A COURSE IN PHONETICS AND SPOKEN ENGLISH FOR ELT STUDENTS IN INDIAN UNIVERSITIES

ABSTRACT
THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

ENGLISH

Under the Supervision of

PROF. ASIF SHUJA

By

SHEEBA

DEPARTMENT OF ENGLISH
ALIGARH MUSLIM UNIVERSITY
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ABSTRACT

TOPIC: A COURSE IN PHONETICS AND SPOKEN ENGLISH FOR ELT STUDENTS IN INDIAN UNIVERSITIES

The proposed research aims at designing a course in Phonetics and Spoken English for ELT students in Indian Universities. It does not aim at attacking the existing courses in the field but the main objective is to design a comprehensive course in Phonetics and Spoken English which takes care of the Indian students' specific problems in learning General Phonetics, English Phonetics and Spoken English.

Today English is the only language which is spoken all over the world and in India it is used as a second language. Its main function is communication. Students seeking employment after graduation often find themselves unable to make their presence felt and succeed in times of cut-throat competition because of their poor communication skills. In India, majority of students come to the English classroom with a background of different Indian languages as their mother tongue. When they have to face the modern world of competition, they find it difficult

to compete and succeed in getting their ambitions of life fulfilled.Therefore, the main objective of this study is to help Indian learners of English improve their speaking skill which is required for their future career along with their present academic life.

PLAN OF STUDY

The present thesis is divided into three parts: Part-I deals with Elements of General Phonetics, Part-II, describes English Phonetics and Spoken English, Part-III is concerned with Exercises for Practice.

In Part-I, Chapter-1 defines and explains the definitions of Communication, Speech, Writing, Language, Phonetics and Linguistics, The English Language, Spoken English in India, Learning English as Foreign Language or Second Language

Chapter 2 is concerned with the production of speech sounds. How the speech sounds are produced and what are the important organs of speech. The organs of speech, and their speech functions, can be described under three systems: the respiratory system, the phonatory system and

the articulatory system.

Chapter 3 deals with the analysis of speech sounds. Speech sounds can be analysed with the help of syllable. Syllable is the concept of a unit at a higher level than that of the sound segment. It can be divided with the help of vowel and consonant and after the division of syllable the structure would be CVC (Consonant, Vowel and Consonant).

Chapter 4 describes segmentation of General Phonetics. This chapter describes place and manner of articulation and naming of vowels and consonants, Secondary and Double articulations, Isolations and Taxonomic Terms.

Chapter 5 describes structure and system. Phonology is the study of sounds and patterns in a particular language. Each language uses only a limited number of speech sounds that human beings can produce. These sounds are then organized into characteristic patterns. They are grouped into significant sound units which are arranged in structures and systems.

Chapter 6 deals with voice quality and voice dynamics. Non-segmental components of the medium fall into two

groups, one of them, consisting of the components which contribute to the general quality of the components, is voice quality. The other consisting of components which arise out of the way the voice is handled is voice dynamics.

Chapter 7 deals with the notation. Notation describes International Phonetic symbols, transcription and non-segmental symbols.

Chapter 8 describes assimilation. Assimilation is defined as the process of replacing a sound by another sound under the influence of a third sound which is near to it in the word or sentence. It is of two kinds, (i) Historical assimilation, (2) Juxtapositional or contextual assimilation.

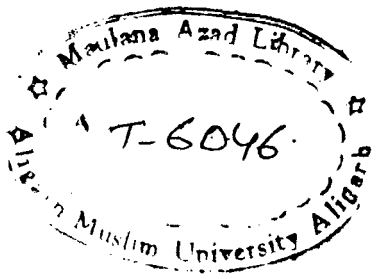
Chapter 9 describes and classifies English speech sounds. This chapter gives the full description and classification of English speech sounds along with the phonemic and phonetic details.

Chapter 10 explains the word stress and connected speech. It describes accent, prominence, word stress pattern, elision, Intonation, quality, quantity, neutralisation of weak forms, liaison and juncture.

Finally Chapter 11 provides them with some useful measures to prevent Indian students from making mistakes in the articulation of English sounds, stressing of English words and sentences, in the use of tonality, tonicity and tones in connected speech while reading aloud or in their English conversation. It also offers a few suggestions to the teachers of English taking into consideration the ELT situations existing in the colleges and universities in India.

Part-III is designed to provide some useful exercises for practice.

It is hoped that ELT students and teachers will find this course profusely meaningful in the improvement of their spoken English with a reasonable amount of fluency, intelligibility and acceptability at the national and international levels.



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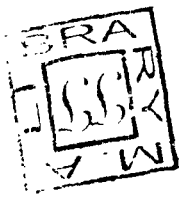

DEPARTMENT OF ENGLISH
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2004

THESIS

Dedicated

to

My Parents

DEPARTMENT OF ENGLISH
ALIGARH MUSLIM UNIVERSITY
ALIGARH

Dated: 3.3.04...

CERTIFICATE

This is to certify that the Ph.D. Thesis entitled ***"A COURSE IN PHONETICS AND SPOKEN ENGLISH FOR ELT STUDENTS IN INDIAN UNIVERSITIES"*** submitted by **Ms. Sheeba** under my supervision for the award of **Doctor of Philosophy in English**, is the result of her own endeavour. She is allowed to submit her thesis for the award of Ph.D. in the Department of English, Aligarh Muslim University, Aligarh.

Asif Shuja

Prof. Asif Shuja
Supervisor

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The present writer would like to place on record the gratitude to the Central Institute of English and Foreign Languages (CIEFL) Hyderabad; The British Council Library, University of Hyderabad, Hyderabad; Maulana Azad Library, Seminar Libraries of the Department of Education, Linguistics and English, AMU, Aligarh for their assistance in the form of books and Xeroxed materials.

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Sheeba

LIST OF ABBREVIATIONS

AMU	Aligarh Muslim University
BCL	British Council Library, New Delhi
CIEFL	Central Institute of English and Foreign Languages
CIIL	Central Institute of Indian Languages
ELT	English Language Teaching
IPA	International Phonetic Alphabet
RP	Received Pronunciation of England
Adj	Adjective
V	Verb
N	Noun

LIST OF PHONETIC SYMBOLS AND SIGNS

i:	front, close, unrounded vowel
I	centralised, front unrounded vowel; between close and half-close
e	front, half-close, unrounded vowel; sometimes centralized
ɛ	front half-open, unrounded vowel.
æ	front, unrounded vowel; between half open and open
a:	back, open, unrounded vowel
ɔ	back, half-open, rounded vowel
ɔ:	back rounded vowel between half-open and half-close
u	centralized back rounded vowel, between half-close and close
u:	back, close, rounded vowel
^	central, half-open, unrounded vowel
ə:	unrounded central vowel as in British R.P. 'word'
ə	unrounded central vowel, short (English initial vowel in 'above').
ei	a glide from a front unrounded vowel, below half-close to a centralised front unrounded vowel, just above half-close.
ai	a glide from a front open unrounded vowel to a centralised front unrounded vowel, just above half-close.
ɔɪ	a glide from a back rounded vowel between open and half-open to a centralised front unrounded vowel, just above half-close.

aʊ	begins at a back open unrounded position; neutral in the beginning, rounded in the end. Longer in word-finals.
əʊ	a glide from a central unrounded vowel between half close and half-open to a centralised back rounded vowel, just above the half-close positions.
i∂	a glide from a centralised front unrounded vowel, just above half-close to a central unrounded vowel between half-close and half-open.
ʊə	a glide from a centralised back rounded vowel just above half-close to a central unrounded vowel, between half-close to half-open.
eə	a glide from a front half-open unrounded vowel to a central unrounded vowel between half-close and half-open in non-final diphthongs.
p	voiceless bilabial plosive
b	voiced bilabial plosive
t	voiceless alveolar plosive
d	voiced alveolar plosive
k	voiceless velar plosive
g	voiced velar plosive
tʃ	voiceless palato-alveolar affricate
dʒ	voiced palato-alveolar affricate
m	voiced bilabial nasal
n	voiced alveolar nasal
ŋ	voiced velar nasal

f	voiceless labio-dental fricative
v	voicedlabio-dental fricative
θ	voiceless dental fricative
ð	voiced dental fricative
s	voiceless alveolar fricative
z	voiced alveolar fricative
ʃ	voiceless palato-alveolar fricative
ʒ	voiced palato-alveolar fricative
h	voiceless glottal fricative
l	voiced alveolar lateral
r	voiced post-alveolar fricative or frictionless continuant; also used for linguo-alveolar roll or flap
j	voiced unrounded palato semi-vowel
w	voiced labio-velar semi-vowel
ʍ	voiced labio-velar fricative
j	vovoiced unrounded palatal semi-vowel
2	glottal stop
[^{h}]	slight aspiration, e.g. [p^{h}]
[h]	strong aspiration, e.g. [$\underset{n}{th}$]
[:]	full length of preceding segment, e.g. [i:]
[·]	half lengh of preceding segment, e.g. [i·]
[¨]	centralisation, e.g. [ä·]
[~]	nasalisation e.g. [Õ:]

[$_{n}$] dental articulation, e.g. [t$_{n}$]

[$_{o}$] devoiced lenis consonant, e.g. [b$_{o}$]

[$_{-}$] post-alveolar articulation, e.g. [d$_{-}$]

[$_{|}$] syllabic consonant, e.g. [l$_{|}$]

[^{N}] nasally exploded consonant, e.g. [P^{N}]

[^{L}] laterally released consonant, e.g. [t^{L}]

[^{o}] unexploded consonant, e.g. [p^{o}]

[•] geminated consonant, e.g. [k•]

['] primary or tonic accentual stress or pitch prominence on following syllable, e.g. 'about

[,] secondary accentual stress on following syllable, e.g. ,after'noon

[` ] high falling tone, e.g. `yes

[,] low falling tone, e.g. ,yes

[´] high rising tone, e.g. ´yes

[,] low rising tone, e.g. ,yes

[^{v}] falling-rising tone, e.g. ^{v}yes

[^] rising-falling tone, e.g. ^yes

/ / phonemic transcription

/ pause or end of tone group

// // sentence group boundary

‿ denotes linking of words in lists where a reader is likely to seperate consonants.

~ denotes a nasal vowel, e.g. gendarme [zã·n`da:m]

Introduction

INTRODUCTION

AIM AND SCOPE

The present study aims at designing a course in Phonetics and Spoken English for ELT students in Indian Universities. The main objective is to design a comprehensive course in Phonetics and Spoken English which can take care of the Indian students specific problems in learning General and English Phonetics and Spoken English. It is therefore proposed to offer appropriate solutions by providing these students with specific information about the basic concepts of General Phonetics, English Phonetics and Spoken English. Useful diagrams and exercises are used to enhance clarity and avoid confusions. It is hoped that ELT students will find this course profusely meaningful.

Various works and researches have been carried out by several researchers, but no systematic and detailed study of the Phonetics and Spoken English has yet been attempted and a study of the problems faced by ELT students, while learning General and English Phonetics and Spoken English, has so far been completely neglected. Previous studies on Phonetics and Spoken English reveal that both the aspects were dealt with individually in those studies. The present study tries to combine these two aspects with General Phonetics because these aspects are

interrelated. Earlier some studies were undertaken in this field by English and American theorists but Indian learners find it difficulties to comprehend most of the studies because they come to the English classroom with a background of different Indian languages as their mother tongue. Hence, this work is a rather simplified version without any change in the concepts. The purpose is to help the Indian learners grasp the basic notions, theories and principles offered by native English speaking writers of General/English Phonetics and Spoken English text-books. At this point, the question arises: why do Indian learners need to learn English Phonetics or Spoken English.

Today English is the only language which is spoken all over the world and in India it is used as a second language. Its main function is communication. It is also used as the associate official language of the Union, as a link language among educated people, when they don't share a common Indian language or when they find English more suitable for their purpose and as the language of administration and higher education. Students, seeking employment after graduation, often find themselves unable to make their presence felt and succeed in times of cut-throat competition because of their poor communication skills. Therefore, this course is designed to serve those students who want to improve their pronunciation and English speech. This

course will definitely help these learners improve their speaking skill which is required for their future career along with their present academic life.

METHOD AND APPROACH ADOPTED

Any utterance can be approached from a general phonetic or a phonological point of view. The general phonetic approach identifies and describes the elements of an utterance in relation to general human phonetic resources without any reference to a particular language. The phonological approach, on the other hand, brings out the "pattern forming capabilities of the elements of utterance as used in a particular language, rather than place them in relation to general human phonetic resources". Phonetics and phonology complement each other as the one deals with 'form' and analyses sounds as physical entities without knowing to which language they belong while the other deals with 'function' and describes these sounds in terms of similarities and dissimilarities which are functional in a particular language, i.e. relevant for the purpose of communication.

Most of the phonological approaches are based on phonemics. But the approach adopted in the present study for the phonological analysis is phonemic and phonetic. The minimal distinctive sound units are segmental phonemes. These phonemes

can be analysed by phonemic approach. In English there are some of the fine/minute distinctions which can be analysed phonetically. Several of suprasegmental features of prosodic analysis - e.g., aspiration, retroflexion, valarisation, etc. are analysed as belonging to segments rather than higher units. However, stress, rhythm and intonation are treated as prosodic or suprasegmental rather than phonemic entities and thus stress, rhythm and intonation are analysed as units higher than segments.

The idea behind choosing these approaches is that only phonemic analysis is not sufficient to analyse English sound system. Phonemic analysis can analyse only the basic phoneme segments. But it left the fine distinctions which can only be analysed with the help of phonetic approach.

Descriptive approach is used for the present study. Everything is described in a systematic manner. No new hypothesis has been made, only the existing theories and materials have been described. The researcher only concentrates on the existing syllabi followed in Indian Universities. The researcher studied the syllabi of English language courses of various universities and institutes in India to find out that ELT courses at undergraduate, graduate and postgraduate levels. She

discovered that M.A. (ELT) and B.A. (Communicative English) main courses are available only at Aligarh Muslim University so far. M.A. (ELT) is also a two year full time course offered by H.M. Patel Institute of English Training and Research, Vallabh Vidya Nagar, Gujarat. Other universities have ELT courses as optional subjects at the undergraduate and postgraduate levels.

MODEL SELECTED

Received Pronunciation of England (R.P.) is chosen as a reference point in this study for various reasons. It is highly sophisticated, widely understood all over the world, vastly discussed and adequately described, well documented and a neutral accentless form of English. Abercrombie calls R.P. a non-regional and accentless form of 'Standard English' within England, which he defines as "that kind of English which is the official language of the entire English speaking world, and is also the language of all educated English speaking people". Standard descriptions, dictionaries and teaching materials of R.P. are easily available.

SOURCES

Materials are extracted from the following sources:

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PLAN OF STUDY

The investigation of the study is divided into three parts and organised under the following chapters:

Chapter 1 deals with definitions.

Chapter 2 is concerned with the production of speech sounds. How the speech sounds are produced and what are the important organs of speech. The organs of speech, and their speech functions, can be described under three systems: the respiratory system, the phonatory system and the articulatory system. Chapter 3 deals with the analysis of speech sounds. Speech sounds can be analysed with the help of syllable. Syllable is the concept of a unit at a higher level than that of the sound segment. It can be divided with the help of vowel and consonant and after the division of syllable the structure would be CVC. Chapter 4 describes segmentation of General Phonetics. This chapter describes place and manner of articulation and naming of vowels and consonants. Chapter 5 describes structure and system. Phonology is the study of sounds and patterns in a particular language. Each language uses only a limited number of speech sounds that human beings can produce. These sounds are then organized into characteristic patterns. They are grouped into significant sound units which are arranged in structures

and systems. Chapter 6 deals with voice quality and voice dynamics. Non-segmental components of the medium fall into two groups, one of them, consisting of the components which contribute to the general quality of the components, is voice quality. The other consisting of components which arise out of the way the voice is handled is voice dynamics. Chapter 7 deals with the notation. Notation describes International Phonetic symbols, transcription and non-segmental symbols. Chapter 8 is assimilation. Assimilation is defined as the process of replacing a sound by another sound under the influence of a third sound which is near to it in the word or sentence. It is of two kinds, (i) Historical assimilation, (2) Juxtapositional or contextual assimilation. Chapter 9 describes and classifies English speech sounds. This chapter gives the full description and classification of English speech sounds with allophonic variants. Chapter 10 explains the word stress and connected speech. It describes accent, prominence, word stress pattern, elision, Intonation, quality, quantity, neutralisation of weak forms, liaison and juncture. Chapter 11 suggests some measures to improve their proficiency in English at national and international level. Part III is designed to provide some exercises for practice. These exercises will be very meaningful and useful for those students who want to improve their pronunciation and English speech. It is hoped

that this study would be profusely beneficial for the students of ELT. The materials and methods for learning English the teachers and students of English in Indian colleges and universities offered in the thesis will be immensely useful for the English teachers, students, course designers, research scholars and language institutes. If used in the desired manner, these materials will definitely improve the spoken English with fluency, mutual intelligibility and social acceptability with normal appropriacy at the national and international levels. The aim is to improve the communication ability of these learners in India which will hopefully be achieved by proper use of the materials provided in the thesis in the suggested manner.

Part- I

Elements of General Phonetics

CHAPTER-1

DEFINITION

1.1 COMMUNICATION

The concept of communication is derived from the Latin word 'communis' (common).During communication, a 'commonness' with someone is attempted to establish. Thus some information, idea or attitude is shared. The essence of communication is getting the receiver and the sender of a message 'tuned' together.

Communication requires at least three elements - a source, a message, and a destination. The source may be an individual or a communication organisation, e.g. a newspaper, publishing house, television station. The message may be in the form of signs and symbols on paper, sound waves in the air, or any other signal capable of being interpreted meaningfully. The destination may be a discussion group or a lecture audience, a mob or an individual member of the particular group known as the mass audience.

It is quite possible to draw a picture of the human communication system in the following manner:

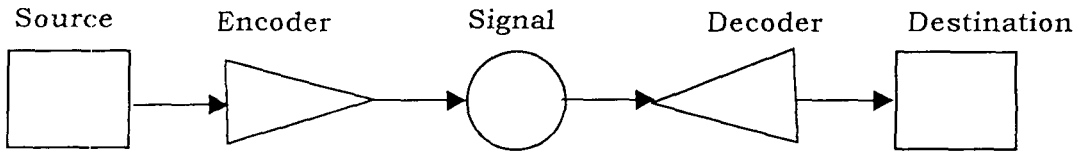

Fig. 1 The Human Communication Circit

The source tries to build up this 'commonness' and encodes the message in such a way as to make it easy for the destination to tune in the message. Messages are made up of signs. A sign is a signal that stands for something in experience. The word 'dog' is a sign that stands for generalised experience with dogs. The word would be meaningless to a person who came from a dog less island and had never read or heard of a dog.

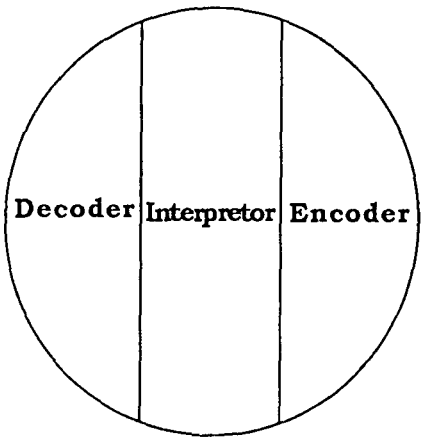

Fig. 2 The Sender and Receiver of a Message in a Communication

It is obvious that each person in the communication process is both an encoder and a decoder.

