph	Nm	کاپھ (ق ک)	twentyseventh letter and twentyeighth letter of Urdu alphabet
730.	ka:t (cf. ka:th)	Nm	کاٹ (کاٹہ)	wood, timber
731.	ka:th (cf. ka:t)	Nm	کاٹھ	wood, timber
732.	ka:t	Vt	کاٹ	cut, bite
733.	ka:d	Nm	کاڈ (کارڈ)	card(wedding)
734.	ka:ch	Nm	کاجھ	the upper part of the thigh
735.	ka:j	Nm	کاج	buttonhole
736.	ka:r	Nm	کار	car
737.	ka:r (cf. ka:rh)	Vt	کار (کارہ)	embroider
738.	ka:rh (cf. ka:r)	Vt	کارھ	embroider
739.	kā:p	Vi	کانپ	tremble, shake
740.	kā:c	Nm	کانچ	glass
741.	kā:m	Nm	کام	work, job
742.	kā:n	Nm	کان	ear
743.	kIs (cf. kĀun)	Pron	کس	who, what (interrog.; obl. sg.)
744.	kIst	N	کست (قسط)	instalment
745.	kĪn (cf. kĀun)	Pron	کین	who, what (interrog.; obl. pl.)
746.	ki: (cf. ka:)	Postp	کی	of, pertaining to

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
747.	ki:l	Nm	کیل	nail; bolt
748.	kī:n	Vt	کین	buy, purchase
749.	kUc (cf. kUch)	Adj	کچ (کچہ)	some, little
750.	kUch (cf. kUc)	Adj	کچھ	some, little
751.	kUl	Nm; Adj	کل	total, whole, all
752.	ku:d	Vi	کود	jump, leap
753.	ku:t	Nm	کوٹ	paper used for making paste-board
754.	ku:t	Vt	کوٹ	pound, hammer; crush
755.	ku:c	Vt	کوچ	crush
756.	ku:k	Vi	کوک	cry (of a bird)
757.	ke: (cf. ka:)	Postp	کے	of, pertaining to
758.	ke:k	Nm	کیک	cake
759.	ke:s	Nm	کیس	case
760.	ke:s	Nm	کیس	hair
761.	ko:	Postp	کو	to, for
762.	ko:t	Nm	کوٹ	coat
763.	ko:t	Nm	کوٹ (کورٹ)	court
764.	ko:s	N	کوس	<u>kos</u> : a measure of distance
765.	ko:s	Vt	کوس	curse, abuse
766.	ko:r	N	کور	edge, margin, border
767.	ko:r	N	کوڑا (کوڑھ)	leprosy
768.	ko:r	Vt	کوڑ	dig out, bore
769.	kai	Nm	کئے (قے)	vomiting
770.	kai	Vt	کئے (کہا)	say, speak
771.	kaip	Nm	کیپ	cap
772.	kaid	N	کید (قید)	confinement, imprisonment

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
773.	kāum	N	قوم (قوم)	people, nation, community
774.	kāun (cf. ka:, kIs, kīn)	Pron	کون	who(interrog.)
775.	khAp	Vi	کھپ	be absorbed; be utilized
776.	khApt	Nm	کھپت (خطا)	madness, sanity
777.	khAt	Nm	کھت (خط)	letter
778.	khAt	Nm	کھٹ	sound of knocking; noise
779.	khAt	Vt	کھٹ	work hard
780.	khAd	Nm	کھڈ	ditch
781.	khAs	Nm	کھس (خس)	fragrant grass
782.	khAl	N	کھل (کھل)	vessel for grinding spices, etc.; mortar
783.	khAl	Vi	کھل	be distasteful
784.	khAr	Nm	کھرا (خرا)	sound of snoring
785.	kha:	Vt	کھا	eat
786.	kha:b	Nm	کھاب (خواب)	dream
787.	kha:d	Nm	کھاد	manure, fertilizer
788.	kha:t	Nm	کھٹ	charpoy, cot
789.	kha:k	Nm	کھاک (خال)	dust, earth; ashes
790.	kha:s	Adj	کھاس (خاص)	special, particular
791.	kha:l	Nm	کھال	skin, hide
792.	khā:m	Nm	کھام	envelope; wrapper
793.	khā:n	Nm	کھان	mine
794.	khā:n	Nm	کھان (خان)	Khan: common adjunct of Pathan names
795.	khā:s	Vt	کھانس	cough
796.	khIc	Vi	کھچ (کھینچ)	be drown, be dragged
797.	khIl	Vi	کھل	bloom, flower
798.	khi:c (cf. khī:c)	Vt	کھچ (کھینچ)	pull, drag