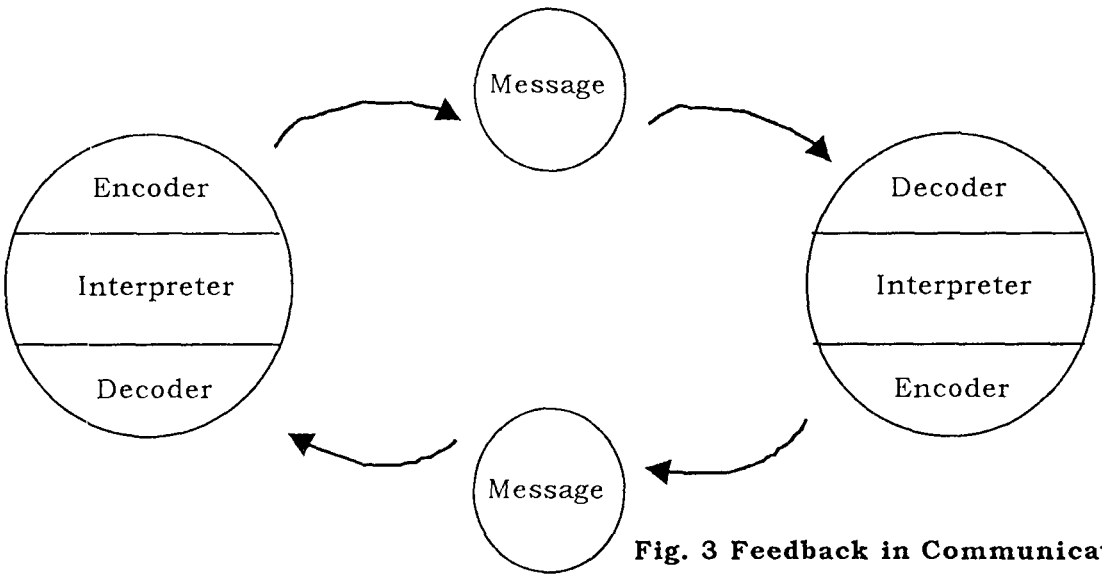

Fig. 3 Feedback in Communication

In a conversation between the people, one is constantly communicating back to the other. The return process is called feedback, and plays a very important part in communication because it tells us how messages are interpreted.

An experienced communicator is careful about the feedback, and constantly modifies the message in light of what he/she observes or hears from his/her audience.

It is clear that in any kind of communication one rarely sends out messages in a single channel. A communicator can emphasise a point by adding as many parallel messages as one feels are deserved. If one communicates through speech, one can stress a word, pause just before it, say it with a gesture or look earnestly at one's audience.

1.2 SPEECH

Speech may be defined as the use of articulate sound symbols for the expression of thought. Speech is a mode of communication; and just like all the other modes, it performs the function of establishing a community of knowledge, experience, attitudes and feelings; it makes possible much inquiry in search for information and understanding; it is a medium for issuing of commands, directives, orders, etc. designed to elicit various kinds of covert and overt behaviour.

Speech is a fundamental social and psychological phenomenon without which society could not exist.

According to Hockett (1958:8): Each language defines a speech community; the whole set of people who communicate with each other, either directly or indirectly, via the common language.....[1]". [cited in Agnihotry & Khanna, (1997)]

Labov(1972:20) defines speech community as: "The speech community is not defined by any marked agreement in the use of language elements, so much as by participation in a set of shared norms; these norms may be observed in overt types of evaluative behaviour, and by the uniformily abstract patterns of variation which are invariant in respect to particular levels of usage"[2].

Speech, then, is a learned activity, learned mainly in the formative years, through imitation of the speech of those who are closest to the learner. It consists not of language and delivery but of delivered language.

1.3 WRITING

Writing is a symbolic representation of language in storable graphic form. There are three types of writing systems. (i) If each symbol, character or grapheme represents a word or morphene, the 'orthography' is known as 'logographic' or

'ideographic', e.g. Chinese. (ii) If each symbol indicates a single syllable, it is 'syllabic'. e.g. Japanese. (iii) If each symbol stands for a single sound segment, it is alphabetic', e.g. Roman. The system of writing is called 'alphabetic' if there is consistent correspondence between the sound and alphabet.

The Latin proverb (verbavolant, Scripta manent) says "the spoken word flies away, the word remains"[3].

So a written message is relatively permanent whereas speech is quite transient. It is by means of writing that language is made capable of transcending the ordinary condition of time and space.

Compare to speech, writing is often more homogeneous because it is the language of education, it tends to be the same for all over the country. Also, writing is more grammatical in the sense that it often indicates grammatical relationship more clearly and the writer is generally more careful about grammar than the speaker.

Without writing, culture, which has been defined as 'communicable intelligence', law, religion, trade, poetry, philosophy history, all those human activities which depend upon a degree of permanence and transmission- would not be possible. Elimination of 'writing' would mean elimination of all post-offices, libraries, printing presses, magazines, books and

newspapers; reading and research would also be wiped out. Without writing, even the administrative machinery would come to a halt.

Writing exists only in a civilization of human intercommunication by means of conventional visible marks.

1.4 LANGUAGE

Language is the 'species-specific' and 'species- uniform' possession of man. Language is ubiquitous. It is present everywhere- in our thoughts and dreams, prayers and meditations, relations and communications, and sanskars and rituals.

Language deals with all phases of human behaviour and all aspects of human activity. It brings the child into direct touch with humanity's past and present. It puts him into living contact with the thoughts and feelings; and also deals with men belonging to all ages and places.

"Language is a purely human and non-instinctive method of communicating ideas, emotions and desires by means of a system of voluntarily produced symbols" - Sapir, Language, 1921[4].

"Language may be defined as the expression of thought by means of speech- sounds"[5] -Henry Sweet, The History of

Language. [cited in R.L. Varshney (1997)]

"A Language is a device that establishes sound meaning correlations, pairing meanings with signals to enable people to exchange ideas through observably sequences of sound"[6]. - Ronald W. Langacker, Language and its structure, 1967. [cited in R.L. Varshney (1997)]

Anthropologists regard language as a form of cultural behaviour, sociologists as an interaction between members of social group, students of literature as an artistic medium. Truly, language is such a complex phenomenon that to define it in terms of single level, as knowledge, skill or habit, cannot solve the problem of its definition.

1.5 LINGUISTICS AND PHONETICS

The word' Linguistics' is derived from Latin lingua (tongue) and istics (knowledge or science). Etymologically, therefore, linguistics is the scientific study of language. But it is the study not of one particular language but of human language in general. It studies language as a universal and recognizable part of human behaviour. It attempts to describe and analyse language. So linguistics is that science which studies the origin, organisation, nature and development of language.

Phonetics is a branch of linguistics and it is the scientific

study of the production, transmission and reception of speech sounds. It studies the medium of spoken language. Touching upon physiology and physics, phonetics is now a pure science that studies speech processes, including the anatomy, neurology and pathology of speech, as well as the articulation, description classification and perception of speech sounds.

The study of phonetics can be divided into three main branches: ACOUSTIC, AUDITORY and ARTICULATORY.

1.5.1 Acoustic Phonetics:

It is the study of physical properties of speech sounds, such as frequency and amplitude in their transmission. Acoustic phonetics analyses the speech waves with the help of instruments. The physical properties of the stream of sound issuing forth from the mouth of the speaker are described.

1.5.2 Auditory Phonetics:

Auditory phonetics is the study of hearing mechanism and the perception of speech sounds. It studies different auditory impressions of quality, pitch and loudness of sounds.

1.5.3 Articulatory Phonetics:

It recognises that speech is produced by some kind of sound making apparatus inside the human body, and that specific

sounds may be related to specific movement of the apparatus. Hence it is the study of movements of the speech organs in the articulation of speech- lungs, larynx, soft palate, tongue, teeth and lips.

1.6 THE ENGLISH LANGUAGE

The English language as used in different English speaking countries has marked linguistic features associated with each country, in lexis, grammar and phonology. The variation is much greater in respect of phonological and phonetic patterns.

There are marked phonetic features associated with English spoken in the important English speaking countries - the U.K., the USA, Canada and Australia. Even within the UK, there are variations between England, Scotland, Wales and Northern Ireland. English itself provides an interesting example of different pronunciations existing within a small geographical area.

In India, English is used as a second language - as the associate official language of administration and higher education. English has performed three functions-

(i) It has been used as the medium of instruction in some schools from the beginning, in other a little later and in most universities throughout.

(ii) To a large extent it has been used as the lingua franca of India among the educated.

(iii) For all international purposes, English has been used.

English has a definite place in the curriculum of Indian schools and universities. Students will have to be bilingual and some of them trilingual. But in India, education will be unilingual both in its receptive aspect and English will be learnt as it is learnt in Europe, as an extra language, as an additional equipment, for its usefulness, beauty and power for the greatness its literature.

1.6.1 Spoken English in India:

English is a living medium of communication and not just like a school or college subject in India. Hence the teaching of spoken English cannot be neglected and it should be taught carefully in an organised manner. The teacher should use English in the classroom in order to enable the learners listen, understand and speak English fluently.

Considering the need for the use of spoken English in India this language skill has been by and large neglected. According to the Constitution, Hindi in Devnagari Script is the official language for an indefinite period. It can be found that English continues to be used as the language of administration and

higher education. It is also the language generally used when educated people discuss academic and other matters. It is needed not only for academic but also social purpose in India. Indian learners can improve their proficiency in spoken English by developing their skills in listening and speaking along with their knowledge of vocabulary, grammar and usage. The main difficulty is the wide diversity of background. The learners come from different social back grounds. Some of them study through the medium of English and others through the medium of any Indian language.

Spoken English should have three main components-

(i) listening comprehension;

(ii) pronunciation;

(iii) conversation.

(i) Listening comprehension:

The aim of listening comprehension is to help the students listen, understand and speak English better. The materials for listening comprehension, as far as possible, should be similar to what the learners normally listen to during the course of their lives- e.g. news bulletins, talks, lectures, academic papers, reports, etc.

(ii) Pronunciation:

A course in spoken English should include specific training in pronunciation. The items suggested for inclusion in the course are-

(a) relationship between spelling and pronunciation in English.

(b) word stress

(c) stress and rhythm in connected speech.

(d) English vowels and consonants; phonetic symbols. Practice in the production of difficult English sounds: vowels, consonants and consonant clusters in word initial and final positions.

(e) intonation; Grammatical and attitudinal function.

(iii) Conversation:

For training in conversation, one needs specimen dialogues both formal and informal on common everyday situations. Some of the typical situations suggested for conversations are -

(a) dialogue between a shopkeeper and a customer;

(b) dialogue between friends who meet after a long time;

(c) asking for directions; giving directions.

English spoken by educated people in India does no differ radically from the native English in vocabulary and grammar, though there are some well known differences. There are regional differences within India due to the influence of the various Indian languages spoken in different regions. There is substantial minority of people in India whose speech is based on an approximation to British R.P.

It is the professional duty to acquire as high a standard of proficiency in spoken English as possible and learners acquire the skill of listening and speaking in English.

1.6.2. Learning English as Foreign Language or Second language:

The learner of a foreign language has some special problems. For one thing, learning a foreign language is an artificial process. It is not the same as the natural process by which a child learns his/her mother tongue. Learning a foreign language is a painful process and requires a lot of practice. It is an intellectual task, but it will not have a chance of success if one ignores the students intellectual needs like knowledge and understanding.

In countries where English is not an official language, it may have a significant role to play. It may an important school

subject and it may be necessary to pass an examination in English to enter a university. It may be needed for people who work in tourism, business, and for some sections of the civil service. In countries, (such as: China, Japan, France, Germany, Maxico, Israil), where English has these functions, it is taught as a foreign language.

Learning a second language is described as acquiring the ability to use its structure within a general vocabulary under essentially the conditions of normal communication among native speakers at conversational speed. Learning a second language then involves acquiring varying degrees of facility for each phoneme and sequence of phonemes; for each word, part of word, and pattern of words, for the parts of speech. These facilities may be learned so that it can be operated when attention is on the content and the thread of the argument and not on the expression items. In many countries, a language that is not the mother tongue of the majority of the population may still function as an official language, that is, as the sole or major language of law, government, education, business and the media. In countries where English has these functions it is used as a second language. English is an official language in Botswana, Cameroon, Fiji, Gambia, Ghana, India, Mauritius, Namibia, Nauru, Nigeria, Phil ippines, Zimbabwe, Sierra, Leone,

Singapore, South Africa, Swaziland, Tanzania, Tonga, Uganda, Western Samoa and Zambia.

When English functions as a second language, that is where it is used alongside other languages but is commonly the most important language of education, government and business.

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CHAPTER-2

THE PRODUCTION OF SPEECH

2.1 SPEECH MECHANISM

The lungs, the vocal cords, the tongue, the teeth and the lips are some of the important organs of speech. These organs have the following functions besides producing speech sounds: The lungs are necessary for breathing, the tightly shut prevent the food from entering the wind pipe, the tongue is used for differentiating tastes, the teeth are used for chewing food and so on.

The organs of speech can be grouped under three systems:

i. **The Respiratory System,** comprising the lungs, the muscles of the chest and the windpipe,

ii. **The Phonatory System,** formed by the larynx, and

iii. **The Articulatory System,** consisting of the nose, the lips and the mouth, including the tongue and the teeth.

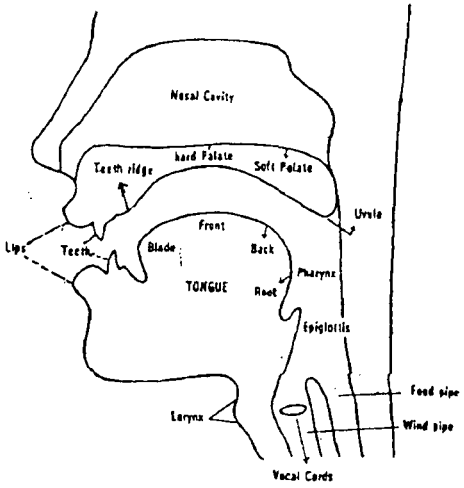


Fig. 1

i. The Pharynx: Extending from the top of the larynx to the hindermost part of the tongue is the pharynx. By the movement of the back of the tongue, by the position of the soft palate, and by raising and lowering of the larynx, the quality of the sound produced.

ii. The Lips: The lips play an important part in the production of certain sounds. The lips can assume various positions for the different vowel and consonant sounds. They are closed, spread, neutral, open rounded, and close rounded.

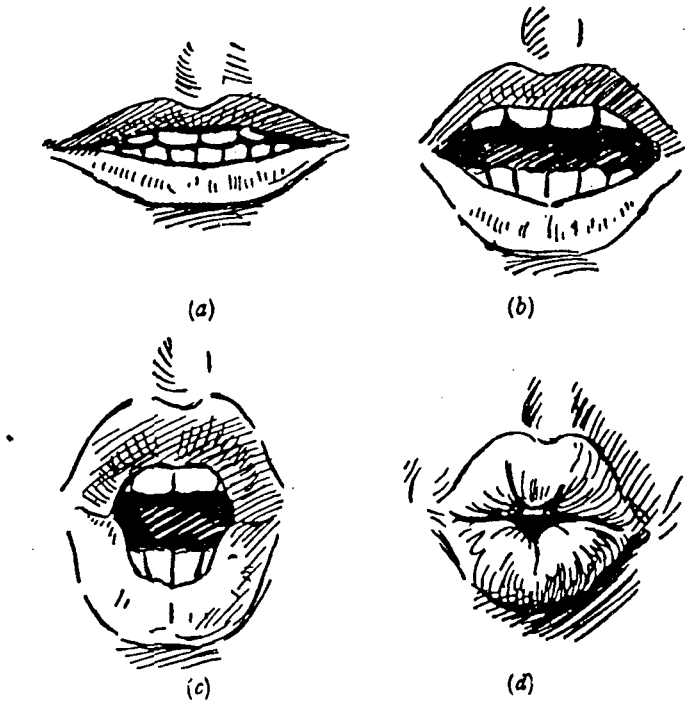


Fig. 2 Types of lip-rounding

(a) Close lip-spreading (b) Neutral lip position
(c) Open lip-rounding (d) Close lip-rounding

iii. The Teeth: Certain consonants are produced with the help of the teeth, the upper jaw, is a whole area called the roof of the mouth, comprising the teeth ridge, the hard palate, the soft palate and the uvula.

iv. The Teeth-Ridge: The teeth ridge is the convex part of the roof of the mouth lying immediately behind the upper teeth.

v. The Hard Palate: This is the name given to the hard bony, concave surface lying immediately behind the teeth-ridge.

vi. The Soft Palate: After passing through the glottis, the air stream enters the pharynx, the cavity at the back of the mouth. The entrance of the air-stream to the nose is controlled by the soft palate. It can be raised to shut off the nasal passage, the air can come out through the mouth only and the resulting sound is oral. The soft palate can be lowered to let the air pass through the nose. Sounds produced with complete oral closure at some point in the oral cavity and velic opening are called nasal sounds.

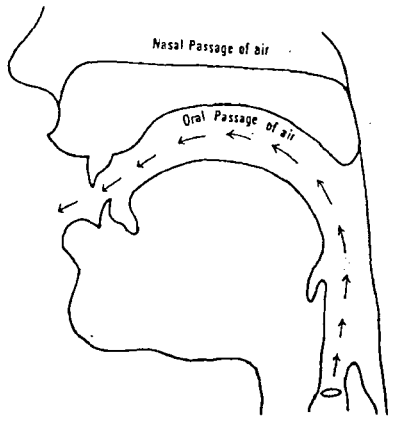


Fig. 3 Soft palate in the raised position

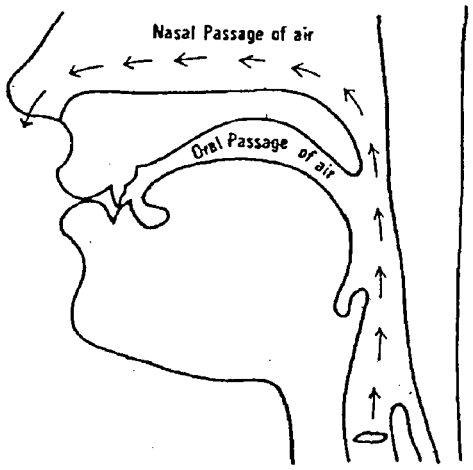


Fig. 4 Soft palate or velum is lowered

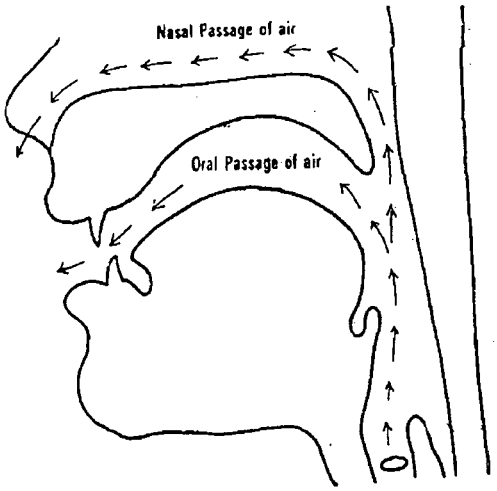


Fig. 5 Production of nasalise sounds

vii. The vocal cords are situated in the larynx; they resemble two lips. The space between them is called the glottis. Sounds produced with a wide-open glottis are called voiceless sounds or breathed sounds. The initial sounds in these words peel, ten, keen, chin, fine thin, seen, shine and hat are voiceless sounds.

During the production of certain speech sounds, the vocal cords are loosely held together and the pressure of the air from the lungs makes them open and close rapidly. This is called the vibration of the vocal cords and the sounds produced when the vocal cords vibrate are called voiced sounds. The sounds bead, deed, girl, judge, vine, then, zoo, measure, need, being, red, yard and well are voiced sounds.

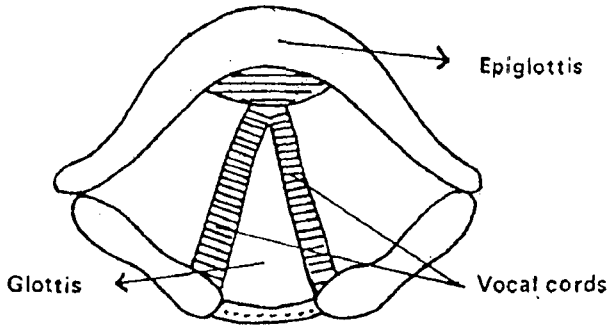


Fig. 6

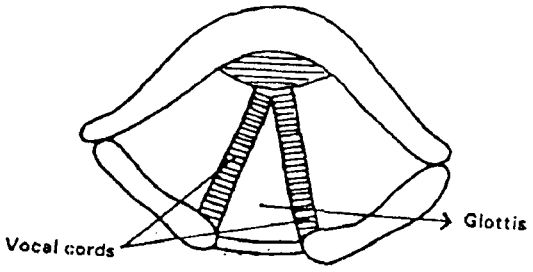


Fig. 7 Vocal cords wide apart and the glottis fully open-position for breath and during the production of voiceless sounds.