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
799.	khi:l	N	کھیل	parched grain or rice
800.	khi:r	Nm	کھیر	sweet dish made up of rice, milk, and sugar
801.	khi:c (ghī:c)	Vt	کھینچ	pull, drag
802.	khUb	Vi	کھب	be pierced, be pricked
803.	khUd	Vi	کھد	be dug
804.	khUd	Adv	کھد (خود)	self
805.	khUs	Pred Adj	کھس (خوش)	happy, glad
806.	khUl	Vi	کھل	be opened
807.	khUr (cf. khu:r)	N	کھر	hoof(of a cow, etc.)
808.	khu:b	Adj; Adv	کھوب (خوب)	pleasing, beautiful; well, really
809.	khu:r (cf. khUr)	Nm	کھور	hoof(of a cow, etc.)
810.	khū:n	N	کھون (خون)	blood
811.	khe:	Nm	کھے (خ)	tenth letter of Urdu alphabet
812.	khe:p	N	کھپ	periodical supply of grain or merchandise
813.	khe:t	N	کھیت	(agricultural) field, farm, land
814.	khe:l	Nm	کھیل	match, play
815.	khe:l	Vi	کھیل	play
816.	kho:	Nm	کھو (کھود)	cave, den
817.	kho:	Vt/Vi	کھو	lose, waste; be lost
818.	kho:b	Vt	کھوب	prick, pierce
819.	kho:d	Vt	کھود	dig
820.	kho:t	Nm	کھوٹ	impurity, defect
821.	kho:j	N	کھوج	search, inquiry
822.	kho:j	Vt	کھوج	search, seek, enquire

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
823.	kho:l	Nm	کھول (خول)	cover, case
824.	kho:l	Vt	کھول	open; unlock
825.	kho:s	Vt	کھونس	insert(into)
826.	khair	Adv	کھیر (خیر)	well-being; any way, well
827.	kháik	N	کھینک	splinter
828.	khaul	Vi	کھول	be boiled
829.	gAp	Nm	گپ	gossip
830.	gAt	N	گت	state, condition
831.	gAt	Nm	گٹ	sound of gulping
832.	gAj	Nm	گنج (گزن)	yard(measure)
833.	gAl	Vi	گل	be dissolved; be cooked till soft
834.	gAr	Vi	گس	be squeezed, be pressed
835.	gAr	Nm	گڑ (گڑھ)	fort; citadel
836.	gAr	Vi	گڑ	be driven(into); be firmly fixed; be pierced
837.	gAm	Nm	گم (غم)	sorrow, grief
838.	gAn	N	گن	gun
839.	ga: (cf. gi:, ge:)	Fut Aux	گا	will, shall(masc. sg.)
840.	ga:	Vi	گا	sing
841.	ga:p (cf. ga:ph)	Nm	گاپ (گ)	twentyninth letter of Urdu alphabet
842.	ga:ph (cf. ga:p)	Nm	گاپھ (گ)	twentyninth letter of Urdu alphabet
843.	ga:c (cf. ga:ch)	Nm	گاج (گاجھ)	tree
844.	ga:ch (cf. ga:c)	Nm	گاجھ	tree
845.	ga:j	Nm	گاج	foam, froth
846.	ga:l	Nm	گال	cheek
847.	ga:r	Nm	گار (غار)	cave

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
848.	ga:r	Vt	گار	strain, filter; squeeze, press
849.	ga:r	Vt	گاڑ	drive down; fix firmly; burry
850.	ga:t	N	گانٹ (گانٹ)	knot; bale(of goods)
851.	gã:r	N	گانڑ	anus
852.	gId (cf. gIdh)	Nm	گند (گند)	vulture
853.	gIdh (cf. gId)	Nm	گندھ	vulture
854.	gIr	Vi	گر	fall
855.	gĪn	Vt	گین	count
856.	gi: (cf. ga:)	Fut Aux	گی	will, shall(fem.)
857.	gi:t	Nm	گیت	song
858.	gUl	Nm	گل	powdered tobacco(chewed and used as an intoxicant)
859.	gUr	Nm	گڑ	raw sugar, molasses
860.	gŪm	Pred Adj	گم	lost; missing
861.	gŪn	Nm	گن	virtue, merit, good quality
862.	gu:	Nm	گو	human excrement
863.	gũ:d	Vt	گوند (گوندھ)	knead
864.	gŪnd	Vi	گندھ (گندھ)	be kneaded
865.	gu:j	Vi	گوچ	echo, hum
866.	ge: (cf. ga:)	Fut Aux	گے	will, shall(masc. pl.)
867.	ge:t	Nm	گیٹ	gate
868.	gē:d	Nm	گیند	ball
869.	go:d	N	گود	lap; bosom
870.	go:d	Vt	گود	tattoo
871.	go:t	N	گوٹ	counter(in chess, etc.)
872.	go:s (cf. go:st)	Nm	گوس (گوشت)	meat; flesh