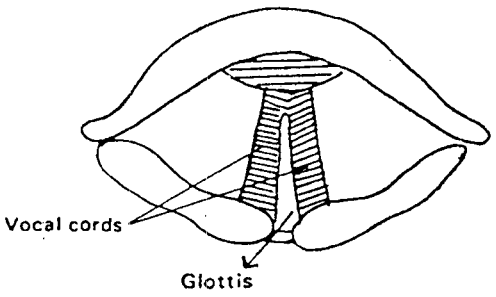


Fig. 8 Vocal cords are kept loosely together-position for vibrating during the production of voiced sounds.

viii. The Tongue: The tongue is very important organ of speech. It can be divided into three sections; the blade which includes the tip, the front and the back. The extreme edge of the tongue is called the tip.

2.2 AIR-STREAM MECHANISM

For the production of speech an air-stream is needed. An air-stream can be compared to a fruit-spray, a flit gun, a syringe, or a child's pop gun. In the human speech producing apparatus the equivalent of the plunger is called the initiator. The initiator sets an air-stream in motion, and it is the most important part of an air-stream mechanism.

There are three types of air-stream mechanisms.

i. **Pulmonic**

ii. **Glottalic**

iii. **Velaric**

i. The Pulmonic Air-Stream Mechanism:

Consists of the lungs and the respiratory muscles. The walls of the lungs act as the initiator so that air is either drawn into the lungs or pushed out of them. When the air-stream mechanism is used to push the air out, it is called eggressive and when it is used to draw the air in, it is called ingressive. All the sounds of English and most Indian languages except Sindhi

are produced with eggressive air stream mechanism. Ingressive air stream is used only for yawning and snoring, not for speaking.

ii. The Glottalic Air-Stream Mechanism:

The closed glottis acts as the initiator and air in the pharynx is used. Sounds produced by an ingressive or eggressive glottalic air-stream are found in many languages; they are interspersed, so to speak, in the stream of pulmonic - eggressively produced speech. They occur particularly commonly in languages of the Caucasus, of Africa, and of central and North America. Moreover, they occur sporadically in many other parts of the world.

iii. The Velaric Air-Stream Mechanism:

The back part of the tongue is the initiator and the air in the mouth is set in motion during this airstream mechanism. Sounds produced with a velaric ingressive mechanism exist in several African languages. No evidence is yet available of any language using velaric egressive air-stream mechanism.

2.3 ARTICULATORY DESCRIPTION

After passing through the larynx, the air stream is further modified by the various shapes assumed by the organs of speech lying above the pharynx, and every such modification affects the quality of the sound produced. The organs of speech involved in this process constitute the articulatory system.

2.3.1 The Active and Passive Articulators:

The articulators are those vocal organs which are situated along the vocal tract above the glottis. The articulators are responsible for the accessory movements of the syllable. They either, for its arrest and release, act so as to restrict the vocal tract to varying degrees; or they shape the vocal tract for the production of the vowel. The movable articulator is called the active one, and it is moved towards a passive articulator, which remains motionless. Most of the passive articulators are attached to the immovable upper jaw most of the active articulators lie on the lower side, or floor, of the vocal tract.

The active articulators are principally the lower lip, and the tongue. It is the upper surface of the tongue which is mostly concerned with articulation, and since it also is relatively large. It can be divided into: the tip or point, the blade, the front, the back and the root. The uvula also is usually included among the active articulators.

The passive articulators are the upper lip, the upper teeth, the roof of the mouth, and the back wall of the throat or pharynx. The roof of the mouth is a large area. It can be divided into: the teeth ridge or alveolar ridge which lies immediately behind the teeth; the hard palate which is the bony part of the roof of the mouth; and the soft palate or velum, which is the fleshy part of

the roof of the mouth further back than the hard palate.

The following points of articulations are involved in the articulation of the sounds given below:

i. Bilabial: The two lips are the articulators. The lower lip is the active and the upper lip is the passive articulator. Examples: /p,b,m,w/as in pile, bite, mile, wine.

ii. Labiodental: The upper teeth are the passive articulators, and the lower lip is the active articulator. Examples: /f,v/ as in five and vine.

iii. Dental: The upper teeth are the passive articulators, and the tip of the tongue is the active articulator. Examples: /θ,/ð/ as thin and then.

iv. Alveolar: The teeth ridge is the passive articulator and the tip and blade of the tongue are the active articulators. Examples: /t,d,n,l,s,z/as tin, din, near, love, sin, zip.

v. Post-alveolar: The back of the teeth ridge is the passive articulator and the tip of the tongue is the active articulator. Examples: /r/ as in try, dry, cry.

vi. Palato-alveolar: That is palatal + alveolar. The teeth ridge and the hard palate are the passive articulators and the tip, the blade, and the front of the tongue are the active articulators. Examples: /ʃ,ʒ,tʃ,dʒ/ as in sheet, measure, treasure, cheat, jeep.

vii. Retroflex: The curled back tip of the tongue is the active articulator and the hinder part of the teeth ridge or the hard palate is the passive articulator. Examples:/t,d,ɳ,l/.

viii.Palatal: The hard palate is the passive articulator and the front of the tongue is the active articulator. Example:/j/ as the initial sound in the English word yes, yet, are palatal sounds.

ix. Velar: The soft palate is the passive articulator and the back of the tongue is the active articulator. Example /k,g,ŋ/ as in track, bag, fog, song.

x. Uvular: The rear part of the back of the tongue is the active articulator and the uvula is the passive articulator. The initial sound in the urdu word meaning 'pen' is an example of a uvular sound.

xi. Glottal: Glottal sounds are produced at the glottis and the two vocal cords are the articulators. The initial sound in the English word hen, huge are an example of a glottal sound.

2.4 THE STRICTURE INVOLVED

The stricture is the technical term for the position taken up by the active articulator in relation to the passive one; it reveals the nature and extent of the restriction of the passage of the air stream at a particular point in the vocal tract.

Following are various typs of strictures normally involvedin the articulation of speech sounds:

i. Complete closure and sudden release:

The stricture may be one of complete closure,i.e. the active and passive articulators come into firm contact with each other, thus preventing the lung air from escaping through the mouth. Sounds produced with a stricture of complete closure and sudden release are called plosives. /p. b, t, d, k, g/are plosive sounds. The initial sounds in words as pin, bin, tin, din, kin and gun.

Fig. 9 Articulation of the plosive sounds/t,d/. The tip and blade of the tongue in firm contact with the teeth ridge and soft palate in its raised position.

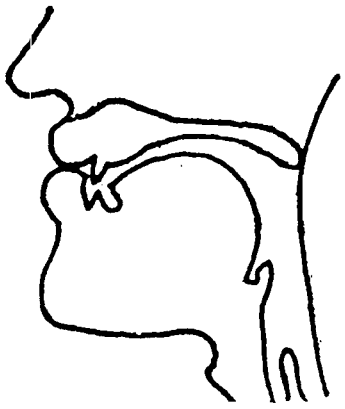


Fig. 10 Articulation of the plosive sounds /p,b/. The two lips are in firm contact and the soft palate is raised.

Fig. 11 Articulation of the plosive sounds /k,g/. The back of the tongue and the soft palate are in firm contact with each other. The soft palate is raised.

ii. Complete Closure and Slow Release:

If after blocking the oral and the nasal passage of air, the oral closure is removed slowly, (i.e. if the active articulator is removed slowly from the passive articulator) slight friction is heard. Sounds that are articulated or produced with a stricture of complete closure and slow release are called affricates. The initial sounds in these words chin and jam are affricates.

iii. Complete Oral Closure:

The active and passive articulators are in firm contact with each other, thereby blocking off the oral passage of air completely. But the soft palate is lowered so that there is a velic opening, i.e. the nasal passage of air is opened. The lung air escapes through the nostrils freely. Sounds that are articulated with a stricture of complete oral closure are called Nasals. The final sounds in there words sum, sun and sung are some examples of nasal sounds.

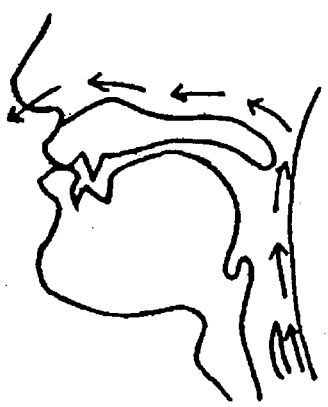


Fig. 12 Articulation of the nasal consonant /m/. The closure of the lips (oral closure). The soft palate is lowered and the nasal passage is open.

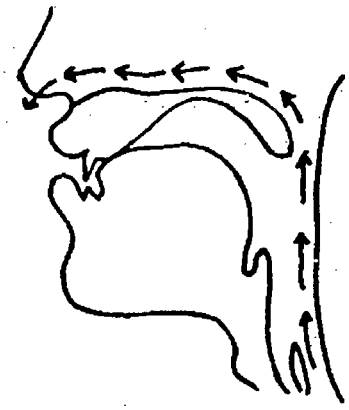


Fig. 13 Articulation of the nasal consonant /n/. The blade of the tongue and the teeth-ridge in firm contact, effecting the oral closure.The soft palate is lowered and the nasal passage is open.

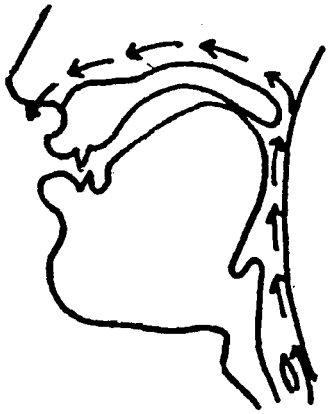


Fig. 14 Articulation of the nasal sound /ŋ/. The oral closure is effected by the back of the tongue and the soft palate, which are in firm contact. The soft palate is lowered and the nasal passage is open.

iv. Intermittent Closure:

The soft palate is raised, thereby shutting off the nasal passage of air. The active articulator strikes against the passive articulator several times with the result that the air escapes between the active and passive articulators intermittently. Such a stricture is termed intermittent closure. Sounds that are articulated with a stricture of intermittent closure are called trills or rolled consonants. The letter 'r' in these words like red and ran pronounced as a trill.

For some consonants the active articulator strikes against the passive articulator just once and then quickly flaps forward. Such consonants are called taps or flaps. The letter 'r' in very is pronounced as a tap consonant.

v. Close Approximation:

The active articulator is brought so close to the passive articulator that there is a very narrow gap between them. The soft palate is raised so as to shut off the nasal passage of air. The lung-air escapes through the narrow space between the active and passive articulators, producing audible friction. Sounds that are articulated with a stricture of close approximation are called fricatives. The initial sounds in these words five, vine, thin, then, sip, zip, sheep and hat are fricatives.

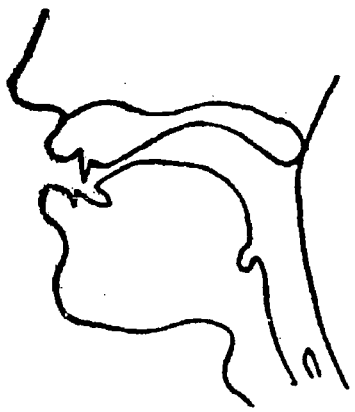


Fig. 15 Articulation of the fricative sounds that begin the words /s/ and /z/. The velic closure effected by the raised soft palate. The narrow gap between the blade of the tongue and the teeth-ridge.

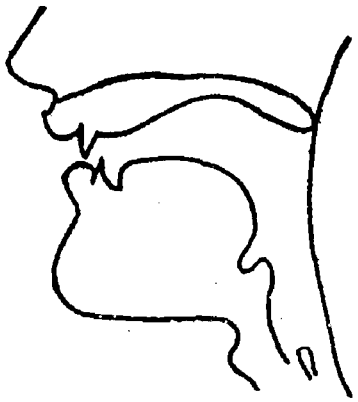


Fig. 16 Articulation of the fricative consonants /f/ and /w/. The soft palate is raised. The narrow gap between the lower lip and the upper front teeth (the passive articulators).

vi. Partial Closure:

The active and passive articulators are in firm contact with each other. The soft palate is raised, thereby shutting off the

nasal passage of air. If the sides of the tongue are lowered so that there is plenty of gap between the sides of the tongue and the upper teeth, the air escapes along the sides of the tongue without any friction. Sounds that are articulated with a stricture of complete closure in the centre of the vocal tract but with the air escaping along the sides of the tongue without any friction are called laterals. The initial sound in the English word love is a lateral sound.

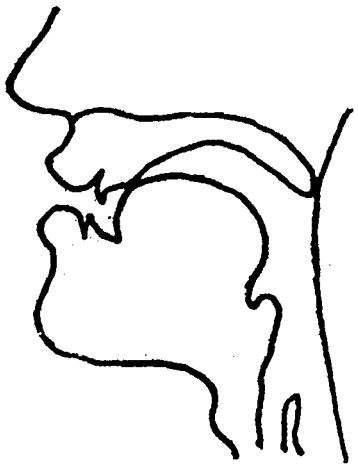


Fig. 17 Articulation of the lateral sound /l/. The tip and blade of the tongue are in firm contact with the teeth-ridge. Soft palate in its raised position.

vii. Open Approximation:

The soft palate is raised, thereby shutting off the nasal passage of air. The active articulator and the passive articulator have sufficient space between them, the air escapes through

this space freely without any friction. Sounds that are articulated with a stricture of open approximation are called frictionless continuants, semi vowels and vowels in English. The initial sounds in yes, red and wet are examples of approximants.

Fig. 18 Articulation of the approximant represented by the Devnagari letter /w/ as in wet. The gap between the lower lip and the upper front teeth.

CHAPTER-3

ANALYSIS OF SPEECH

3.1 THE SYLLABLE

The concept of a unit at a higher level than that of the sound segment, yet distinct from that of the word or morpheme is useful for analysing speech. Attempts have been made to define the term "syllable". These attempts fall into two categories.

(i) The Phonetic Approach

(ii) The Linguistic Approach

(i) The Phonetic Approach:

a) The Prominence Theory:

In any utterance some sounds are said to be more prominent than others, i.e., they are felt by listeners to stand out from their neighbours. For example, in the word examination /igzæmi'neiʃn/ such peaks of prominence are carried by, i,æ,i,ei,n̩.

The number of syllables being determined by the number of peaks of prominence, there are in this case five syllables.

b) The Pulse Theory:

This theory is concerned with the muscular activity controlling lung movement which takes place during speech and

which is capable of being investigated by experimental methods. In any utterance, there are a number of chest pulses, accompanied by increases in air pressure, which determine the number of syllables uttered. Such a theory suggests that the syllable rather than the sound is the basic unit of speech. Consonantal sounds act typically as the onset (releasing factor) and closure (arresting factor) of the syllable, while vowel sounds are nucleas to the syllable and render the chest pulse audible. For example, in the word beat /bi:t/, /b/ is the releasing consonant, /i:/ is the nucleus and /t/ is the arresting consonant. When a chest pulse is produced by greater muscular action it is called a reinforced chest pulse. A syllable produced by a reinforced chest pulse is called a stressed syllable. For example, the word academic/ə-'kæ-də-mik/ has four syllables and the second syllable is stressed.

(ii) The Linguistic approach:

A syllable, in this particular approach, is defined in terms of a particular language rather than in general phonetic terms. For example, a sound sequence such as [ŋga:] might be found to consist of three units in one language [ŋ-ga-a], two in another [ŋ-ga.] and even one in a third [ŋga:]. So, depending on the structure of a language it may be appropriate to divide a similar sound sequence differently in different languages.

On the other hand, a statement about syllables of a language may refer to the way in which sound segments combine. That is, sound segments have a typically central position while others are more typically marginal in their position. For example, in the word bat /bæt/,/b/ and /t/ are marginal and /æ/ is central.

3.2 ANALYSIS OF THE SYLLABLE

Analysis of the syllable means primarily analysis of the associated articulatory, voicing and nasalizing movements. Such an analysis is not an easy task, and although anyone can divide speech up into syllables quite successfully, it is only with great difficulty that one can split up any further into smaller units. At this point, it might be useful to say something about the difficulties involved in the analysis of the syllable. Given below are a few notable difficulties.

(a) The articulatory movements to be analysed are very complex since, lips, jaw, tongue, velum, vocal cords, lung muscles- all take part in them. A great deal is going on simultaneously.

(b) The movements are very rapid, even when the resulting speech would be considered slow speech. When one talks at normal speed, for instance, the tongue alone may make as many as twelve adjustments of shape and position per second.

(c) The movements are very small. The human ear is sensitive to the effect of tiny adjustments of the tongue, lips and other articulatory organs. The adjustments may be so small that they can be measured only with difficulty, though the differences in the sounds produced are apparent enough.

(d) The movements are continuous; seldom are the articulatory organs maintained, even for a fraction of a second, in anything that could be called a posture.

These difficulties are increased by the fact that any action which is normally performed unconsciously is difficult for the performer to analyse. Most systems of writing invented by man have been syllabic systems, but not all. The invention of a system of writing based on segments of the syllable has taken place once; it was the brilliant discovery of the Greeks, and it gave alphabetic, as distinct from syllabic, writing.

3.3 VOWEL AND CONSONANT

Analysis of the syllable yields segments of the syllable, which are successive points in the complex sequence of movements of which the syllable consists. These segments fall into two classes, vowels and consonants.

A vowel is the nucleus or the central part of the syllable and symbolised by V, and a consonant on the other hand is a

marginal part and symbolised by C.

The syllable hat /hæt/ has the structure CVC-the vowel /æ/ is its nucleus and /k/and /t/ are on either side of the nucleus. There is thus a releasing consonant, the nucleus and an arresting consonant. A syllable which is arrested by a consonant is said to be a closed syllable, and one which has no arresting consonant is said to be an open syllable.

3.4 SYLLABLE STRUCTURE

The symbol C is used to represent a consonant and V to represent a vowel. For example, the word book /buk/ has the structure CVC. The structure of a syllable /buk/ can be shown thus:

C	V	C
releasing consonant	nucleus	arresting consonant

releasing,nucleus,arresting consonant. The word eye /aɪ/ is made up just one speech sound, the diphthong /aɪ/. This is the nucleus of the syllable and it has no consonant before or after it. Thus the structure of the syllable is V.

3.4.1 Monosyllabic words:

Here are a few more examples of the syllable structures-

(i) CVC

hat	/hæt/
phone	/fəʊn/
ring	/rɪŋ/
gas	/gæs/

(ii) V

I	/aɪ/
air	/eə/
ear	/iə/
a	/eɪ/
oh	/əʊ/

The r in the spelling is not pronounced in RP, except in connected speech when the word is followed by a vowel.

(iii) CV

he	/hɪ:/
day	/deɪ/

(iv) VC

Is	/ɪz/
all	/ɔ:l

who	/hu:/	eat	/ɪ:t/
law	/lɔ:/	ass	/æs/

In monosyllabic words stress is not marked.

3.4.2 Disyllabic Words- (i.e. words of two syllables each)

about	/ə-'baut/	V-CVC
study	/'stʌ-dɪ/	CCV-CV
letter	/'le-tə/	CV-CV
effect	/ɪ-'fekt/	V-CVCC
expert	/'eks-p3:t/	VCC-CVC

3.4.3 Trisyllabic words- (i.e. words of three syllables each)

civilize	/'sɪ-vɪ-laiz/	CV-CV-CVC
episode	/'e-pɪ-səʊd/	V-CV-CVC
develop	/dɪ-'ve-lə̂p/	CV-CV-CVC
usually	/'ju:-ʒuə̂-lɪ/	CV-CV-CV
linguistics	/lɪŋ-'gwɪs-tɪks/	CVC-CCVC-CVCC

3.4.4. Words of more than three syllables each

photographic	/fəʊ-tə̂-'græ-fɪk/	CV-CV-CCV-CVC
electricity	/ɪ-lek-'trɪ-sɪ-tɪ/	V-CVC-CCV-CV-CV

laxicographer	/lə̆k-sɪ-'kɔ-grə̆-fə̆/	CVC-CV-CV-CCV-CV
luxuriously	/lʌg-'ʒuə̆-rɪə̆s-lɪ/	CVC-CV-CVC-CV
tantalizing	/tæn-tə̆-'laɪz-ɪŋ/	CVC-CV-CVC-VC

A careful look at the structure of the above syllables indicates that in English, 0-3 consonants can occur in the beginning of a syllable and 0-4 consonants at the end. It is also clear that the V element is obligatory and C element optional. The nucleus of a syllable is a vowel or a syllabic consonant.

3.5 SYLLABIC CONSONANTS

A syllable consists of vowels and consonants. The nucleus or the central of a syllable is normally a vowel sound and the marginal elements are usually consonants. There are however, some syllables in which the nucleus is a consonant. Consider the following examples:

settle	/sæ-tl/	CV-CV
kettle	/ke-tl/	CV-CV
cattle	/kæ-tl/	CV-CV
little	/lɪ-tl/	CV-CV
cotton	/kɔ-tn/	CV-CV
sudden	/sʌ-dn/	CV-CV

rhythm	/rɪ-ðm/	CV-CV
battle	/bæ-tl/	CV-CV
mutton	/mʌ-tn/	CV-CV

The second syllable of each of these words is marked CV, though the final sound in these words is /n,l/, /m/ which are consonants. These consonant sounds constitute the nucleus of the syllable and known as syllabic consonants and can be phonetically represented as [m̩, n̩, l̩].

CHAPTER-4

SEGMENTS: VOWELS AND CONSONANTS

4.0 SEGMENTS

Segments are generally divided into two categories vowels and consonants. The main difference between a vowel and a consonant is one of sonority; vowels are those speech sounds which have maximum carrying power, but certain consonants, such as /l/ and /m/ also have considerable carrying power, so that a definition of a vowel must be such that it does not include these sonorous consonants.

In ordinary speech, a vowel is a voiced sound in the pronunciation of which the air passes through the mouth in a continuous stream, there being no obstruction and no narrowing and thus there is no closure and no audible friction. All other sounds are consonants.

4.1 VOWELS

4.1.1 Description of vowels:

During the articulation of vowel sounds, the lung air escapes through the mouth without any friction. This is because during the articulation of vowels. There is no obstruction in the mouth. Vowels are therefore articulated with a stricture of open

approximation. That is to say, the active articulator is raised in the direction of the passive articulator in such a way that there is a sufficient gap between them to allow the air to escape freely and continuously, without any friction. For the description of vowels, following criteria could be taken into account:

a. The Position of the Soft Palate

Whether the velum is raised to produce oral vowels, or lowered to produce nasalized vowels. This does not need to be stated every time; by convention, it is understood that, unless otherwise stated, the soft palate is in its raised position so that the nasal cavity is shut off and therefore the vowel produced is oral, not nasalized.

b. The Shape Assumed by the Lips

The lips can assume a number of positions; spread; as for the vowel in the word bead; neutral, as for the vowel in bird; open for the vowel in bard; open rounded for the vowel in hot; and close rounded for that in hoot. It is common practice, however, to regard the spread, neutral and open positions as unrounded and the other two positions are open-rounded and close rounded.

c. The Shape Assumed by the Tongue

The tongue, being the most flexible organ of speech, can assume virtually a limitless number of shapes, every change in its

shape resulting in a change in the quality of the sound produced. Thus the differences in quality between the vowels in these words beat, bit, bet and bat, for example, are mainly the differences caused by the assumption of different shapes of the tongue.

4.1.2 Naming of vowels:

Vowel segments are more difficult to describe and classify than consonant segments. All consonant segments are made with a stricture involving contact of relatively large areas of both active and passive articulators.On the other hand, vowel segments, being made with the stricture of 'open approximation', the articulators involve little contact and sometimes none at all.

The distinctive quality of sound of any vowel segment results from the general shape of the mouth and throat during its production . The mouth and throat together form a tube-shaped cavity which starts at the larynx and ends at the lips, and the configuration of this tube is called the vocal tract which is moulded by the action of these two articulators - the action of the tongue and the action of the lips. The tongue assumes a large number of very varied postures and shapes in order to produce different vowel segments, but in all these positions the upper surface of its main body is always found to be convex; the tongue always makes a 'hump' in the mouth. If, for any given vowel segment, one can state

the whereabouts during its production of the highest point in the mouth of the hump of the tongue, location of the highest point of its curved upper surface is therefore a means of describing simply and briefly for any given vowel.

In order to say whereabouts, this highest point of the tongue lies in the mouth and locates it on two axes: one horizontal, from front to back of the mouth, and the other vertical, from the floor of the mouth to its roof. However, it is usually found sufficient to have four points on the vertical axes, and three on the horizontal.The four vertical points, starting with the tongue at the greatest distance from the floor of the mouth and descending from there, are called:

close

half-close

half-open

open

In a close vowel there is contact of the sides of the tongue with the upper back teeth and the sides of the roof of the mouth, though the stricture is of 'open approximation' and there is no audible friction. An example of close vowel in the English word is see. In an open vowel, there is no contact of articulators. An example of an open vowel in the English word is far.

The three horizontal points are called:

front

central

back.

'Front' lies beneath the hard palate, 'back' beneath the soft palate, and 'central' lies below where they meet. The vowel in see is a front vowel; that in far is a back vowel: the first vowel in attain is a central vowel.

These two axes, the vertical and the horizontal give two dimensions of classification for vowels and similar to the dimensions of 'manner' and 'place' which are used for classifying consonants. The four points on the vertical axes and the three on the horizontal axis, when combined together, twelve different locations in the mouth for the highest point of the tongue.

The posture of the lips provides a third dimension of classification for vowel segments. There are two categories- rounded, when the corner of the lips are brought forward, and unrounded, when the corner of the lips are pulled back. The vowel in the English word too is a rounded vowel, that in see an unrounded vowel.

These three dimensions, therefore, give a system of three-term labels for identifying vowel segmetns.

The vowel in too is a close back unrounded vowel; that in

French lune is a close front rounded vowel. It can be seen that the order of terms in these labels is: (a) highest point of tongue, vertical axes; (b) highest point of tongue, horizontal axes; (c) lip posture.

4.1.3 Voiceless vowels:

Vowels are usually thought of as being essentially voiced and the etymology of the word ultimately derived from the Latin vox, 'voice'. Voiceless vowels may be heard in many languages. In English for example, the first vowel in the word potato, or the vowel of the word to in come to tea, or I'm going to town, are often pronounced without vibration of the vocal cords in normal conversational speech. In French also, the final vowels of intend, tant pis, or c'est tout, when they occur in conversation before a pause, are usually voiceless. Voiceless vowels are even more common in other languages, for instances in Portuguese, and in a number of American Indian languages.

A vowel may also, of course be whispered. In ordinary whispering, using the word in its popular sense, all vowels are whispered in the technical sense. They are also reported to occur in normal speech in some languages. The so-called aspirate, the sound which in English and many other languages corresponds to the letter h, is in fact a voiceless vowel. That h which is popularly called a consonant, is from the phonetic point of view a voiceless

vowel segment illustrates the ambiguous nature of the traditional terms 'vowel' and 'consonant'. It is nevertheless the case that in a word like hat, the articulatory position of the vowel is more or less assumed at the very beginning of the word, but the glottis is open briefly at the start of the chest pulse, before it assumes the position for voice: in other words, hat starts with a voiceless vowel, immediately followed by a voiced one. In fact the letter h when it is pronounced in English, represents a voiceless version of the vowel which follows it, as in who, hit, heat, heart, hurt, and so on.

Very often also, for an h between two vowel segments, the whisper position of the glottis is combined with that for voice, the vocal cords vibrating along part of their length and being merely brought close together along the rest. In this case, the resulting segment is usually called a voiced h. This sound occurs in all positions, initial and other, in words in Czech, Egyptian colloquial Arabic, and other languages.

In some languages, voiceless vowels occur following a corresponding voiced vowel. Scots, Gaelic, except in its eastern dialects; Icelandic; and some American Indian languages provide good example of this.

4.1.3 Diphthongs:

A diphthong is a glide from one vowel to another, and the

whole glide acts like one of the long, simple vowels. It begins with one vowel and gradually changes to another without any break between the two vowels within one syllable.

In many languages there are vowel segments whose quality is not constant: it changes continually while the vowel is being uttered. English has a number of such vowels. If the vowels of the two words gnaw and now, as pronounced by nearly all English speakers, are compared, it can be observed that the first has a vowel of unchanging quality, which can be prolonged at will; whereas in the course of pronouncing the second, a change takes place which is obvious to both the ear and the eye; the quality of the sound is not the same at the end as it was at the beginning, and the lips can be seen to have moved. Similarly in the word eye, a change of sound is accompanied by a change in the position of the tongue. In both cases, the change in sound and the movement of the tongue or lips or both continues throughout the vowels.

A diphthong may be described and classified in terms of its beginning and ending points, using the categories for monophthongs, with the assumption that the articulators, in their movement, take the shortest path between these points. Thus the diphthong in the word noise starts in a half-open back rounded position, and the tongue and the lips then move immediately to a half-close front unrounded position.

A diphthong can be diagrammatically represented using the vowel quadrilateral. The starting point is usually marked with a dot or a across and the direction in which the tongue moves is marked with an arrow.

4.2 CONSONANTS

4.2.1 Description of Consonants:

Consonant is a segment which occupy a marginal position in a syllable. It is a point in the constantly changing stream of speech. One can arrive at an adequate description of a consonant segment by answering the following questions about it.

(i) What is the airstream mechanism?

(ii) Is the airstream ingressive or eggressive?

(iii) What is the state of the glottis?

(iv) What is the position of the velum?

(v) What is the active articulator?

(vi) What is the passive articulator?

(vii) What is the degree and nature of the stricture?

(i) The Air-stream Mechanism: All speech sounds (vowels as well as consonants) are produced with a pulmonic/glottalic/velaric air-stream machanism (see Chapter-2).

(ii) See Chapter-2:

(iii) The State of the Glottis: Speech sounds can be classified as voiced or voiceless, depending upon the state of the glottis. If the vocal cords are wide apart and the glottis is wide open, resulting sounds are voiceless or if the vocal cords are kept loosely together and they vibrate the resulting sounds are voiced.

(iv) The Position of the Soft-Palate: Speech sounds can be classified as oral or nasal, depending upon whether the soft palate is raised so as to shut off the nasal passage of air and produce oral sounds or it is lowered to open the nasal passage of air along with an oral closure to articulate nasal sounds. Sounds can also be nasalised if the soft palate is lowered and there is oral opening simultaneously so that the lung air passes through the oral as well as nasal passage of air.

(v) The Active Articulators: The lower lip and the tongue are the active articulators.

(vi) The Passive Articulators: The upper lip and the entire roof of the mouth are the passive articulators.

(vii) Nature of the Stricture: The term 'stricture' refers to the way in which the passage of air is restricted by the various organs of speech. Here are the various types of strictures in details:

a. Complete Closure and Sudden Release: Sounds produced with a stricture of complete closure and sudden release are called plosives. The sounds /p, b, t, d, k, g/ are plosives.

b. Complete Closure and Slow Release: Sounds that are produced with a stricture of complete closure and slow release are called affricates. /tʃ/, /dʒ/ are affricate sounds.

c. Complete Oral Closure: Sounds that are articulated with a stricture of complete oral closure are called nasals. /m/, /n/ and /ŋ/ are nasal consonants.

d. Intermittent Closure: Sounds that are articulated with a stricture of intermittent closure are called trills or rolled consonants. /r/ sound is a trill or rolled consonant.

e. Close Approximation: Sounds that are articulated with a stricture of closure approximation are called fricatives. /f,v,θ,ð,s, z, ʃ,h/ are fricatives.

f. Partial Closure: Sounds that are articulated with a stricture of complete closure in the centre of the vocal tract but with the air escaping along the sides of the tongue without any friction are called lateral, /l/ is a lateral sound.

g. Open Approximation: Sounds that are articulated with a stricture of open approximation are called frictionless continuants,

e.g. /r/ semivowels, e.g. /j,w/ and vowels.

4.2.2 Naming of Consonants:

Classification by place and manner enables one to give brief descriptive names to typical consonant segments. According to this system of naming, a noun identifying the manner (such as plosive, click, implosive, nasal, trill, flap, lateral, fricative and so on) is preceded by an adjective identifying the place. The adjectives referring to place are taken from the Latin names for the articulators. In nearly all cases, it is the passive articulator which provides the adjective; thus the adjective 'labial' is used when the passive articulator is the upper lip; 'dental' is used when the passive articulator is the hard palate; velar is used when the passive articulator is the upper front teeth; 'alveolar' is used when the passive articulator is the teeth ridge; 'palatal' is used when the passive articulator is the hard palate; 'velar' is used when the passive articulator is the velum; pharyngeal is used when the passive articulator is the back wall of the pharynx.

Since the adjective usually refers to the passive articulator, it is taken for granted that the active articulator is the one which lies immediately opposite it when the vocal organs are at rest.

In certain types of stricture, the active and passive articulators are organs which do not lie, when they are at rest, immediately

opposite each other; the stricture is then said to result from a displaced articulation, and some adjective which is more specific than one indicating only the passive articulator must be used to refer to it. Segments so made are common in the languages of India, and in many other parts of the world also.

When during the production of a segment, the uvula is made to vibrate against the back of the tongue, the adjective 'uvular' is used to identify the place of production. The same adjective is also used for consonants in the production of which the root of the tongue is the active articulator, and the very back of the velum, including the uvula is the passive one. An example of such segment is the consonant [q]in classical Arabic.

In order to make a brief descriptive names of this sort adequate, the combination of adjective, referring to 'place' and noun referring to 'manner' must be preceded by a further adjective, making clear the state of the glottis. Thus one can say that the word "theme" begins with a voiceless dental fricative and ends with a voiced (bi-) labial nasal; "light" begins with a voiced alveolar lateral and ends with a voiceless alveolar plosive; and so on.

Each of these brief descriptive names therefore consists of three terms, two adjectives and a noun, corresponding to three 'dimensions' of classification and such three-term labels are

sufficient to identify most consonant segments for many, perhaps most purposes; but one does not provide anything like a complete description of how the vocal organs form the consonant in question. More precise descriptions can be obtained by adding to the number of 'dimensions' of classification. Thus, in addition to the dimensions of place, manner, and voicing, it may sometimes be important to specify the shape of the active articulator which gives a fourth dimension of classification. The shape of the articulator is often the chief difference between the initial consonant of the English word 'sip' and that of the English word 'ship'. With many speakers, both can fairly be described as voiceless alveolar fricatives, but the former is made with a groove, from front to back, in the articulator. The two can then be distinguished from each other by calling the former voiceless grooved alveolar fricative.

When discussing dental and alveolar consonant segments, it is also sometimes necessary to specify explicitly the active articulator, which is usually implicit in the adjective for 'place' and taken as understood. This is because both "the point of the tongue" and "the blade of the tongue" may be supposed to lie, when in a position of rest, beneath the upper teeth and the teeth ridge. Therefore a consonant described simply as dental may be made with either the point or the blade of the tongue articulating against the upper teeth, and similarly a consonant described simply

as dental may be made with either the point or the blade of the tongue against the teeth-ridge; very often one does not need to say specifically which of the two is the case. However, /s/ and /ʃ/ sounds, are both alveolar, can be made in either way and sometimes it is an advantage to be able to draw attention to whether it is the point or the blade that is being used. One can do this by employing, the adjective "apical" to mean that the point of the tongue is the active articulator, and the adjective "laminal" to mean that the blade of the tongue is the active articulator. The following convenient compound adjectives, identifying both articulators at once may be used in three term labels instead of the simple dental and alveolar when necessary; apico-dental, lamino-dental, apico-alveolar, lamino-alveolar. Some English speakers use apico-alveolar /t/ and /d/ sounds, while others use lamino-alveolar ones. The /t/ and /d/ sounds of most French speakers are lamino-dental.

The following are examples of how three-term labels are applied to various consonant segments;

/f/ in English word "fan" is a voiceless labio- dental fricative.

/l/ ll in Welsh word "llan" is a voiceless alveolar fricative lateral.

/ɲ/gn in French word "Montagne" is a voiced palatal nasal.

/ř/ in Czech name "Dvořak" is a voiced alveolar fricative trill.

/tʃ/ch in Scottish word "loch" is a voiceless velar fricative.

/h/ in the Arabic name "Mohammad" is a voiceless pharyngeal fricative.

4.2.3 (A) Place of Articulation:

The place of articulation of a consonant is determined by the passive articulator(s) involved in the production of it, and for this reason, the sound is also named after the passive articulator. Following are the most commonly known places of articulation:

a. Bilabial- The two lips are the articulators/p, b,m/ are bilabial sounds.

b. Labio-dental- The active articulator is the lower lip and the passive articulators are the upper front teeth, /f,v/ are the labio-dental sounds.

c. Dental- The tip of the tongue is the active articulator and the upper front teeth are the passive articulators. /θ,ð/ are the dental sounds.

d. Alveolar- The tip or the blade of the tongue is the active articulator and the teeth ridge is the passive articulator. /t,d,n,s,z,l/ are the alveolar sounds.

e. Post-alveolar- The tip of the tongue is the active articulator

and the part of the roof of the mouth that lies immediately behind the teeth ridge is the passive articulator, /r/ is an example of post alveolar sound.

f. Palato-alveolar- The tip of the tongue is the primary active articulator and the teeth ridge is the primary passive articulator. Front of the tongue is the secondary active articulator and hard palate is the secondary passive articulator. /tʃ, dʒ, ʃ,ʒ/are the palato-alveolar sounds.

g. Retroflex- The curled back tip of the tongue is the active articulator and the hinder part of the teeth ridge is the passive articulator. /ʈ, ɖ, ɽ/ are some examples of retroflex consonants, most commonly used in Indian languages.

h. Palatal- The front of the tongue is the active articulator and the hard palate is the passive articulator /j/ is an example of a palatal sound.

i. Velar- The back of the tongue is the active articulator and the soft palate is the passive articulator. /k,g/ are velar sounds.

j. Uvular- The rear part of the back of the tongue is the active articulator and the uvula is the passive articulator. The initial sound in the Urdu word 'pen' is an example of a uvular sound.

k. Glottal- Glottal sounds are produced at the glottis and the

two vocal cords are the articulators, /h/ is an example of a glottal sound.

B. Manner of Articulation- The manner of articulation specifies the kind of closure or narrowing involved in the production of a sound. No consonant sound is fully identified, or described, without stating the manner of its articulation.

a. Plosive- There is, first, a complete closure of the passage of air at some point in the vocal tract, air pressure is built up behind the closure. The closure is then suddenly removed, causing, in the process, a sudden release of the blocked air with some explosive noise. /p, b, t, d, k, g/ are plosive consonants.

b. Affricate- Affricates are produced in three stages, the first two of which are the same as for plosives - a complete closure of the air passage followed by the building up of pressure behind the closure. The third stage is different since the passive articular is removed slowly from the active articulator resulting into slight friction due to the slow release of the blocked air. English /tʃ,dʒ/ are affricate sounds.

c. Nasal- In the production of nasals, there is a closure only of the oral passage, while the nasal passage remains open. The lung air can thus pass freely through the nose. /m,n,ŋ/ are nasal sounds.

d. Roll- The tip of the tongue taps against the alveolar ridge or the uvula against the back of the tongue, several times, so that the air passes only intermittently between the articulators, /r/ is a roll sound.

e. Flap- Whereas a roll consists of several taps, a flap has a single tap. In all other respects, the manner of articulation of the two is the same. The /r/-sound is very often produced as a flap sound.

f. Lateral- A lateral is produced when there is only a partial closure at some point in the mouth, so that the air stream can escape on one or both sides of the contact. Since the air can pass continuously, the sound produced is a continuant. /l/ is a lateral consonant.

g. Fricative- In this case, there is no closure anywhere; there is only a narrowing. The active articulator comes very close to the passive articulator, leaving only a narrow gap between the two. When the air passes through this narrow gap, it causes audible friction, fricatives are continuants. They are accompanied by audible friction. /f,v,θ,ð,s,z,ʃ,ʒ and h/ are fricative consonants.

h. Frictionless continuants- When the active and passive articulators do not come very close to each other and there is sufficient space between them, no audible friction accompanies

the sound produced. [ɹ] is a frictionless continuant.

i. **Semi-vowel-** Semi-vowels are phonetically vowel like since they are produced with a stricture of open approximation and functionally they are consonants as they occupy marginal positions in a syllable /j/ and /w/ are semi vowels.