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
873.	go:st (cf. go:s)	Nm	گوشت (گوشت)	meat; flesh
874.	go:l	Adj	گول	round, circular
875.	gō:d (cf. gō:n)	Nm	گونڈ	gum
876.	gō:n (cf. gō:d)	Nm	گون (گونڈھ)	gum, glue
877.	gais	Nm	گیس	cooking gas
878.	gair	N; Adj	گیر (غیر)	stranger, outsider; strange, unknown
879.	gāin	Nm	گین (غ)	twentyfifth letter of Urdu alphabet
880.	gaus	Nm	گوس (غوث)	name of a Muslim saint
881.	gaur	Nm	گور (غور)	deliberation, close attention
882.	ghAṭ	Vi	گھٹ	lessen, decrease (intrans.)
883.	ghAs (cf. ghIs)	Vt/Vi	گھس (گھس)	rub, grind; be rubbed
884.	ghAr	Nm	گھر	home, house
885.	gha:t	Nm	گھاٹ	wharf; bathing place
886.	gha:s (cf. ghā:s)	Nm	گھاس	grass
887.	gha:w	Nm	گھاؤ	wound
888.	ghā:s (cf. gha:s)	Nm	گھانس (گھاس)	grass
889.	ghIs (cf. ghAs)	Vt/Vi	گھس	rub, grind down; be rubbed
890.	ghIr	Vi	گھیر	be encircled, be surrounded
891.	ghīn	Nm	گھین	dislike, aversion, nausea
892.	ghi:	N	گھی	ghee: clarified butter
893.	ghī:c (cf. khī:c)	Vt	گھینچ (کھینچ)	pull, drag
894.	ghUp	Adj	گھپ	hidden, dark
895.	ghUṭ	Vi	گھٹ	be suffocated



Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
896.	ghUs	Vt	گھوس	force one's way in; enter
897.	ghUl	Vi	گھل	melt, dissolve
898.	ghŪn	Nm	گھن	weevil, wood louse
899.	ghu:s	N	گھوس	bribe
900.	ghu:r	Vi	گھور	go round, turn(intrans.)
901.	ghū:m	V	گھوم	turn(intrans.); wander
902.	ghe:g	Nm	گھیب (گھینٹا)	goitre
903.	ghe:r	N	گھیر	circumference; fulness (of a robe)
904.	ghe:r	Vt	گھیر	surround, encircle
905.	gho:p (ghō:p)	Vt	گھوپ (گھونپ)	pierce, stab
906.	gho:t (cf. ghō:t)	Vt	گھوٹ	gulp, drink
907.	gho:t	Vt	گھوٹ	grind; throttle
908.	gho:s	N	گھوس (گھوش)	Ghosh: a family name in Bengal
909.	gho:l	Nm	گھول	mixture
910.	gho:l	Vt	گھول	mix, dissolve
911.	ghō:p (cf. gho:p)	Vt	گھونپ	stab, pierce
912.	ghō:t	Nm	گھونٹ	gulp
913.	ghō:t (cf. gho:t)	Vt	گھونٹ	gulp, drink
914.	mAt	Neg Adv	مَت	no, not
915.	mAd	Nm	مَد	tilde-like mark placed over Alif as a symbol of a:
916.	mAg	Nm	مَگ	mug
917.	mAst	Adj	مَسْت	ecstatic, intoxicated
918.	mAl	Vt	مَل	massage; rub

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
919.	mAr	Vi	مَر	die, expire
920.	mAr (cf. mArh)	Vt	مَٹ (مَٹھ)	cover(as a book,etc.,with cloth or leather)
921.	mArh (cf. mAr)	Vt	مَٹھ	cover(as a book,etc.,with cloth or leather)
922.	mĀn	Nm	مَن	heart, mind
923.	mĀn	Nm	مَن	maund: a unit of weight equivalent to 40 kgs.
924.	ma:p (cf. mā:p,na:p)	Nm	ماپ (ناپ)	measurement
925.	ma:p (cf. mā:p,na:p)	Vt	ماپ (ناپ)	measure
926.	ma:ph	Pred Adj	ماپھ (معاف)	forgiven, pardoned
927.	ma:c	Nm	ماچ (ماچ)	March
928.	ma:s	Nm	ماس (ماش)	kind of pulse
929.	ma:l	Nm	مال	wealth, property; commodity
930.	ma:r	Nm	مار	beating
931.	ma:r	Vt	مار	hit, beat; kill
932.	ma:r	N	ماڑ (ماڑھ)	rice-gruel; starch
933.	mā:	Nf	ماں	mother
934.	mā:p (cf. na:p)	Nm	ماپ (ناپ)	measurement
935.	mā:p (cf. ma:p)	Vt	ماپ (ناپ)	measure
936.	ma:j	Vt	مانج (مانجھ)	scrub, clean
937.	mā:n	Vt	مان	believe, accept, agree
938.	mā:n̄	N	مانگ	demand; hair-parting
939.	mā:n̄	Vt	مانگ	demand; beg
940.	mIt	Vi	میٹ	be erased, be wiped out
941.	mIl	Nm	میل	mill
942.	mIl	Vi	میل	meet, get; be found
943.	mi:t	Nm	میٹ	meat

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
944.	mi:c	Vt	میچ	close(the eyes)
945.	mi:l	Nm	میل	mile
946.	mī:m	Nm	میم (م)	thirtyfirst letter of Urdu alphabet
947.	mUr	Vi	مُڑ	bend, turn, return
948.	mUr	Vi	مُڑ (مُڑ)	be shaved
949.	mu:t	Nm	مُوت	urine
950.	mu:t	Vt	مُوت	urinate
951.	mu:d	Nm	مُود	mood
952.	mu:c	Nm	مُوج (مُوجِہ)	moustache
	(cf. mu:ch)			
953.	mu:ch	Nm	مُوجِہ	moustache
	(cf. mū:ch, mu:c, mū:c)			
954.	mū:	Nm	مُوں (مُویہ)	mouth
955.	mū:d	Vt	مُوز	shave
956.	mū:c	Nm	مُویچ (مُوجِہ)	moustache
	(cf. mu:ch)			
957.	mū:ch	Nm	مُویچہ (مُوجِہ)	moustache
	(cf. mu:ch)			
958.	mū:n	Nm	مُونگ	kind of pulse
959.	me:j	Nm	مِیچ (مِیز)	table
960.	me:l	N	میل	harmony; reconciliation
961.	me:r	N	مِیڑ	boundary, mound
	(cf. mē:r)			
962.	mē:	Postp	میں	in, into, among, between
963.	mē:m	Nf	میم	madam
964.	mē:r	N	مِیڑ	boundary, mound
	(cf. me:r)			
965.	mo:c	Nm	مُوج	strain, sprain
	(cf. mō:c)			
966.	mo:ch	Nm	مُوجِہ (مُویچہ)	moustache
	(cf. mō:ch)			

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
967.	mō:ch (cf. mo:ch)	Nm	موچھ	moustache
968.	mo:l	Vt	مول	purchase, buy
969.	mo:r	Nm	مور	peacock
970.	mo:ṛ	Nm	موڑ	turn; turning away
971.	mo:ṛ	Vt	موڑ	turn, twist
972.	mō:c	N	موچ	strain, sprain
973.	mō:m	Nm	موم	wax
974.	mai	Nm	مئی	May
975.	maic	Nm	میچ	match
976.	mail	N	میل	dirt, filth
977.	maut	Nm	موت	death
978.	mauj	Nm	موج	wave; enjoyment; ecstasy
979.	nAp	Vi	نپ	be measured
980.	nAbj	Nm	نبج (نبض)	pulse
981.	nAt (cf. nAth)	Nm	نت (نتر)	nose-ring
982.	nAth (cf. nAt)	Nm	نتر	nose-ring
983.	nAt	Nm	نٹ	nut(metal)
984.	nAg	Nm	نگ	stone(of a ring)
985.	nAs (nĀs)	Nm	نس	vein, nerve
986.	nAl	Nm	نل	tap, pipe
987.	nAr	Nm	نر	male; man
988.	nArs	Nf	نرس	nurse
989.	nĀn	Nf	نن	nun
990.	nĀnd	Nf	ند	husband's sister
991.	nĀs (nAs)	Nm	نس	vein
992.	na: (cf. nāi, nā:)	Neg Adv	نا	no, not

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
993.	na:p (cf. nā:p)	Nm	ناپ (ناپ)	measurement
994.	na:p (cf. nā:p, ma:p)	Vt	ناپ	measure; weigh
995.	na:ph	Nm	ناپھ (ناف)	navel
996.	na:t	N	ناٹ (نعت)	poem in praise of the Prophet
997.	na:d	Nm	ناد	large open-mouthed water-jar or trough
998.	na:k (cf. nā:k)	Nm	ناک	nose
999.	na:g	Nm	ناگ	hooded snake; cobra
1000.	na:l	N	نال (نعل)	horse-shoe
1001.	na:l	N	نال	barrel (of a gun)
1002.	nā: (cf. na:)	Neg Adv	ناں (انا)	no, not
1003.	nā:p (cf. na:p)	Nm	ناپ (ناپ)	measurement
1004.	nā:p (cf. na:p)	Vt	ناپ (ناپ)	measure; weigh
1005.	nā:c	Nm	ناچ	dance
1006.	nā:c	Vi	ناچ	dance
1007.	nā:k (cf. na:k)	Nm	ناک	nose
1008.	nā:n	Nm	نان	bread
1009.	nā:m	Nm	نام	name
1010.	nIb	Nm	نپ	nib
1011.	nī:l (cf. nī:l)	Nm	نیل	blue color
1012.	nī:d (cf. nī:n)	Nm	نیند	sleep
1013.	nī:m	Nm	نیم	<u>neem</u> tree
1014.	nī:n (cf. nī:d)	Nm	نین (نیند)	sleep