4.3 SECONDARY AND DOUBLE ARTICULATIONS

4.3.1 Secondary Articulations:

Although the description of a vowel segment appears to concentrate attention on the lip posture and on the position of one particular part of the tongue. The terms of place and manner inform about the state of affairs at one particular point in the vocal tract, but what goes on elsewhere is usually ignored, and one does not refer to it when assigning a consonant segment a three term label. Nevertheless, there are occasions when it is necessary to draw attention to aspects of the vocal tract other than place and manner of the stricture and when this is so, one does it in terms of secondary articulations secondary because the stricture referred to by place and manner in the classification of a segment is regarded as its primary articulation.

The primary articulation of a voiced labial nasal, the first segment of the English word me for example, is a stricture of

complete closure between the two lips. Behind ths primary articulation lies whole of the rest of the vocal tract in which the tongue is free to assume any shape since it is not involved in the primary articulation. The variety of shapes assumed by the tongue in English voiced labial nasals is probably not very great. There is undoubtedly a difference between the m of me and the m of move in tongue position, but it is a small one. However, in certain other languages, segments which are also labelled voiced labial nasals are accompanied by more extreme modification of the vocal tract behind the lips by the tongue. In Russian, for example, it is possible to have a voiced labial nasal in which the tongue is raised high in the front of the mouth, in the same position as for a close front vowel. In Egyptian colloquial Arabic, it is possible to have a voiced labial nasal in which the tongue is low in the mouth and retracted towards the back wall of the pharynx. In all these, the secondary articulation is a stricture of open approximation of the articulators, and as such involves less constriction of the vocal tract than the primary articulation does, whatever it may be. The secondary articulation may be either in front of, or behind, the primary articulation. Other terms for the secondary articulations can be coined on these models as the need arises. Often a consonant is produced using two points of articulation, one closure (the 'primary' articulation) being more marked than the other (the 'secondary'

articulation). There are four main kinds of secondary articulation.

a. Labialisation- The lips are rounded at the same time as the primary articulation is made, as in the initial consonant of sue and shoe. A labialized consonant indicated by [$_{w}$] placed beneath the main symbol, or [^{w}] placed after it, as in [s$_{w}$], [s^{w}].

b. Palatalization- The tongue is raised to a high front position at the same time as the primary articulation is made. An [i] vowel resonance is added to the consonant, and is symbolized by a small raised [^{j}]. Palatalized consonants are found, for example, in Slavonic languages- as in the contrast between Russian palatalized [t^{j}] e.g. [brat^{j}] 'to take') and non-[palatalized [t] (e.g. [brat] 'brother').

c. Velarization- The tongue is raised to a high back position at the same time as the primary articulation is made. An [ɯ] vowel resonance is added to the consonant, and is symbolized by the sign [~] through the consonant symbol. A velarized [ɬ] can be heard in English, as in pool. A series of velarized sound occurs in Arabic.

d. Pharyngealization- The pharynx is narrowed at the same time as the primary articulation is made. An [ɑ] vowel resonance is added to the consonant and is symbolized by the [~] diacritic - the same as for velarization, but as no language is known to contrast these articulations, there is no ambiguity, Pharyngealized consonants are found, for example, in Arabic.

e. Nasalization- The position of the velum forms part of the definitions of stop and of nasal. Nasalization is not, strictly speaking, a secondary articulation, either in the case of vowels or consonants even though it is often, and conveniently, classed among secondary articulations. For example, nasalized sounds are generally represented by [~] placed above the symbol of the normal sound. The best known cases of nasalized sounds are the French vowels [$\tilde{\varepsilon}$ $\tilde{a}$ $\tilde{o}$]. Such sounds do not occur in Received English.

4.3.2 Double Articulation:

A double articulation is different from a primary articulation accompanied by a secondary articulation, where the latter is subordinate to the form; or a double articulation consists of two structures of equal importance, and in such a case the descriptive label has to contain two terms of place. For example, a voiceless alveolar-velar fricative is found in some dialects of Swedish: it is as if the ch of Scottish loch and the sh of shall were said at the same time. Rounded vowels, strictly speaking, are examples of double articulations.

4.4 ISOLATION

Isolation refers to the separation of any given segment from its environment in natural speech. Various electronic devices exist by means of which any piece, however small, of a recorded

utterance can be separated from the rest of the utterance, and reproduced by itself. Isolation is feasible with the living and not a recorded voice. To isolate a piece of one's own speech is to hold the speech organs static in a position which is normally rapidly passed through, thus turning a point in the continuum of movements into a sustained posture. With the organs of speech artificially arrested, the posture is available for examination by the senses of touch, sight, and kinesthetic awareness, and if necessary also by instrumental means.

Isolation involves four successive steps, and they are all difficult for the beginner. The first step is to say the word or utterance, from which the segment is to be isolated, in a natural manner. It is an artificial situation, and only after experience does one gain confidence that an approximation to a natural utterance is being produced. The second step is to arrest the continuum of movement at the desired point, and at first this will probably have to be done by successive reductions of what is on either side of this point. The third step is to prolong this point ad libitum, after it is isolated, without changing in any way its quality or posture. The fourth step, which requires a lot of practice with the preceding three, consists of hitting on this artificially isolated posture from memory, without having to refer back first to the utterance from which it was isolated.

When an isolated segment can thus be obtained with confidence, and when it can be said long, loud, and (if voiced) level in pitch, the posture of the organs of speech during its production can be examined and classified according to these principles.

4.5 TAXONOMIC TERMS

Given below is a list of taxonomic terms, or terms of segment classifications with brief definitions:

Alveolar- Sound is produced with the teeth-ridge as passive articulator, and either the point or blade of the tongue as active articulator. For example, [t,d,n,s,z,l] sounds in English.

Alveolar-velar- Sound is produced when the teeth-ridge and the soft palate are simultaneously passive articulators, and the point or blade of the tongue and the back of the tongue are simultaneously active articulators. For example, it is found in some dialects of Swedish; it is as if the [tʃ] and [ʃ] sounds of Scottish were said at the same time.

Apical- Sound is produced when the point of the tongue is active articulator, For example [t̪] sound in Hindi.

Apico-alveolar- Sound is produced by the point of the tongue as active articulator and the teeth ridge as passive articulator. For

example, some English speakers use [t,d] sounds as apico-alveolar.

Apico-dental- Sound is produced with the point of the tongue as active articulator and the upper front teeth are passive articulator. For example, [t̪,d̪] sounds in Hindi.

Approximant- Sound is produced by the central passage of the air-stream and open approximation of the articulators. For example, [w,j] sounds in English.

Aspiration- A period of voicelessness after the release of an articulation.For example, "pie" [pʰai] in English.

Back Vowel- Sound is produced when the highest point of the tongue lies beneath the soft palate. For example, [uː,u,ɔː,ɔ,aː] are back vowels in English.

Bilabial- Sound is produced when the two lips are articulators, for example, [p,b,m] sounds in English.

Bilateral- A lateral sound is produced when the air-stream passes round both sides of the central obstruction.For example [l] sound in English.

Central Vowel- Sound is produced when the highest point of the tongue lies beneath the junction of hard and soft palates. For example, [ə,ʌ,ɜː] are central vowels in English.

Close vowel- Sound is produced when the highest point of the tongue is close to the roof of the mouth. For example [ɪ,iː] are close vowels in English.

Clear- Sound is produced along with the tip or blade of the tongue making a firm contact with the teeth-ridge, the front of the tongue is raised in the direction of the hard palate. For example, [l] sound is clear or palatalized when it is followed by a vowel or [j] sound.

Cardinal vowels- A cardinal vowel is a fixed and unchanging reference point, established within the total range of vowel quality, to which any other vowel sound can be directly related. A number of such reference points constitutes a system of cardinal vowel, and any vowel in any language, can be identified by being 'placed' within the system.The eight cardinal vowels, therefore, are eight equally spaced auditory points forming a kind of scale of vowel quality. The symbols of the IPA alphabet which have been alloted to the cardinal vowels are as follows: [ɪ,e,ɛ,a,ɒ,o,ɔ,u].

Dark- Sound is produced along with the tip or blade of the tongue making a firm-contact against the teeth ridge, the back of the tongue is raised in the direction of the soft palate. For example, [l] sound is dark or velarized when it is word-final or followed by a consonant.

Dental- Sound is produced by the upper front teeth as passive

articulator and either the point or blade of the tongue as active articulator. For example, [θ,ð] sounds in English.

Diphthong- The vowel at the end does not sound the same as the vowel at the beginning. Such vowels of changing quality are called diphthongs. For example, [eɪ,aɪ,ɔɪ,au,ɪə,ɛə,uə,əu] are diphthongs in English.

Egressive- During the articulation of speech-sounds, the air-stream moves outwards. For example, the English sounds are egressive.

Flap- Sound is produced when the active articulator strikes against the passive articulator just once and then quickly flaps forward. For example, [ɣ] sound is pronounced as flap by some English people.

Fricative- Sounds that are articulated with close approximation of the articulators, and central passage of the air-stream.For example, [f, v, θ,ð,s, z, ʃ, h] sounds in English.

Fricative-lateral- Sounds that are articulated with close approximation of the articulators, and lateral passage of the air-stream. For example, [ll] sound in Welsh.

Fricative-trill- Sounds that are articulated with close approximation of the articulators are fricative-trill, For example,

[ř] sound in Czech-segments of the type are somewhat uncommon.

Front vowel- Sound is produced when the highest point of the tongue lies beneath the hard palate. For example, [i:,ɪ,e,æ] are front vowel in English.

Glottal- Sound is produced by the action of the vocal cords. For example [h] sound in English.

Glottalic- Sound is produced when an air-stream initiated by the movement of the larynx, with the closed glottis. For example, Sindhi has sounds articulated with glottalic air-stream mechanism. (Those sounds are called implosives).

Half-close vowel- Sound is produced when the highest point of the tongue is higher than half way between its positions for a close and open vowels. For example, [ɪ,u] are half-close vowels in English.

Half-open vowel- Sound is produced when the highest point of the tongue is lower than half way between its position for a close vowel and its position for an open vowel. For example, [æ,ə] are half-open vowels in English.

Ingressive- During the articulation of speech sounds, the air-stream moves inwards.Examples of the sounds produced by an ingressive air-stream are found in languages of the Caucasus, of Africa, the best known of which are Zulu, Hottentot and Bushman

and of central and North America.

Lamino-alveolar- Sounds are articulated when the blade of the tongue is active articulator, and the teeth ridge is passive articulator.For example, [t,d] sounds in English are sometimes used as lamino-alveolar.

Lamino-dental- Sound is produced when the blade of the tongue is active articulator, and the upper teeth are passive articulator. For example, [t,d] sounds of most French speakers are lamino-dental.

Labial-alveolar- Sound is produced when the upper lip and the teeth ridge are simultaneously passive articulators, the lower lip and the point or blade of the tongue are simultaneously active articulators. For example, these stop are rare, but can be found in Nzema, a language of Ghana.

Labial-velar- Sound is produced when the upper lip and the soft palate are simultaneously passive articulators, the lower lip and the back of the tongue are simultaneously active articulators.For example, these stop sounds are found in languages of West Africa.

Labio-dental- Sound is produced when the lower lip is active articulator, and the upper front teeth are passive articulators. For example, [f,v] sounds in English.

Lateral- Sounds that are articulated with a stricture of complete closure in the centre of the vocal tract but with the air escaping along the sides of the tongue without any friction. For example, [l] sound in English.

Labialized- Sound is produced with secondary articulation by the rounding of lips just as for a rounded vowel. For example, [ʃ] sound in English is a voiceless palato-alveolar fricative; but as most speakers of English pronounce it as labialized.

Monophthong- Vowels that do not change their quality are called monophthongs or pure vowels. For example, [ɪ,ɪːe,æ,aː,ɔ,ɔː, ʊ,uː,ʌ,ə:,ə] sounds are monophthongs in English.

Nasal- Sound is produced with complete closure in the mouth and no velic closure, the air-stream escapes through the nose. For example, [m,n,ŋ] sounds in English.

Nasalized- Sound is produced with no velic closure, but the air-stream escaping partly through the mouth as well as the nose. For example, [$\tilde{\varepsilon}$,ũ,Õ], sounds in French.

One-tap-trill- Sound is produced when the active articulator strikes only once against the passive articulator. For example, [ɾ] sound in English and Spanish.

Open vowel- Sound is produced when the highest point of the

tongue is as far as possible from the roof of the mouth. For example, [a:] sound in English.

Palatal- Sound is produced when the hard palate is passive articulator and the front of the tongue is active articulator. For example, [j] sound in English.

Palatalized- Sound is produced with secondary articulation made by raising the front of the tongue towards the hard palate. For example [l] sound in Russian, Gaelic and in English especially in England and in Ireland.

Palato-alveolar- Sound is produced when the junction of teeth-ridge and hard palate is passive articulator, and the blade of the tongue is active articulator. For example, [ʃ] sound in English.

Pharyngeal- Sound is produced when the back wall of the pharynx is passive articulator, and the root of the tongue is active articulator. For example, [h] sound in Arabic.

Pharyngealized- Sound is produced with secondary articulation made by retracting the root of the tongue towards the back wall of the pharynx. For example [l] sound in Arabic and in South England.

Plosive- Sound is produced with a stricture of complete closure and sudden release. For example, [p,b,t,d,k,g] sounds in English.

Pulmonic- An air-stream initiated by the movement of the respiratory muscles. The walls of the lungs act as the initiator. For example, all English sounds are produced with pulmonic air stream mechanism.

Retroflex- Sound is produced when the hard-palate is passive articulator and the tip of the tongue is active articulator. For example, [t,d] sounds in Indian languages.

Retroflexed- Sound is produced with secondary articulation made by raising the tip of the tongue towards the hard palate. For example, [ɹ̩,ɔ̩,ð̩] sounds in the South-West of England and America.

Rounded vowel- Sound is produced with the corner of lips brought forward.For exmple, [ɔ,o,u] sounds in English.

Stop- Sound is produced by a stricture of complete closure, i.e. oral as well as velic closure.Due to these two closures the air-stream, if egressive, is momentarily completely dammed up, and unable to get through the vocal tract at all. The air is, therefore, compressed behind the point of articulation and escapes with a small explosion when the active articulator is removed from the passive articulator. If the air-stream is ingressive, on the other hand, the air behind the point of articulation is rarefied, and there will be a sudden rush of air inwards, instead of outwards, when the active articulator is removed. In both cases, some sort of a

popping noise, will result. For example, [p,b,t,d,k,g] sounds in English.

Stops have special names made with different air-streams, Examples:

	ingressive	**egressive**
pulmonic		plosive
glottalic	implosive	ejective
velaric	click	

Trill- Sound is produced with a stricture of intermittent closure. For example, [r] sound in Portuguese and occasionally in German and French.

Unilateral- A lateral sound is produced when the air-stream escapes round one side only of the central obstruction.For example, [ll] sound in Welsh.

Unrounded vowel- Sound is produced with the corner of the lips pulled back. For example, [i:,ɪ,e,æ] sounds in English.

Uvular- Sound is produced when the end of the soft palate with the uvula is passive articulator and the root of the tongue is active articulator. For example, [q] sound in Urdu.

Velar- Sound is produced when the soft palate is passive articulator and the back of the tongue is active articulator. For examle, [k,g,ŋ] sounds in English.

Velaric- An air-stream initiated by the back of the movement of the tongue, when it is in close contact with the soft palate. For example, sounds produced by an ingressive velaric air-stream are found in certain African languages, the best known of which are Zulu, Hottentot and Bushman. These sounds are called 'clicks'.

Velarized- Sound is produced with secondary articulation made by raising the back of the tongue towards the soft palate.For example, [l] sound in Russian and Gaelic.

Voiced- Sound is produced when the glottis is closed and the vocal cords vibrate when the lung air passes through the closed glottis.Examples: [b,d,g,dʒ,v,ð,z,m,n,ŋ,w,r,j] sounds in English.

Voiceless- Sound is produced when the vocal cords are held wide apart and the glottis is open. For example, [p,t,k,tʃ,f,θ,s,ʃ,h] sounds in English.

Whispered- The glottis is narrowed, the vocal cords are brought close together, but not so close that they are set into vibration. The air-stream, however, is impeded by this narrowing as it passes through the glottis, and this cuts down the force of the air-stream and also produces a soft hissing noise.Any segment of an utterance which is produced with narrow glottis is an example of the whispered segment.

CHAPTER-5

STRUCTURE AND SYSTEM

5.1 PHONOLOGY

The four preceding chapters examined the sounds of human speech in a general way, and discussed their production and classification. The next step is to consider how the sounds are organized in a particular language. The term 'phonology' is often used for the study of the sound patterns of a language.

Each language uses only a limited number of speech sounds human being can produce. These sounds are then organised into characteristic patterns. They are grouped into significant sound units which are arranged in structures and systems. The term 'structure' refers to what are called syntagmatic relations between units, that is, the way these units are arranged in a sequence to form larger units. The term 'system' is used for what are called paradigmatic relations that is, the way these units form classes on the basis of the places they can take in the structures of the language. For examples, in the spoken English sentence-look at the rat - there occurs a phonetic unit which can be identified as being represented by the letter r in the spellings; it forms part of the linguistic entity, namely-at. It is in paradigmatic relation with those other phonetic units which

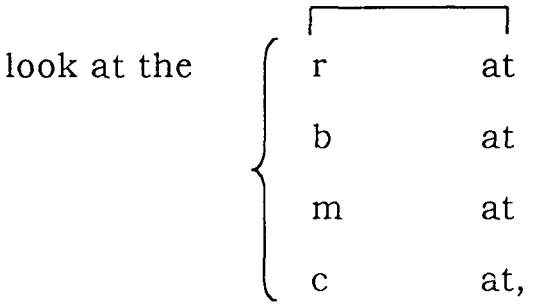
could also be found in English in the same place in a linguistic entity as r is; for example, c,b,m.

look at the cat,

look at the bat,

look at the mat, and so on

The two kinds of relation can be shown thus:



the horizontal link expresses the syntagmatic relations of r and the vertical link indicates the paradigmatic relations of r. It is therefore quite obvious that r belongs to a system of elements which can occur in a certain place of a structure in a certain type. Hence, the system is a complete inventory of the elements possible in that particular place; and the structure in this particular case is a single syllable, which is also a word, beginning as well as ending with a consonant.

5.2 STRUCTURE

The pulmonic air- stream mechanism is responsible for the

production of a syllable. Its basis is a chest- pulse, on which are superimposed the articulatory movements of the vocal cords and the velum which produce segments. A syllable can be divided into three phases.

(a) the starting by a chest-pulse of a small amount of air on its way out from the lungs;

(b) the passage of this air through the vocal tract;

(c) the conclusion of the movement of this air.

The four monosyllabic words in English ear, tea, egg, bat will illustrate these three points. These segments are related to the phases of the syllable as follows:

1	**2**	**3**
	ear	
t	ea	
	e	gg
b	a	t

Each phase of the syllable corresponds a place in the syllable structure, and different patterns of structure arise from the manner in which the three places are filled by segments, which

represent the elements of syllable structure. There are two kinds of elements, and symbols have already been introduced by means of which the patterns can be expressed in formulas. The symbol V is used for the element in place **2** which is obligatory and which may be called the syllabic element; and C is used for the releasing and arresting marginal elements, which are optional, in place 1 and 3. O or zero indicates the empty place with no element of structure there. Thus in the four words, syllables can be exemplified indicating the following four different patterns:

	1	**2**	**3**
ear	O	V	O
tea	C	V	0
egg	0	V	C
bat	C	V	C

The difference between these structural patterns lies only in whether the marginal places are filled or empty. They are four very simple patterns. Other, less simple patterns are possible which arise from complex articulations occurring at the marginal places, resulting in several C elements there instead of just a single one. For example, the English, syllable screens

has CCC in place **1**, and CC in place **3**: its structural pattern is CCCVCC. Sequences of C elements of this kind are known as consonant clusters; by the size of a cluster is meant the number of C elements contained in it.