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1015.	nī:l (cf. ni:l)	Nm	نیل	blue color
1016.	nŪc (cf. nŪc)	Vi	نچ	be scratched, be pinched
1017.	nŪc (cf. nŪc)	Vi	نچ	be scratched, be pinched
1018.	nu:r	Nm	نور	splendor
1019.	nū:	Nm	نوں (نوح)	Noah
1020.	nū: (cf. nū:n)	Nm	نوں (ن)	thirtysecond letter of Urdu alphabet
1021.	nū:n (cf. nū:)	Nm	نوں (ان)	thirtysecond letter of Urdu alphabet
1022.	ne:g (cf. nē:g)	N	نیگ	gift money taken by groom's sister from her parents
1023.	nē:g (cf. ne:g)	N	نیگ (نیگ)	gift money taken by groom's sister from her parents
1024.	no:t (cf. nō:t)	Nm	نوٹ	note, bill(currency)
1025.	no:c (cf. nō:c)	Vt	نوج (نوج)	scratch
1026.	no:k (cf. nō:k)	N	نوک	tip, point
1027.	nō:t (cf. no:t)	Nm	نوٹ	note, bill(currency)
1028.	nō:c (cf. no:c)	Vt	نوج	scratch
1029.	nō:k (cf. no:k)	N	نوک	tip, point
1030.	nāi (cf. na:)	Neg Adv	نہیں (نہیں)	no, not
1031.	nau (cf. nāu)	Adj	نوں	nine
1032.	nāu (cf. nau)	Adj	نوں	nine
1033.	sAb	Adj	سب	all, whole

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1034.	sAt	Nm	ست	essence, juice
1035.	sAt	Nm	سٹ (شرٹ)	shirt
1036.	sAt	Vi	سٹ	adhere, stick; be spliced
1037.	sAc	Nm; Adj	سچ	truth; true
1038.	sAj	Vi	سج	be decorated, adorned
1039.	sAk	Nm	سک (شک)	doubt; suspicion
1040.	sAk	Vi	سک	be able
1041.	sAr	Nm	سر	head, top
	(cf. sIr)			
1042.	sArt	Nm	سرت (شرط)	condition; bet
1043.	sAr	Vi	سڑ	rot, decay, decompose
1044.	sĀn	Nm	سن	year
1045.	sĀn	Nm	سن	a fibre used for making ropes
1046.	sĀn	Vi	سن	be mashed
1047.	sĀnt	Nm	سنت	saint
1048.	sĀn	Postp	سنگ	in company, together
1049.	sa:	Encl Pcl	سا	as, like, resembling (masc. sg.)
	(cf. si:,se:)			
1050.	sa:p	Adj	ساپ (صاف)	clean, clear
	(cf. sa:ph)			
1051.	sa:ph	Adj	صاف	clean, clear
	(cf. sa:p)			
1052.	sa:b	Nm	ساب (صاحب)	sir, lord, gentleman
1053.	sa:t	Nm	سات (ساتھ)	company, accompaniment
	(cf. sa:th, sĀn)			
1054.	sa:t	Adj	سات	seven
1055.	sa:th	Nm	ساتھ	company, accompaniment
	(cf. sa:t, sĀn)			
1056.	sa:t	Vt	سات	adhere, stick, splice
1057.	sa:th	Adj	ساتھ	sixty

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1058.	sa:g	Nm	سگ	leafy vegetable
1059.	sa:s	Nf	ساس	mother-in-law
1060.	sa:l	Nm	سال	year
1061.	sa:l	Nf	سال (شال)	shawl
1062.	sā:p	Nm	سانپ	snake
1063.	sā:d	Nm	سانڈ	bull
1064.	(cf. sā:r) sā:m	Nm	سام (شام)	evening
1065.	sā:n	Nm	سان	whetstone
1066.	sā:n	Vt	سان	mash, mix-up
1067.	sā:s	Nm	سانس	breath
1068.	sā:r (cf. sā:d)	Nm	سانر (سانڈ)	bull
1069.	sIk	Vi	سیک	be heated; be baked
1070.	sIkh	Nm	سیکھ	Sikh
1071.	sIl	Nm	سیل	flat stone on which spices are ground with a muller
1072.	sIl	Vi	سیل	be sewn, be stitched
1073.	sIr (cf. sAr)	Nm	سیر (سر)	head, top
1074.	si:	Vt	سی	sew, stitch
1075.	si: (cf. sa:)	Pcl	سی	as, like, resembling (fem. encl.)
1076.	si:p	Nm	سیپ	oyster-shell
1077.	si:d	N	سید (سیرہ)	straightness, directness
1078.	si:t	Nm	سیٹ	seat
1079.	si:k	Nm	سیک (سیخ)	skewer
1080.	si:kh	Vt	سیکھ	learn
1081.	si:r (cf. si:rh)	Nm	سیر (سیرہ)	dampness, moisture



Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1082.	si:rh (cf. si:r)	Nm	سیرہ	dampness, moisture
1083.	sī:n	Nm	سین	scene
1084.	sī:n	Nm	سین (سن، ش)	eighteenth letter and nineteenth letter of Urdu alphabet
1085.	sī:n̄	Nm	سینگ	horn
1086.	sUkh	Nm	سُکھ	pleasure, comfort
1087.	sUr	Nm	سُر	tone, tune, melody
1088.	sŪn	Pred Adj	سُن	numb, senseless
1089.	sŪn	Vt	سُن	hear, listen
1090.	su:p	Nm	سوپ	flat basket(for winnowing)
1091.	su:t	Nm	سوٹ	cotton thread
1092.	su:d	Nm	سود	interest, usury
1093.	su:t	Nm	سوٹ	suit
1094.	su:j	Vi	سُوج	swell; become inflamed
1095.	su:j	Vi	سُوج (سُوجھ)	be visible
1096.	su:k (cf. su:kh)	Vi	سُوک (سُوکھ)	become dry; dry
1097.	su:kh (cf. su:k)	Vi	سُوکھ	become dry; dry
1098.	sū:d (cf. sū:r)	Nm	سُونڈ	elephant's trunk
1099.	sū:n̄	Vt	سُونگ (سُونگھ)	smell; sniff
1100.	sū:r (cf. sū:d)	Nm	سُونر (سُونڈ)	elephant's trunk
1101.	se:	Nm	سے (ث)	sixth letter of Urdu alphabet
1102.	se:	Postp	سے	from, with
1103.	se:	Vt	سے	sit on(eggs); hatch
1104.	se: (cf.sa:)	Encl Pcl	سے	like, resembling (masc. pl.)

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1105.	se:b	Nm	سیب	apple
1106.	se:t (cf. se:th)	Nm	سیٹ (سیٹہ)	businessman, banker
1107.	se:th (cf. se:t)	Nm	سیٹہ	businessman, banker
1108.	se:j	Nm	سیج	decorated bed (for the newly weds)
1109.	se:k (sē:k)	Vt	سیک (سینک)	warm, heat; bake
1110.	se:kh	Nm	سیکہ (شیخ)	Sheikh: one of the four classes into which Muslims are divided
1111.	se:r	Nm	سیر (شیر)	lion, tiger
1112.	se:r	Nm	سیر	measure of weight slightly less than a kilogram
1113.	sē:k (se:k)	Vt	سینک	warm, heat
1114.	sē:m	Nm	سیم	kidney bean
1115.	so:	Vi	سو	sleep
1116.	so:c (cf. sō:c)	Vt	سوچ (سوچ)	think, consider
1117.	so:kh	Vt	سوکہ	absorb, soak
1118.	so:g	Nm	سور	mourning, grief
1119.	so:l	Nm	سول	sole
1120.	so:r	Nm	سور (شور)	noise, uproar
1121.	sō:c (cf. so:c)	Vt	سوچ	think, consider
1122.	sau	Adj	سوتو	hundred
1123.	saut	Nf	سوت	co-wife
1124.	sāup (cf. sāuph)	Nm	سونپ (سونف)	aniseed
1125.	sāuph (cf. sāup)	Nm	سونپہ (سونف)	aniseed
1126.	sauk	Nm	سوک (شوق)	desire, fancy; taste
1127.	hAd	Nm	ہد (حد)	limit, boundary