Different languages make use of different ranges of patterns of the syllable structure. Some languages have an even larger number than English, while others have a more restricted range. There is no language known that allows only one patterns, though there are many which have only two. For example, Keresan (a language of the Rio Grande Valley) makes use of the patterns CVC and CVO only, and no other is permissible. These two patterns of syllable structure can be expressed in a single generalized formula (CV(C), where the brackets round the C indicates the optional presence of an element at that place - (C) is equivalent to 'either C or O'. The existence in a language of only these two particular syllable patterns, where C is obligatory in place 1, is not a common state of affairs. A number of languages make use of only two patterns OVO and CVO, having place 3 always empty. Japanese is such a language, and so are many Polynesian languages. A generalized formula for these languages, constructed in the same way as the one for Keresan, would be (C) VO.

Some languages, for example, Cantonese have all four of the simple patterns OVO, CVO, OVC, CVC. Among the languages which do permit consonant clusters, differences are found in the size of the clusters, and in the structural place where they are permitted. For example, both Spanish and Arabic syllable patterns contain clusters, but of not more than two consonants. In Spanish, clusters are only permitted in place 1, while in Arabic they are only permitted in place 3. The largest possible cluster in place 1 in English is CCC, and the largest in place 3 is CCCC. In Georgian and in other languages of the Caucasus clusters of upto six consonants can be found in place **1**. Some American Indian languages also allow clusters of this size.

A generalized formula for English syllable structure constructed in the same manner as the preceding ones, would be (C)(C) (C) V (C) (C) (C) (C). There is a simple way of generalizing syllable structure formulas for languages which have clusters. For example, the formula of English would be Co_{-3} V Co_{-4}. The subscript figures here indicate the possibilities, the number of elements for that place of syllable structure. Thus Co_{-3} means that there can be anything from no to three C elements in place **1**. Some languages have structural restrictions of various kinds which operate within the limitations imposed by the range of patterns of their syllable structure. Thus in English the

consonant corresponding to the letters ng in the word sing, a voiced velar nasal, can represent a C element in place **1**. To converse restriction applies to the consonant h at the beginning of the word hang this can represent a C element in place **1**, but never in place 3. A voiced velar nasal is free from this structural restriction in many other languages such as Sanskrit or Arabic.

In the account of syllable structure, the examples have been chosen not just syllable but single syllable words or monosyllables from English. It is sufficient to describe the structure pattern of monosyllables in some languages: they will be the structure patterns of all syllables, including those that go to make up polysyllables, or words of more than one syllable. This would be the case with French. There are various restrictions on the C and V elements of monosyllables which do not always apply to the constituent syllables of polysyllables. For example, tr is not permissible as an arresting cluster in a monosyllable; but it is an arresting cluster, in the pronunciation of many people, in the first syllable of the polysyllable petrol.

Restrictions which concern vowels in English monosyllables do not always apply in polysyllables. The vowels in the words sit, hut, cook can only represents the V element in a monosyllable if place **3** is filled. They cannot occur in a syllable pattern which ends in O.

In many languages, restrictions are found in polysyllables, on what may fill word-initial places or word final places. Thus the consonant which is found in the middle of the word treasure can never be word initial in English, though it may be syllable-initial within the word, as in many people's pronunciation of measure. In German fricatives and stops are always voiceless in word final position. In Finnish, only five consonants, l,n,r,s,t are permissible in word-final position, though others can be syllable- final within the word. In Finnish no clusters are allowed in word final position, though releasing clusters are found elsewhere within the word.

However, syllable division in English does not by any means always go according to the etymology, and sometimes one finds quite unexpected divisions, even when the consonant sequence extends over two words. There is a good deal of personal variation in this point, but the following examples of unexpected syllable division have been noted within words; war-drobe, teas-poon, atmos-phere, ea-chother, ba-ckward, mi-stake, and between words: extre-me, a- tleast, a-thome, thi-safternoon.

Another structural point arises with polysyllables, usually the syllabic element. In the central place of the syllable, is represented by the kind of segment is called a vowel,. For example, in the second syllable of the polysyllable button, as

pronounced by most English speakers, there is no vowel between the t and the n. The n of button, when the word is pronounced in this way is called a syllabic n̩.

5.3 VOWELS AND VOCOIDS

'Vowels' and 'consonants' can be defined according to the general phonetic form of the segment, Vowels can be defined as modifications of the voice i.e. sounds that involve no closure, friction, or contact of the tongue or lips and all other segments are termed as consonants.

A **vocoid** is a segment with a stricture of open approximation, with or without a velic closure, and with central passage of the airstream. All other segments are contoids. The term syllabic for a segment representing a V element of syllable structure, and non-syllabic for a segment representing a C element of syllable structure. For example, in English, a syllabic vocoid in awe, a non-syllabic vocoid at the beginning of yes, a syllabic contoid in the second syllable of people and a non-syllabic contoid at the beginning of bat.

Syllabic vocoids and non-syllabic contoids are the most common in the languages of the world. Non-syllabic vocoids and syllabic contoids are rare. Voiced non-syllabic vocoids, besides those at the beginning of English yes and wet, are found at the

beginning of English run, and at the beginning of French huit; and voiceless non-syllabic vocoids of various qualities are found at the beginning of English he, who, half, and in many other words in many other languages. Syllabic contoids are often heard in interjections, such as English sh! or hmm ! Syllabic l and n are found in many languages besides English; syllabic m is found in many African languages; a syllabic trill r is found in Serbian. In English many syllabic contoids can be detected in informal rapid speech. For example, in never forget a syllabic V sometimes makes up the whole of the second syllable of never.

5.4 QUANTITY

The term 'quantity' can be defined as the relative length- the duration in time - of segments. From the point of view of general phonetic taxonomy, the length of a segment is quite irrelevant; but it may have phonological importance from the point of view of syllable structure.

In many languages a fixed and predictable relationship holds between the lengths of segments in a syllable. This is true of most kinds of English. All monosyllables in English tend to be of the same length under similar circumstances. The total length of a monosyllable is made up by the lengths of the individual segments that constitute it. Releasing consonants contribute

little; they are uniformly very short. The relative length of the remaining segments on two factors. The first factor is the pattern of structure in which they find themselves. Thus the vowel in a syllable of the pattern CVO is longer than the vowel in a CVC pattern, which in turn is longer than a vowel before a voiceless one. The overall length of the two monosyllables heat, seat is the same, but the vowel of the first has about twice the duration of that of the second. The second factor is illustrated by the fact that the vowel in heat has greater duration than the vowel in hit, and the vowel in seat than that in sit. These two vowel sounds always have this difference of length when they occur in the same circumstances.

There is a difference in vowel duration between the two monosyllables sit and seat, they both exemplify the same pattern of syllable structure, namely CVC. The two monosyllables leak and leek. in this particular accent must be regarded as exemplifying different patterns. The first is CVC, but the second is best formulated as CVVC, the long vowel being indicated by the two Vs. A difference of vowel length which makes a difference of syllable structure is called a difference of vowel quantity.

The particular type of Scottish accent is unusual most accents of English do not have structural distinctions of either

vowel or consonant quantity. Such distinctions are found in many languages. They are most common where vowels are concerned less common where arresting consonants are concerned (Gaelic and Finnish are examples of languages which have distinctions of vowel quantity) for example, Arabic and Hungarian.

There are occasions when a vowel posture is maintained for longer than it is in other circumstances in the language, but its duration extends over two syllables. The word pitying, in the pronunciation of many English speakers, has the same vowel posture maintained from the t to the ng, but a chest-pulse occurs in the course of it. i.e. it represents VV. The French word creer, similarly has the structure CCV-V,it contains a single vowel posture, but two syllables which is known as double vowel, which must be distinguished from long VV in peak. Double consonants also must be distinguished from long consonants. A double consonant is one whose duration extends over two syllables, whereas the duration of a long consonant is confined to a single syllable. Double consonants are frequently found in English, especially at word junctions: un-known, book-case, this-sunday, etc.

5.5 SYSTEM

The concept of 'system' is used for describing the phonology of a language which deals with paradigmatic relations. A system is an inventory of the items in a language that can represent one of the two elements of structure, C or V; there is thus a C-system and V-system. The two are often referred to together as the sound system of a language. Language can differ from each other in the matter of system as well as in structure.

An immediately obvious difference between languages is in the size of their systems, that is to say in the number of items they contain. V-systems, for instance, may range from three items, as in Classical Arabic and some modern forms through five (modern Greek, Spanish), seven (Italian) eight (Turkish), to much larger systems such as those used by educated speakers in Britain, which may comprise from thirteen to twenty one items, C-systems, also, may be small; Hawaiian has eight, English twenty-two, Scots Gaelic about thirty, some American Indian languages, such as Tlingit, spoken in Alaska, over forty.

There seems to be no necessary relation between the size of the V-system of a language and the size of its C-system; both may be large, or both small, or one small and the other large. For example, Kabardian a Caucasian language, which has forty

five items in its C-system, and three in the V-system. The other difference between languages concerning C and V systems lies in the way they use the general resources of the medium. There is nothing striking about English. Thus a C-system with no labial contoids at all is found in Tlingit; and a C-system with no nasal consonants at all is found in Wichita, an American Indian language spoken in Oklahoma. A similar general phonetic characteristic of a system is the presence of a very large number of items made with a glottalic eggressive airstream, such as in Kabardian, or of a large number of items made without voice, such as in Icelandic or Gaelic.

Systems can usually be set out according to general phonetic taxonomic categories so as to reveal symmetries of various sorts in the system; indeed there is a strong tendency towards symmetry in the phonology of languages. If, for example, a hitherto undescribed language is under investigation, and in its C-system voiced and voiceless velar stops, voiced and voiceless dental stops, and a voiced labial stop, are found. Such symmetrical pairing of voiced and voiceless stops and fricatives is very widespread. For example, in Egyptian and Arabic no voiceless labial stop is found in C-system. In V-systems also the same kind of symmetry is found; thus a system of six items might consist of three front vowels and three back vowels, or it

might consist of two front, two central and two back. In Icelandic, six front vowels and only two back vowels is having in its V-system.

5.6 PHONEME THEORY

Every language has a large number of vowel and consonant sounds forming the sound system of that language. These sounds can be grouped into a limited number of distinctive sound units which are called the phonemes of that language. Phoneme theory relates a great deal of the variation in the phonetic quality of segments to their environment. It thus reconciles the extensive variety of segments with a limited size of systems. The items in a system are phonemes, not segments and the number of phonemes is much more limited than that of segments in a language. It is possible, in any language, to formulate rules by which the phonetic quality of any given segment can be accounted for (a) by indicating the phoneme it represents and (b) by revealing its environment.

A phoneme therefore is a group of segments which are different from the point of view of general phonetic taxonomy, but have the same function phonologically. The segments which a phoneme comprises, or which represent it, are said to be members of that phoneme or allophones of it. Each allophone is

tied to a certain kind of environment: it never occurs apart from certain features in the environment. In any language, every discriminable allophone has an environment that goes with it. It often seems obvious why different allophones of a phoneme are tied to particular contexts. For instance, sit and sat, the differing points of contact between the tongue and roof of the mouth for the initial consonant-further forward in the former, further back in the latter. The tongue having to travel the minimum distance in order to reach the posture required for the following vowel. Allophones are not grouped into phonemes by nature, but by the phonology of a particular language. For example, in French a difference between the consonant segments of qui and cas which is similar to the difference between the consonant segments in English key and cas. Phoneme theory can be identified by the existence of minimal pairs in a particular language. A minimal pair is a set of two words which differ from each other in one sound. Meat and neat constitute a minimal pair in English and differ from each other in the initial consonant. Pin and spin do not constitute a minimal pair because spin has an additional sound. So, it can be said that a phoneme is a minimal distinctive sound unit of a language.

Therefore, it can be said that the concepts both of structure and of system deal with abstractions. In the case of structure,

the abstractions are the elements of the patterns, C and V; in the case of system, they are the terms in the system, the phonemes. An actual occurring segment in an utterance simultaneously represents an element of structure, and represent a term in a system; it is not identical with either, since, both are generalization from very many segments.

CHAPTER-6

VOICE QUALITY AND VOICE DYNAMICS

6.0 Previous chapters have dealt with the articulatory aspects of the aural medium which describe segments of syllables i.e. vowels and consonants. These segmental features, however do not by any means account for the whole of the medium. The existence of a number of non-segmental components or ingredients in the medium have not yet been properly studied. The present chapter is concerned with non segmental components of the medium. These components can be divided into two groups: one of them consisting of the components which contribute to the general quality of the voice, and the other consisting of components which arise out of the way the voice is handled. Components of the first group concern voice quality and the second group concern voice dynamics. Thus there are three groups of components in the aural medium:

6.1 Segmental Features

6.2 Features of Voice Quality

6.3 Features of Voice Dynamics

These components are like three strands, all simultaneously and continuously present and together making up the totality of the medium. All three strands must be taken into account:

6.1 SEGMENTAL FEATURES

The strand consisting of the segmental features of an utterance is made up of complex auditory qualities which are in rapid fluctuation, reflecting the rapid succession of movements of the articulators.

6.2 FEATURES OF VOICE QUALITY

The term 'voice quality' refers to those characteristics which exist more or less all the time when a person talks; it is a quasi-permanent quality running throughout the sound produced. The components of voice quality are of two different kinds: **a**. those which are outside the speaker's control and **b**. those which are within the speaker's control. Some of the components which are outside the speaker's control are innate and produced by physical characteristics. Among these anatomically derived components are the effects of such things as the bone-structure of the head and chest, the length of the vocal tract from larynx to lips, the size of the tongue, the shape and height of the palate, the size of the vocal cords, and so on. The strikingly obvious differences between the voice quality of a man, the voice quality of a woman and the voice quality of a child are largely the consequences of such physical characteristics; and as a child grows, the changes in its physique are accompanied by changes in voice quality.

There are other components of voice quality which are outside the speaker's control, some of which may be quite temporary. They may arise, for example, from such causes as adenoids, tonsillitis, laryngitis, pharyngitis or a common cold. These and other infections involve inflammation of the tissues of the vocal tract at various points, which usually result in modifying the quality of the sound which the vocal tract conveys.

The remaining components of voice quality are those which are within the speaker's voluntary control and do not derive from his/her physique. They originate in various muscular tensions maintained by a speaker during the time one talks and which keep certain of the organs of speech adjusted in a way which is not their relaxed position of rest. These adjustments give a kind of general 'set' or configuration of the vocal tract which affects the quality of sound.

Other continuing muscular tensions affect the adjustment. The mode of vibration of the vocal cords produces different types of phonation. For example: in 'breathy' phonation, they may be adjusted so that a lot of air escapes through them while they, are vibrating and in 'tight' phonation, very little air escapes through them during their vibration. The process of phonation may be modified in other ways. Continuing muscular tensions can hold the larynx in a slightly raised or lowered position in

the throat. Others may constrict the pharynx, producing what is sometimes called a 'pulpit' voice, a kind of voice quality that is also associated with some tenors. Voice quality has a wide range of metaphorical adjectives drawn from various sensory fields. Thus a voice may crack or become dry, flat, hollow, husky, melodious , raucous, rough, tiny or thin. The relative importance of the learnt and the unlearnt in voice quality is difficult to assess. Voice quality is described as a quasi-permanent strand in the medium because it can in fact be altered. Probably most people are capable of making some changes in their voice quality. It is even possible to neutralize, by means of muscular adjustments, the components in voice quality which are anatomically derived, at least to some extent, and perhaps even given enough skill, entirely. There are many professional mimics on stage, radio and television who are able to give convincing imitations of their fellow actors and of public figures initiation in which the performer's even voice quality characteristics are effectively submerged. The ventriloquist, also, has to have command in several voice qualities. The extreme of virtuosity, probably is reached by a certain music hall performer, a larger middle aged man, who had learnt to produce, completely convincingly, the voice quality of a seven year-old girl showing that it is possible to compensate by muscular adjustments, for extreme anatomical differences.

Performances such as this show what the theoretical possibilities are in this direction. In practice, it is sometimes hard to say how much of voice quality is learnt. It is thus an institutionalized feature, common to a group of speakers. There is no doubt that a special voice quality is recognizable as characteristic of certain languages or dialects. In these cases, the learnt components predominate over the unlearnt ones.

6.3 FEATURES OF VOICE DYNAMICS

The third of the three strands is the constituents of the medium grouped under the heading 'features of voice dynamics'. These features are under the speaker's control and therefore can be acquired; consequently they tend to be copied from other people and so are capable of characterizing social groups as well as individuals. Some important features of voice dynamics can be considered under the following headings:

i. **Loudness**
ii. **Tempo**
iii **Continuity**
iv. **Rhythm**
v. **Tessitura**
vi. **Register**
vii. **Pitch Fluctuation**

i. **Loudness:** Loudness, or the scale of the medium depends

on the degree of force with which air is expelled from the lungs by the pulmonic air-stream mechanism while the vocal cords are in vibration - the greater the force, the greater the loudness. The range of loudness of which the human voice is capable is very considerable. It is an easily controlled feature and speakers of all languages adjust automatically and immediately to suit the conditions under which they are talking.

ii. Tempo: Tempo meant is the speed of speaking, which is best measured by the rate of syllable succession. It is a feature, which like loudness, is varied from time to time by the individual speaker. Tempo can be used to express different attitudes. Fast tempo may be associated with anger, drawling or slower than normal tempo has been associated with relaxation. Some people employ more variation than others but everyone has a norm which is characteristic of his/her usual conversational style.

iii. Continuity: It is closely connected with tempo which refers to the incidence of pauses in the stream of speech, e.g., their location of pauses, their frequency and length. The incidence of pauses, whether they are hesitations or deliberate cessations of talking for the purpose of taking breath, seems to be a highly idiosyncratic matter and there is a lot of variation from speaker to speaker.

iv. Rhythm: Rhythm in speech as in other human activities arises out of the periodic recurrence of some sort of movement. The movements concerned in the rhythm of speech are those of the syllable-and stress producing processes which, together, make up the pulmonic air stream mechanism. Speech rhythm is essentially a muscular rhythm and the muscles concerned are the breathing muscles. It is the way in which the chest-pulses and the stress-pulses recur their mode of succession and co-ordination determining the rhythm of a language. Basically there are two different ways in which the chest-pulses and stress pulses can be combined and these give rise to two main kinds of speech rhythm, i.e. (i) syllable-timed rhythm and (ii) stress-timed rhythm. Every language in the world is spoken with either of these kinds of rhythm. In syllable-timed rhythm, the periodic recurrence of movement is supplied by the syllable producing process: the chest-pulses, and hence the syllables, recur at equal intervals of time-they are isochronous. French, Telugu and Yoruba are the examples of syllable-timed languages. In stress-timed rhythm, the periodic recurrence of movement is supplied by the stress-producing process: the stress pulses, and hence the stressed syllables are isochronous. English, Russian and Arabic are stress-timed languages.

When one of the two series of pulses is in isochronous succession, the other will not be. Thus in a syllable-timed

rhythm, the stress-pulses are unevenly spaced, and in a stress-timed rhythm the chest-pulses are unevenly spaced. Consider, however, an utterance in English, a language with a stress timed rhythm:

Which is the train for Delhi, please?

It contains four stressed syllables, which train, Delhi, please and their equal spacing in time can be made apparent by tapping with a pencil on a hard surface simultaneously with these four syllables as the sentence is spoken. The resulting taps will be clearly isochronous. But if one taps on every syllable (there are seven in all), the taps will be unequally spaced, some of them are coming more quickly than others. This is the fact that the number of unstressed syllables which separate the stresses from each other is constantly varying, as is made evident if the stresses are marked off by vertical lines, thus;

| *Which is the* | *train for* | *Delhi* | *please?*

It can be seen that which is separated from train by two unstressed syllables, train from Delhi by one and Delhi from please by none: yet the interval of time separating them is the same in each case. The rate of syllable succession has thus to be continually adjusted in order to fit varying numbers of syllables into the same time interval. In other words, there is considerable variation in syllable-length in a language spoken

with a stress-timed rhythm, whereas in a language spoken with a syllable-timed rhythm the syllables tend to be equally in length.