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1128.	hAt	Vi	ہٹ	get away, move away
1129.	hAj	Nm	حج	pilgrimage to Mecca
1130.	hAk	Nm	ہک (حق)	right
1131.	hAg	Vi	ہگ	go to stool
1132.	hAl	Nm	ہل	plough
1133.	hAl	Nm	ہل (حل)	solution
1134.	hAr	Adj	ہر	every, any
1135.	hAm	Pron	ہم	we; I (first person)
1136.	hAmd	Nm	ہمد (حمد)	praise; poem in praise of God
1137.	hAns	Nm	ہنس	swan
1138.	hAs	Vi	ہنس	laugh
1139.	ha:t	Nm	ہات (ہاتھ)	hand
	(cf. ha:th)			
1140.	ha:th	Nm	ہاتھ	hand
	(cf. ha:t)			
1141.	ha:t	Nm	ہاٹ	weekly market
1142.	ha:l	Nm	ہال (حال)	condition
1143.	ha:r	Nm	ہار	necklace, garland
1144.	ha:r	Vi	ہار	be defeated; lose
1145.	hã:	Adv	ہاں (وہاں)	there
1146.	hã:	Intrj	ہاں	yes; indeed
1147.	hã:p	Vi	ہانپ	be out of breath; pant
1148.	hã:k	Vi/Vt	ہانک	drive, boast
1149.	hIpj	Nm	ہنج (حفظ)	preservation, memory
1150.	hIl	Vi	ہیل	shake, tremble
1151.	hi:	Adv	ہی	only, exactly (emph. pcl.)
1152.	hi:l	Nm	ہیل	heal
1153.	hĩ:n	Nm	ہینگ	asafoetida
1154.	hUk	Nm	ہوک	hook

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1155.	hu:r	Nf	ہُور (حور)	Houri: a nymph of the Muslim Paradise
1156.	hu:r	Adj	ہُوڑ	rash, wild
1157.	he:	Nm	ہے (ح، ۵)	ninth letter and thirty-fourth letter of Urdu alphabet
1158.	he:l	Vt	ہیل	cross through water
1159.	ho:	Pres Aux	ہو	are(with tŪm)
1160.	ho:	Vi	ہو	be; become
1161.	ho:s	Nm	ہوس (ہوش)	sense, consciousness
1162.	hō:t	Nm	ہونٹ (ہونٹھ)	lip
1163.	hai (cf. hāi, ho:)	Pres Aux	ہے	is(general sg.)
1164.	hait	Nm	ہیٹ	hat
1165.	hāi (cf. hai)	Pres Aux	ہیں	are(general pl.)
1166.	hauj	Nm	ہویج (حوض)	reservoir of water; tank
1167.	haul	Nm	ہول (ہال)	hall
1168.	wa: (cf. wa:h)	Intrj	وا (واہ)	well done!, bravo!
1169.	wa:h (cf. wa:)	Intrj	واہ	well done!, bravo!
1170.	wa:w	Nm	واو (و)	thirtythird letter of Urdu alphabet
1171.	wo: (cf. u:, Us, Ūn)	Pron	وو (وہ)	that; he, she, it; those; they (remote demon.)
1172.	lAt	Nm	اُت	bad habit
1173.	lAt	Nm	اُت	creeper plant
1174.	lAd	Vi	اُت	be loaded
1175.	lAt	Nm	اُت	lock of hair
1176.	lAth	Nm	اُت	stick
1177.	lAg	Vi	اُت	be attached; seem, appear
1178.	lAs	Nm	اُت	stickness, viscosity

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1179.	lAr	Vi	لڑ	fight, quarrel
1180.	lĀnd	Nm	لَند	penis
1181.	la:	Vi	لا	bring(transitive in meaning)
1182.	la:b	Nm	لاب (الاجہ)	gain
1183.	la:t	Nm	لات	leg
1184.	la:d	Nm	لاد	entrails, guts(esp. of a cow or horse)
1185.	la:d	Vt	لاد	load
1186.	la:t	Nm	لاٹ	heap, lot
1187.	la:d	Nm	لاڈ	extraordinary show of love
1188.	la:j	Nf	لاج	shyness, modesty
1189.	la:kh	Adj	لاکھ	lakh
1190.	la:s	Nm	لاس (الاش)	dead body, corpse
1191.	la:h	Nm	لاہ	sealing wax
1192.	la:l	Adj	لال	red
1193.	la:r	Nm	لار	saliva
	(cf. ra:l)			
1194.	lā:m	Nm	لام (ال)	thirtieth letter of Urdu alphabet
1195.	lā:n	Vt/Vi	لانگ	jump over
1196.	lā:r	Nm	لانڈ	penis
1197.	lIk	Vt	لک (لکھ)	write
	(cf. lIkh)			
1198.	lIkh	Vt	لکھ	write
	(cf. lIk)			
1199.	li:p	Vt	لیپ	plaster with yellow soil and cow-dung
1200.	li:d	Nm	لید	dung of horse
1201.	li:k	Nm	لیک (لیکھ)	young of a louse
	(cf. li:kh)			
1202.	li:kh	Nm	لیکھ	young of a louse
	(cf. li:k)			

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1203.	lUt	Vi	لُٹ	be robbed
1204.	lu:	Nm	لُو	hot wind; heatstroke
1205.	lu:t	Nm	لُوٹ	plunder, loot
1206.	lu:t	Vt	لُوٹ	plunder, loot
1207.	le:	Vt	لے	take
1208.	le:p	Nm	لِیپ	ointment, plastered over a wound
1209.	le:t	Pred Adj	لِیٹ	late
1210.	le:t	Vi	لِیٹ	lie down
1211.	lē:n (cf. lāin)	Nm	لِین	line, queue
1212.	lo:t	Vi	لُوٹ	roll, toss about
1213.	lo:d	Nm	لُوڈ	load
1214.	lo:g	Nm	لُوگ	people
1215.	lāimp	Nm	لِیپ	lamp
1216.	lāin (cf. lē:n)	Nm	لِین	line, queue
1217.	lau	Nm	لُو	flame
1218.	lau	Nm	لُو	lobe(of ear)
1219.	laut	Vi	لُوٹ	turn back; return
1220.	lāuñc	Nm	لُوئچ	launch service
1221.	lāuñ	Nm	لُوئچ	clove
1222.	rAb	Nm	رَب	Lord; God
1223.	rAt (cf. rAth)	Nm	رَت (رسمتہ)	chariot
1224.	rAth (cf. rAt)	Nm	رسمتہ	chariot
1225.	rAd	Vt	رَد	refuse, cancel
1226.	rAt	Nm	رَت	importunity, persistent demand
1227.	rAt	Vt	رَت	repeat, memorize

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1228.	rAd	N	رُڈ	rod
1229.	rAk (cf. rAkh)	Vt	رَک (رَکھ)	put, place, keep
1230.	rAkh (cf. rAk)	Vt	رَکھ	put, place, keep
1231.	rAg	Nm	رَگ	vein, artery
1232.	rAs	Nm	رَس	juice
1233.	rAh (cf. rai)	Vi	رَہ	live, stay
1234.	rĀn̄n̄	Nm	رَنگ	color
1235.	rĀn̄	Vt	رَنگ	color, dye
1236.	ra:t	Nm	رات	night
1237.	ra:j	Nm	راج (راجہ)	secret, mystery
1238.	ra:j	Nm	راج	raj, government
1239.	ra:kh	Nm	راکھ	ashes
1240.	ra:g	Nm	راگ	raga; a musical mode
1241.	ra:l (cf. la:r)	Nm	رِال	saliva
1242.	rĪn̄n̄	Nf	رِنگ	ear-ring
1243.	ri:t	N	رِیت	custom, practice
1244.	ri:ch	Nm	رِچھ	bear
1245.	ri:l	Nm	رِیل	reel
1246.	ri:r̄	Nm	رِیڑ (رِیڑھ)	backbone, spine
1247.	rUk	Vi	رُک	stop; stay
1248.	ru:s	Nm	رُوس	Russia
1249.	ru:h	Nm	رُوہ (رُوح)	soul, spirit
1250.	rū:m	Nm	رُوم	room
1251.	re:	Nm	رے (ر)	fourteenth letter of Urdu alphabet
1252.	re:	Intrj	رے	Oh!, Hey!

Serial No.	Entries	Form Classes	Urdu Orthography	Gloss
1253.	re:t	Nm	ریت	sand
1254.	re:t	Nm	ریت	rate
1255.	re:s	Nm	ریس	race
1256.	re:l	Nm	ریل	rail
1257.	rē:n̄	Vi	رینگ	creep
1258.	ro:	Vi	رو	weep
1259.	ro:b	Nm	روب (رعب)	commanding or awe inspiring presence
1260.	ro:d	Nm	روڈ	road
1261.	ro:j	Nm; Adv	روح (روز)	day; daily
1262.	ro:k	Nm	روک	restriction, obstruction
1263.	ro:k	Vt	روک	stop, obstruct
1264.	ro:g	Nm	روگ	sickness, disease
1265.	ro:l	Nm	رول	role
1266.	rā:m	Nm	رام	Lord Rama
1267.	rā:n	Nm	ران	thigh
1268.	rai	Vi	رے (ره)	live, stay
	(cf. rAh)			
1269.	re:	Nm	رے (ڑ)	fifteenth letter of Urdu alphabet
1270.	ya:	Intrj	یا	O!, Oh!
1271.	ya:	Conj	یا	or, either
1272.	ya:d	N	یاد	memory, recollection, remembrance
1273.	ya:r	Nm	یار	friend, companion, lover
1274.	ye:	Pron	یے (یہ)	this; he, she, it; these; they (prox. demon.)