The rhythm of everyday speech is the foundation of verse in most languages. Thus French verse is based on syllable-timed rhythm and English verse on stress-timed rhythm.

v. Tessitura and Register- Tessitura is conveniently borrowed from the terminology of musicians. 'Voice' in its technical phonetic sense of sound resulting from phonation, is a musical tone which has a fundamental frequency, and therefore a recognizable pitch. The pitch of the voice is in continual fluctuation during speech, but the fluctuations tend to take place round a central point: if one disregards the occasional extremes, a speaker has a characteristic range of notes or compass within which the pitch fluctuation of his/her voice falls during normal circumstances. The range or compass is the tessitura. It can vary from person to person (it can be said that someone has a 'low-pitched voice' or a 'high-pitched voiced' and it is possible that for everyone there is a tessitura which is best suited to the strength, size and condition of the vocal cords.

Tessitura, in some communities, is an institutionalized feature, copied from other people and therefore part of the characteristic way of speaking a language or dialect; thus native speakers of Tlingit use a markedly lower tessitura than speakers

of English. The term register, like tessitura, is borrowed from the terminology of musicians. One of its applications there is to a set of organ pipes having a certain tone-quality in common, but it is also used, in a somewhat analogous way, about voices in singing, and this is the source of our application of the term to the speaking voice. Registers of the singing voice are different qualities of sound arising from differences in the action of phonation.

Changes of register occur in many different circumstances. They may be used to express affective indices, signs of emotional states and attitudes of the speaker. Speakers of many languages will typically change register in order to express tenderness or irritability. The same registers carry the same affective indices in different cultures.

There are many languages in the world in which contrasts of register, in addition to providing affective indices are used to provide language-bearing patterns as well. For example, in Cambodian, every syllable is spoken with one of the two registers, which are mainly distinguished from each other by the position of the larynx in the throat. The same is true of Gujerati spoken in Surat, the difference here being between 'tight' and 'breathy' phonation. In various West African languages entire words are spoken with one of the two registers: Nzema, for example, in

Ghana and at least some of the varieties of Ijaw, in Nigeria. Register differences are found in some of the dialects of Scots Gaelic. In many of these languages, register differences are always accompanied by vowel-quality differences or pitch differences or both together.

vi. Pitch Fluctuation: Fluctuation in the pitch of the voice is probably the most important of the features of voice dynamics. It owes its importance partly to its outstanding role as a bearer of affective indices. These indices, together with affective indices conveyed by register differences make up what is meant by the 'tone of voice', and the flow of conversation much depends on them. Voice-pitch fluctuation, in this function, is very similar to gesture. In fact this function of pitch fluctuation might be called vocal gesture. But it owes its importance also to the fact that as well as being a vehicle for indexical signs. It constantly carries language bearing patterns, which operate simultaneously with, and interact with, the language bearing patterns which the segmental features and some of the other dynamic features, carry. Voice-pitch fluctuation thus has both an indexical and a linguistic function and the latter is basic in the sense that the indexical signs are superimposed on the language-bearing patterns. Pitch fluctuation in its linguistic function may conveniently be called speech melody. It is part of the spoken

form of a language. Speech melody is found in all languages, but there is the greatest diversity in the patterns which make it up and in the nature of the linguistic functions it performs. The linguistic functions of speech melody are very varied but of two fundamentally different kinds. In one case, the function of the speech melody patterns is to be part of the structure of sentences; in the other case, their function is to be part of the structure of words. In the former case, the patterns are called intonation and in the letter case they are called tone. In every language the function of speech melody is predominantly either of one kind or the other, so that the languages of the world can be divided into two classes, intonation languages and tone languages. It is only when analysis has established the linguistic function of speech melody in a language that it can be put in one category or the other. English is an example of an intonation language and Chinese is perhaps the most famous of all tone languages. To native English speakers, and other Europeans, tone languages are exotic and strange. Nevertheless a great number of tone languages exists and in fact speakers of tone languages may be in the majority in the population of the world. They are certainly in the majority in Asia and Africa and many tone languages are to be found in North and Central America.

Within the broad division into tone languages and intonation languages, there are further differences to be found in both the

function of the patterns of speech melody and their form. In some tone languages, for example, the patterns may serve to distinguish quite unrelated words which are otherwise alike, while in others the patterns may have a grammatical function, making the distinction between present and past tense in verbs. In a large number of tone languages, the two functions are combined. In intonation languages the speech melody pattern may determine sentence type, such as declarative or interrogative, command or request, dependent, or independent; or may indicate the principal point of information in the sentence. The lexical melody patterns in a tone language are not, of course, absolutely individual for each separate word. The contrasts of pitch on which they are based are limited, so that all the patterns can be analysed and described as arrangements of a small number of elements. Usually there is one tone element to each syllable. These elements may be different pitch levels, which contrast with each other as higher or lower as in many tone languages in West Africa or different pitch movements, which contrasts as rises, falls, or more complex movements such as rise-falls as in many tone languages in South-East Asia.

Both tone patterns and intonation patterns may be modified by the superimposition of vocal gesture. Tone patterns, are

usually not constant, but subject to variation according to the other words next to which they are placed. In addition to that, sometimes it can be found, in what is predominantly a tone language, a component of speech melody that has to be analysed as intonation, i.e. as part of the structure of sentences. This has been described in a number of languages and there are various ways in which the intonation may be related to the tone patterns. Similarly, it can be found in what is predominantly an intonation language a component of speech melody that has to be analysed as tone i.e. as part of the structure of words. This is a well-known feature of Swedish, Norwegian and Slovenian and Lewis dialect of Scots Gaelic. It is possible that languages may exist in which speech melody is made up of tone and intonation in equal proportions.

It can therefore be concluded that all three strands carry indexical signs of social affiliations in roughly equal degrees. Moreover, all three have aspects which are idiosyncratic and characterise the individual speaker recognition. From the linguistic point of view, segmental features are the most important strand in the medium. Hence phoneticians have given much more attention to these features than the features of voice quality and voice dynamics. This chapter will be devoted to giving at least some outlines of this neglected aspect of phonetics.

CHAPTER-7

NOTATION

7.1 PHONETIC SYMBOLS

A full description of a segment can be conveniently abbreviated into a three-term label, such as 'close front rounded (vowel)', 'voiced dental fricative (consonant)' etc. for practical purposes. Sometimes something more compact than a label, may be required in order to refer to a segment; in other words, symbols which stand for segments are needed. A system of such symbols constitutes phonetic notation.

A very large number of phonetic notations have been invented from time to time, and they are of several kinds. They fall broadly into two types, which can be characterized as alphabetic and analphabetic notations. Alphabetic notations are based on the same principle as that which governs ordinary alphabetic writing, namely that of using one single simple symbol to represent each segment. Analphabetic notations represent each segment by a composite symbol made up of a number of signs put together. The class of alphabetic notations is considerably larger and must itself be further subdivided. So, it will be convenient to deal with analphabetic notations first.

7.1.1 Analphabetic notations:

An analphabetic symbol for a segment is an indication of the 'ingredients' of the segment, the ingredients being the activities of the organs of speech which are required to produce it. The symbol will show, in summary form, some or all of such factors as the active and passive articulator concerned, the nature of the stricture, the presence or absence of a velic closure, the state of the glottis, the airstream mechanism, relevant secondary articulations, and so on.

7.1.2 Alphabetic notations: iconic-

The most obvious basis for an alphabetic notation is the roman alphabet. Non-roman notations are usually iconic, which means that the symbols are not arbitrary signs, but in some way resemble what they stand for. A phonetic symbol can be iconic in various ways. It cannot, of course, be directly like the sound of a segment, but it can portray the action of the vocal organs which produces the sound. Much more common, and more practicable, are notations which are iconic because they allot related shapes to related segments. A phonetic notation intended to be used as a shorthand, in which 'all the simple characters are as analogous to each other as the sound they represent'.

7.1.3 Alphabetic notations: roman-based:

A roman based phonetic notation has a single separate symbol for every classifiable segment. First of all, many letters have more than one shape. For example, capital letters are not only usually bigger than 'lower-case' or small letters, but apart from their differences in size their design may be different. Italic letters also, apart from being sloped, may be of different design.

Thus, A a *a*

F f *f*

G g *g*

I i

R r

U u

and so on. Although above are the example of different shapes of the same letter, there is no reason why the different shapes should not be taken into a phonetic notation as different symbols. Some systems of notation preserve capital and italic letters exactly as they are, with their existing size or slope, respectively.

Moreover, there are a number of other letters in the roman alphabet which are not used in writing modern English; some

of these were once in use but are now obsolete, others are used in writing other languages. New diacritics are easy to device. A good example of a new diacritic is a small circle under a letter.

A good general phonetic notation, or 'phonetic alphabet', should provide an adequate stock of symbols, with approximate general phonetic definitions, and with some general principles governing their use, so that the main categories of vocoids and contoids are covered; the symbols should be distinctive, simple to write, and should make good printing types; and means should be provided for extending the stock of symbols in any necessary direction. The notation should not be biased in the direction of any particular language or group of languages but should take into account the whole range of human speech-sounds.

7.2 INTERNATIONAL PHONETIC ALPHABET

The alphabet of the International Phonetic Association (the IPA) is a notation which has been extensively used for a wide range of languages. Considerable care has been taken for its visual appearance. It is a compromise system, making use of every one of the above expedients, for extending its stock of symbols. It is intended to be a genuine general phonetic alphabet, but capable at the same time of providing for any given language a notation in which each phoneme will have a plain single

symbol, without diacritics, allophones of phonemes being either left to be accounted for by general rules; therefore, every important segment type (which is likely to be distinguished as a phoneme in a language) is provided with a symbol. It could be described as a strongly 'phoneme oriented' general phonetic alphabet.

7.3 TRANSCRIPTION

Transcription is a method of writing speech sounds in a systematic and consistent way from a particular point of view. A system of transcription, in which each symbol represents a phoneme of the language, is called a 'phonetic' or a 'broad' transcription. If the symbols indicate the allophones and thus give us some information about the phonetic qualities of the sounds, the 'transcription' is 'allophonic' or 'narrow'.

7.4 NON-SEGMENTAL SYMBOLS

Segmental features are much better provided than the non-segmental symbol. It is improbable that any sort of notational device could ever be needed for features of voice quality, whatever it might be necessary to record in this respect can simply be stated in words and prefaced to a text.

An increasing amount of research, however, is nowadays being devoted to the phonetics of conversation, and this

inevitably involves attention to what have been called 'paralinguistic' phenomena, that is to say features of voice dynamics such as continuity, variation in loudness, in tempo and in tessitura. The main reason, of course, why narrow transcriptions do not usually need to incorporate symbols for most of voice dynamics is that it does not enter into language - bearing patterns. In English, for example, only pitch variation and rhythm, but no other features of voice dynamics, would be relevant.

Less attention has been given to rhythm than to pitch variation. It is usual to mark stressed syllables by placing the 'stress-mark' at the beginning of the syllable, thus;

good 'morning

or in segmental transcription:

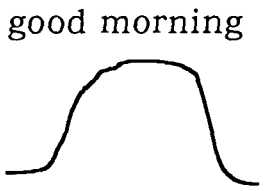
[gʊd'mɔ:niŋ]

It is often more satisfactory in a connected text of a stress-timed language, as distinct from transcriptions of isolated words, to replace the stress- marks by vertical lines, which will divide it into isochronous periods which may be called <u>feet</u>. Thus:

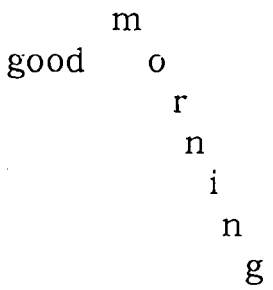
good | morning

It is the notation of pitch variation that, among dynamic

features, has had most attention paid to it. Most notations for pitch variation are iconic, which is a simple matter for this dynamic feature, since it has variation in only one dimension. A mark which is higher than another in the line of writing represents a higher pitch. A continually varying line, for example, can be drawn either over or under the segmental symbols;



of all iconic representations of pitch variation, the most effective consists of arranging the segmental symbols, or the letters of the ordinary spelling, so that they themselves form the iconic line of rise and fall in pitch:



Types of notation, such as these, are direct representation of the pitch fluctuation; they reveal no phonological analysis. The elements can be represented either by conventional symbols or by iconic symbols. They can be given numbers, for example, which can be written over the syllables; or the same pattern shown in terms of pitch movement.

CHAPTER-8

ASSIMILATION

8.1 ASSIMILATION

Following Daniel Jones, given below are three kinds of distinctive phenomena to which the term assimilation has been applied:

(i) Similitude,

(ii) Historical assimilation,

(ii) Contextual or juxtapositional assimilation.

(i) Similitude:

A particular sequence of two phonemes involves the use of a certain subsidiary member of one of them which has a greater resemblance to a neighbouring sound than the principle member has. For example, small [smɔ:l], behind [bihaind], eighth [eitθ], language [læŋgwidʒ], music [mju:zik] etc

(ii) Historical Assimilation:

Historical assimilation takes place in the course of development of a language and by a word which was pronounced *in a certain way came to be pronounced subsequently in another* way. For example, the change of /m/ to /n/ which has taken

place in the word ant [ænt]. In the thirteenth and fourteenth centuries this word was written amete and amte and was no doubt pronounced [æmɔ̂ta] and later ['æmta] and [æmt], spellings with n in place of m first appeared in the fifteenth century, clearly indicating the change to the modern pronunciation [ænt].

(iii) Contextual or Juxtapositional Assimilation:

Contextual or juxtapositional assimilations are changes in pronunciation which take place under certain circumstances at the ends and the beginnings of words when these words occur in connected speech, or in compounds. For example, the word is is usually pronounced [iz], and the word she is pronounced [ʃi]; but when these two words come together in the phrase is she, they are often pronounced [iʒʃi] rather than [izʃi].

They are similar in so far as the sequence [-ʒʃ-] is made by one and the same articulatory posture, whereas the sequence [-zʃ-] requires a succession of two different articulatory postures. These are termed as regressive and progressive assimilation.

(a) Regressive Assimilation: The features of one phoneme may affect the features of the phoneme preceding it. An example of regressive assimilation is the realization of /l/ as [l̪] (voiced dental lateral) in the word health, i.e. under the influence of the following dental sound.

(b) Progressive Assimilation:

The features of one phoneme may affect the features of the phoneme following it. An example of progressive assimilation is the realization of /l/ as [l̥] (voiceless alveolar lateral) in the word please, i.e. under the influence of [p^h] (aspirated voiceless bilabial plosive) that precedes it. Historical assimilation, like contextual assimilation, may be either regressive or progressive and they too can be shown to result in economy of effort by effecting a saving in either the number, or the extent, of movements and adjustments either of the state of the glottis, the velum, or the articulators.

8.2 ROLE/FUNCTIONS OF ASSIMILATION

Assimilations are not 'compulsory' in many languages, including English. The result of the assimilation is to reduce the number, or the extent, of the movements and adjustments which the speech-producing organs have to perform in the transition from one word to the next. Assimilations save effort by means of three different sorts of changes in the sequence of speech producing movements:

(i) those involving the state of the glottis;

(ii) those involving velic action;

(iii) those involving movement of the articulators.

(i) Assimilations Involving the State of the Glottis: The result of making an assimilation of this type is that two successive different states of the glottis are replaced by a single state which is maintained unchanged. For instance, two words might be brought next to each other in an utterance, one with a voiced segment and one with a voiceless segment at the point of contact; an adjustment in the state of the glottis would therefore be necessary in the transition from the one to the other, if they remain as they are. Regressive assimilations of voice may be found very commonly, though not universally, among the speakers of educated Scots. Thus, the word with, which under most circumstances ends in a voiceless consonant in Scottish English, may be pronounced with a voiced one in with them. Similarly in the compounds blackboard or birthday, the words black and birth which normally ends in voiceless consonants, may be pronounced with voiced ones. Such regressive assimilations of voice appear to be found in no other kind of English, though they are the regular thing in French, Dutch and several other languages.

Assimilations of voicelessness are common in all types of English. Many people make a regressive assimilation of voicelessness when they pronounce the phrases, life: of course or have to, etc., with the voiceless consonant [f] (instead of the voiced [v]).

(ii) Assimilations Involving Velic Action: An assimilation of this type effects an economy by eliminating a movement of the velum. When a nasal (or nasalized) segment at the boundary of one word and an oral segment at the boundary of another are brought next to each other in an utterance, the movement of the velum required in the transition between them is eliminated if both become nasal, or both lose their nasality. Such assimilations are rare in English, but they may be found in other languages.

(iii) Assimilations Involving Movements of the Articulators: In an assimilation of this kind, successive movements of two different articulators are replaced by a movement of one articulator only. This is the most frequent type of assimilation in English and a wide variety of examples can be found. In the majority of cases they are regressive. The pronunciation of is she as [lzʃi] comes under this heading. Other examples are: [tɛmminits] for ten minutes, [aɪŋ goʊɪŋ] for I' m going.

Assimilations of this third type may often be combined with assimilations involving the state of the glottis. Thus [lʃ ʃi] may be heard for is she, as well as [lʒʃi], the voiceless [ʃ] taking the place of the voiced [ʒ] or [z].

Part- II

English Phonetics
&
Spoken English

CHAPTER-9

DESCRIPTION AND CLASSIFICATION OF ENGLISH SPEECH SOUNDS

9.0 All English speech sounds (vowels as well as consonants) are produced with a pulmonic eggressive airstream mechanism. All English vowels are voiced and consonants can be voiceless or voiced, depending upon the state of the glottis. If the vocal cords are wide apart and the glottis is wide open the consonant sound is voiceless, and if the vocal cords are held loosely together and they vibrate the sounds produced are voiced. For example, /p,t,k,tʃ, f, θ, s ʃ, h/ are voiceless and /b,d,g,dʒ,v,ð, m, n,ŋ,r,j,w/ are voiced consonant sounds. English speech sounds can also be classified as oral or nasal depending upon the position of the soft palate; if it is raised so as to shut off the nasal passage of the air, the sounds produced are oral and if it is lowered to open the nasal passage of air combined with an oral closure, the sounds produced are nasal. All English speech sounds are oral except /m,n,ŋ/.

9.1 THE ENGLISH VOWELS: PHONEMIC AND PHONETIC DETAILS

There are twenty vowel sounds in the Received Pronunciation of England (R.P.). These include twelve pure vowels and eight diphthongs, belonging to different phonemes. The following chart illustrates distributional characteristics of each English vowel in words followed by examples:

Vowel	Description	Phonetic Details	Distribution	Examples
/iː/	Front, close, unrounded vowel		Initially, medially and finally	east, even piece, cheat tea, sea
		[iː]	Long: finally and before voiced consonants	tree, bee bead, sead
		[i.]	Reduced: before voiceless consonants	seat, heat
/ɪ/	Front, centralized, half - close, unrounded vowel		Initially, medially and finally slightly reduced: before voiceless consonants	it, if hit, sit city, pity bit, wish
/e/	Front, between half close and half-open unrounded vowel		Initially and medially slightly long: before voiced consonants slightly reduced: before voiceless consonants	any, egg leg, many head, bed bet, net
/æ/	Front, just above the half-open position, unrounded vowel		Initially and medially long: before voiced consonants reduced: before voiceless consonants	ass, add mad, pat bag, bad lack, mat
/ɑː/	Back, open, unrounded vowel		Initially, medially and finally	after, ask task, last star, far
		[ɑː]	long: finally and before voiced consonants	jar, car hard, card
		[ɑ.]	Reduced: before voiceless consonants	heart, pass

/ɔ/	Back, just above the open-position, rounded vowel		Initially and medially slightly long: before voiced consonants	offer, often fog, log god, cod
/ɔ:/	Back. between half-open and half-close, rounded vowel		Initially, medially and finally	all, oughts stall, small low, saw
		[ɔ:]	long: finally and before voiced consonants	core, hoard, board
		[ɔ.]	Reduced: before voiceless consonants	caught, short
/u/	Back, close, rounded vowel		Medially and finally in only one word	wood, hood unaccented form of the preposition to
/u:/	Back, centralized, just above half-close, rounded vowel		Initially, medially and finally	ooze, oops pool, wool clue, glue
		[u:]	long: finally and before voiced consonants	blue, shoe rude, food
		[u.]	Reduced: before voiceless consonants	boot, root
/ʌ/	Central, between open and half open, unrounded vowel		Initially and medially slightly long: before voiced consonants	upper, utter bus, luck bud, gun
/3:/	Central, between half-close and half-open, un-rounded vowel		Initially, medially and finally	earth, earn first, burst occur, refer
		[3:]	long: finally and before voiced consonants	her, fur word, girl
		[3.]	Reduced: before voiceless consonants	curse, hurt

/ə/	Central, just below half-open unrounded vowel		Initially, medially and finally (only in un-accented syllables) weak forms	along, ago melody, towards centre, data a, an, to, her, for, the
/ei/	Front, unrounded vowel, just below half-close, to a centralized, front unrounded vowel, just above half close		Initially, medially and finally	aim, age cage, page pray, day
		[e:i]	long: finally and before voiced consonants	pray, play prays, plays
		[ei]	Reduced: before voiceless consonants	race, place
/aɪ/	Front, open unrounded vowel, to a centralized, front, unrounded vowel just above half-close		Initially, medially and finally	idle, ice cries, rice fry, dry
		[a:ɪ]	long: finally and before voiced consonants	dye, buy bide, guide
		[aɪ]	Reduced: before voiceless consonants	bite, light
/ɔɪ/	Back, rounded vowel between open and half-opens, to a centralized, front unrounded vowel, just above the half-close position		Initially, medially and finally	oil, ointment foil, soil boy, toy
		[ɔ:ɪ]	long: finally and before voiced consonants	joy, boy coin, join
		[ɔɪ]	Reduced: before voiceless consonants	hoist, voice
/au/	Back, open, rounded position and moves in the direction of R.P. [u]		Initially, medially and finally	out, owl foul, bowl cow, now

		[a:u]	long: finally and before voiced consonants	vow, how loud, down
		[au]	Reduced: before voiceless consonants	house, mouse
/ə̈u/	Central, unrounded vowel, between half-close and half-open, to a centrialized, back, rounded vowels, just above the half-close position		Initially, medially and finally	over, own boat, ghost so, go
		[ə̈:u]	long: finally and before voiced consonants	show, no
		[ə̈u]	Reduced: before voiceless consonants	note, goat
/ɪə̈/	Centralized, front unrounded vowel just above half-close to a central unrounded vowel, between half-close and half-open		Initially, medially and finally	era, ear serious period clear, hear
		[ɪ:ə̈]	long: finally and before voiced consonants	fear, near real, fears
		[ɪə̈]	Reduced: before voiceless consonants	fierce, pierce
/uə̈/	Centralized, back, rounded vowel, just above half-close to a central, unrounded vowel, between half-close and half-open		Medially and finally	during, jury cure, contour
/eə/	Front, half-open, unrounded vowel, to a central, unrounded vowel, between half-close and half-open		Initially, medially and finally	aeroplane, airy vary, careful fair, pair
		[e:ə̈]	long: finally and before voiced consonants	there, care wary, fairy
		[eə]	Reduced: before voiceless consonants	scarce

9.2 The English Consonants: Phonemic and Phonetic Details:

There are twenty four distinctive consonants in English R.P. Given below is a list which shows distributional characteristics of each English (R.P.) consonant with illustrative examples:

Consonants (Phonemes)	Description	Phonetic Details	Distribution	Examples
/p/	voiceless, bilabial plosive	[p]	Initially, medially and finally	pen, pure appear, approach hope, shop
		[p^h]	Aspirated: initially in accented syllables	paint, appear pew
		[p]	Unaspirated: accented after /s/; Weakly accented: relatively unaspirated; Syllable final;	spew, spill, spin upper, gospel, capable cheap, shape, lap
		[p_o]	With no audible release: before another plosive or affricate consonant;	top coat, captain, a cheap coat
		[p^N]	Before nasal consonant	topmost, happen, cheap meat
		[p^L]	Before lateral consonant	apple, couple, please
/b/	voiced, bilabial, plosive	[b]	Initially, medially and finally	boy, bin obtain, oblique mob, job
		[b̥]	Word initial: partially devoiced;	big, bark, boast

		[b]	Intervocalic: voiced;	labour, symbol, rubber
		[b]	Final: voiceless;	bulb, rib, sob
		[b$_o$]	With no audible release;	obtain, object, subject
		[b^N]	Before nasal consonant;	ribbon, submit, submerge
		[b^L]	Before lateral consonant;	blank, bliss, blow
/t/	Voiceless, alveolar, plosive	[t]	Initially, medially and finally	toy, talk attain, sustain, put, shut
		[t^h]	Aspirated: initially in accented syllables	tall, try, tin
		[t]	Unaspirated: accented after /s/;	style, stamp, stone
		[t]	Weakly accented: Relatively unaspirated;	butter, utter, later
		[t]	Syilable final;	boat, late, past
		[t$_o$]	With no audible release;	outpost, football, great joke
		[t^N]	With homorganic nasal release;	cotton, button, eaten
		[t^L]	With homorganic lateral release;	cattle, battle, little
/d/	voiced, alveolar, plosive	[d]	Initially, medially and finally	door, deer sudden, hidden road, load
		[$\underset{o}{d}$]	*Word initial;* partially devoiced	*date, dog, dry*

		[d]	Intervocalic:voiced	order,adorn, under
		[d]	Final: voiceless	old, gold, bold
		[d$_o$]	With no audible release:	bad pain, head-girl, red car
		[d^N]	With homorganic nasal release;	sudden, hidden, red nose
		[d]	Before [m];	admit, road map,
		[d^L]	With homorganic lateral release;	middle, padlock, good luck
/k/	voiceless, velar, plosive	[k]	Initially, medially and finally	cod, coal occur, active back, check
		[k^h]	Apirated: initially in accented syllables	car, cry, according
		[k]	Unaspirated: accented after /s/;	skin, school, scar
		[k]	Weakly accented; relatively unaspirated;	equal, income secret
		[k]	Syllable final;	rock, choke, bank
		[k$_o$]	With no audible release;	locked, black-board, black-cat
		[k^N]	Before nasal consonant;	acknowledge, dark- night, thicken
		[k^L]	Before lateral consonant	clean, close clear
/g/	voiced, velar, plosive	[g]	Initial, medial and final	goat, game rugby, bigger bag, fog

		[g̥]	Word initial; partially devoiced;	gease, guess, glass
		[g]	Final: voiceless;	leg, dog, vague
		[g◦]	With no audible release;	bagpipe, bigchin, wagtail
		[g^{N}]	Before nasal consonant;	ignore, bigman, dogma
		[g^{L}]	Before lateral consonant;	glitter, glory, glow
/tʃ/	voiceless, palato alveolar, affricate	[tʃ]	Initial,	choose, chain, cheap,
			medially and	kitchen, question, orchard
			final	watch, witch, pitch
/dʒ/	voiced, palato alveolar, affricate	[dʒ]	Initial, medial and	jam, june, jar margin, injure, ledger
			final	edge, change, judge
/m/	voiced, bilabial nasal	[m]	Initial, medial and final	march, mark lemon, humble game, lame
		[m]	After word initial /s/;	smile, smooth, smack
		[m]	Word final clusters;	warmth, glimpse, prism
		[m̥]	Partially devoiced; after voiceless constants;	topmost, smoke, happen
		[ɱ]	Labio-dental: before [f,v];	circumvent, nymph triumph
		[m̩]	Syllabic;	rhythm, prism, lissom

/n/	voiced, alveolar, nasal	[n]	Initial, medial and final	neat, name many, any moon, soon
		[n]	After word initial /s/;	snow, snatch
		[n̥]	Partially devoiced: after voiceless consonant;	snake, snug snail
		[n]	Bilabial; before bilabial consonant	ten boys, ten people
		[ɳ]	Labio-dental; before [f,v]:	invoice, infant, invain
		[n̪]	Dental: before and sometimes after/ θ,ð/;	when they, ear then, southern
		[n̠]	Post alveolar; before [ɾ]:	henry, enrol, barn
		[n]	Velar; before velar consonant	ten girls, ten cups
		[n̩]	Syllabic	cotton, mutton, button
/ŋ/	voiced, velar, nasal		Word medial	anxiety, hanger longing
		[ŋg]	Word medial+/g/	finger, singer, anger
		[ŋk]	Word medial +/k/;	anchor, monkey ankle
		[ŋk]	Word final +/k/;	sink, distinct, monk
		[ŋ̩]	Word final: syllabic (occasionally)	blacken, thickness taken
/f/	voiceless, labio-dental, fricative		Initially, medially and finally word initial clusters;	feel, fit, fail affair, offer, suffer leaf, cough, laugh fry, fly, few

		Word final clusters;	fifth, baffles, twelfth
/v/	voiced,labio-dental, fricative	Wordinitial medial and final	vast, van, view over, silver, ever leave, give, dove
		Word initial clusters;	view
		Word final clusters;	leaves, solves, oven(s)
/θ/	voiceless, dental, fricative	Word initial, medial and	thin, three, thief anthem, author, method
		final	path, bath, oath
		Word initial clusters;	three, throw, thwart
		Word final clusters	depth(s), mouth(s) month(s)
/ð/	voiced, dental, fricative	Word initial, medial and	this, that, they leather, gather, father
		final	with, soothe, seethe
		Word final clusters;	southern, writhed, rhythm(s)
/s/	voiceless, alveolar, fricative	Word initial, medial and	sample, soon,soap essay, escape, excite
		final	pass, mouse, ice
		Word initial clusters;	spare, stain, smoke
		Word final clusters;	helps, cats, pulse
/z/	voiced, alveolar, fricative	Word initial, medial and final	zoo, zeal, zero easy, busy, lazy says, days, nose
		Word final clusters	hands,rings, bulks
/ʃ/	voiceless, palato-alveolar, affricate	Word initial, medial and	sheet, shout, sugar bishop, mission, machine
		final	dish, fish, wish

			Word initial clusters;	shrink
			Word final clusters;	fashion (ed), mention (ed) pushed
/ʒ/	voiced, palato-alveolar, fricative		Word initial (French loan word);	genre, gigolo, gigue
			Word medial;	pleasure, measure, usual
			Word final (only in French loan words)	rouge, biege, prestige
			Word final clusters;	vision(s)
/h/	voiceless, glottal, fricative		Word initial and medial	heat, huge, human ahead, behind, behave
/l/	voiced, alveolar, lateral	[l]	Clear word initial, medial and final; intervocalic in context	leave, love, late glad, flat, select full, bill, hill full it, will you, all over
		[l̥]	Voiceless: after voiceless consonants; (less devoicing after a weakly accented voiceless plosive)	clean, hopeless, play
		[ɫ]	Dark: word final, after vowel; after vowel, before consonant;	doll, royal, loyal help, bulb, cold
		[l̩]	Syllabic	little, middle, table
/r/	voiced, post-alveolar		word initial	red, rose, rule
			word medial	vary, arrow, hurry

approximant		(inter vocalic in context)	
		Word final/r/ link with following word beginning with a vowel	far away, poor old man, once for all
		<u>Consonant clusters</u>:	
	[ɹ̥]	After voiceless accented plosive;	tree, cream, crow
	[ɹ]	After voiceless fricative;	fry, throw, thrive
		Unaccented, voiceless plosive, or accented voiceless plosive; after /s/ in the same syllable;	nitrate, apron, cockroach scream, street, straight
	[ɹ̥]	Completely devoiced; after accented/ p,t,k,/;	price, try, cream
	[ɹ̊]	Partially devoiced: after unaccented voiceless plosive initial in a syllable and in rapid speech, at syllable or word boundaries, in the syllable initial sequences /spr/, /str/, /skr/;	spring, string scream
		after other accented voiceless consonants;	fry, shrink, thrive
		<u>Linking /r/</u>;- When the word ends with the letter /r/ and the next word begins with the vowel and there	butter and jam father and mother

			is no pause between the two words in connected speech.	
			Intrusive /r/: If one word ends in a vowel and the next word begins with the vowel, an /r/ is introduced between the two words	drama and music law and order
/j/	voiced, palatal, approximant	[ç]	Word initial voiceless: following accented /p,t,k,h/ any before /u:, uə/	young, yet, yes pew, tune, cure, huge
		[j̥]	Partially devoiced: following /sp,st,sk/ voiceless fricative;	spurious, stew, askew
		[j]	Unaccented /p,t,k/; voiced: following voiced consonant;	persue, spatula, occulist beauty, duty music
/w/	voiced, labio-velar approximant	[w]	Word initial interovocalic, following voiced consonant; Voiceless following accented /t,k/;	word, womb, one, away, aware, always twelve, twin, queen, quick
		[w̥]	Partially devoiced: following /sk/; Accented voiceless fricative; Unaccented /p,t,k/;	square, squash, squirrel swoon, swear, swim upward, outward, equal
		[ʍ]	Wh-spelling form	what, white, which

CHAPTER-10

THE WORD AND CONNECTED SPEECH

10.1 ACCENT

In spoken English, if a word has more than one syllable, all the syllables are not equally prominent. One of them stands out from the rest. It is more prominent than the others and is said to have the accent. Sometimes more than one syllable is accented. Examples: 'teacher, be'come, edu'cation, articu'lation etc.

10.2 PROMINENCE

The greater prominence of a syllable may be due to stress or greater breath force, but often the length of the vowel in a syllable, stress and pitch change work together to render a syllable more prominent than its neighbouring syllables.

In several English words consisting of several syllables each, more than one syllable may be prominent. For example, in the word /nəʊ-ti-fi-kei-ʃn/ which has five syllables, the syllable that has the maximum prominence is the fourth syllable /kei/, the syllable that has the next degree of prominence is the second syllable /ti/; the other syllables /nəʊ/, /fi/ and /ʃn/will be pronounced with less prominence. The syllable on which there is a pitch change is said to have the primary or tonic accent. The other accented syllables have the secondary accent.

10.3 WORD ACCENTUAL PATTERNS

All good dictionaries indicate the accentual patterns of words, though in different ways. The usual practice in pronouncing dictionaries that use a phonetic transcription is to indicate word accent by a vertical bar placed just before the accented syllable. For the primary accent, the bar is placed on the top of the line, and for the secondary accent, it is placed at the bottom.

Given below are a few examples:

(a) Words of two syllables

(i) Accent on the first syllable:

'absent (adj)	'village
'instant	'sacred
'language	'parent
'welcome	'eastern
'harvest	'female

(ii) Accent on the second syllable

a'part	ho'tel
be'come	o'bey
con'trol	per'form
de'cay	to'day
ex'change	un'less

(b) Words of three syllables

(i) Primary accent on the first syllable:

'adver,tise	'uni,verse
'calcu,late	'sacri,fice
'deli,cate	'imi,tate
'hesi,tate	'civi,lize
'orga,nize	'edu,cate

(ii) Primary accent on the second syllable:

ad'mission	de'liver
col'lection	pe'culiar
de'cision	po'sition
ho'rizon	me'chanic
so'lution	oc'casion

(iii) Primary accent on the third syllable:

,over'look	,after'noon
,engi'neer	,recom'mend
,inter'rupt	

10.3.1 Accent in Compound Words:

When two or more words are combined to form a compound, the primary accent is generally, though not always, on the first element.

Examples:

'air-plane

'walking-stick

'thanks-giving

'race-course

'packing-case

In some compounds, both elements are accented, the tonic accent being on the second element.

Examples:

ˌfar-'reaching

ˌgood-'bye

ˌmass- 'meeting

ˌold-'fashioned

ˌsea-'coast

When these compounds are used in connected speech, one of the two accents is dropped to suit the rhythm of the sentence.

10.3.2 Change of Accent According to Grammatical Function:

In some words of two syllables, the accentual pattern depends on whether the word functions as a verb or a non-verb. The accent falls on the second syllable when the word is a verb (v.) and on the first syllable when it is a noun (n.)or an adjective (adj.).

Examples:

'absent (adj. or n.)	ab'sent (v.)
'concert (adj. or n.)	con'cert (v.)

'desert (adj. or n.)	de'sert (v.)
'present (adj. or n.)	pre'sent (v.)
'digest (adj. or n.)	di'gest (v.)

10.3.3 Rules for Word Accent:

A few rules for accentual patterns in English words are given below:

(1) In polysyllabic words, when the primary accent is on the third or a later syllable, there is also a secondary accent on the first or the second syllable.

Examples: ˌimagi'nation
ˌeduc'ation
ˌqualifi'cation
ˌceri'monial
ˌuni'versity

(2) Words with weak prefixes have the accent on the root and not on the prefix.

Examples:	ac'count	in'clude
	be'neath	o'mit
	com'plete	pre'pare
	des'cribe	re'fuse
	en'courage	re'view

(3) The following inflectional suffixes do not affect the accent:

Examples:

-es	'damage	'damages
-ed	'hesitate	'hesitated
-ing	'civilize	'civilizing
-er	'early	'earlier
-est	'gentle	'gentlest

(4) The following derivational suffixes do not affect the accent:

Examples:

-age	'break	'breakage
-dom	'free	'freedom
-ern	'west	'western
-ess	'actor	'actresses
-ful	'harm	'harmful
-hood	'brother	'brotherhood
-ish	'child	'childish
-ed	'bless	'blessed
-less	'care	'careless
-ship	'friend	'friendship
-ways	'all	'always
-y	'blood	'bloody
-y	'difficult	'difficulty

(5) Words ending in - ion take the primary stress on the penultimate syllable.

Examples:

ˌadmi'ration	'station
ˌappli'cation	'nation

(6) Words ending in -ic, - ical, ically, ious, ial, ially take the primary stress on the syllable preceding the suffix.

Examples:

pa'thetic	'optical
eco'nomically	no'torious
com'mercial	super'ficially

(7) Words ending in -ity receive the primary stress on the ante-penultimate syllable or the third syllable from the end.

Examples:

a'bility	fu'tility
ca'pacity	natio'nality

(8) Words of more than two syllables ending in -ate receive the primary stress on the third syllable from the end.

Examples:

'culti,vate	'edu,cate
'compli,cate	'fortunate

(9) *Words ending in -ian are stressed on the syllable preceding the* suffix.

Examples:

mu'sician	ˌpoli'tician
li'brarian	ˌelec'trician

(10) The suffixes -al, -ally affect the stress pattern.

Examples:

ˌacci'dental	acci'dentally
o'riginal	

(11) The following suffixes receive the primary stress on their first syllable:

Examples:

- aire	ˌmillio'naire
-eer	ca'reer
-ental	ˌfunda'mental
-ential	ˌexis'tential
-esce	ˌacqui'esce
-ence	ˌacquies'cence
-esque	gro'tesque
-ique	phy'sique
-itis	neu'ritis
-escence	ˌeffer'vescence

10.4 ELISION

Elision is defined as the disappearance of a sound, e.g. get another /'getnˊ nʌðə/, not alone /'nɔtl `ləʊn/, next day /'neks `deɪ/, must n't lose /'mʌsn `lu:z/, etc. There are historical elisions, where a sound which existed in an earlier form of a word was omitted in a later form. An example of historical elision is the loss of all /r/- sounds finally and before consonants in Southern English. It cannot be doubted that upto the 15th century the /r's/- of such words as arm, horse, church, other were always sounded. The following are a few instances of historical elisions of other sounds, the p of cupboard now /'kʌbəd/ was pronounced in early English. Historical elisions of unstressed vowels, especially ə and ɪ , are common in English. Examples are seen in the words history, university, which are now generally pronounced /'hɪstrɪ/, /ju:nɪ'və:stɪ/, formerly, no doubt, the pronunciation was /'hɪstrɪ/, /ju:nɪ'və:sɪtɪ/. These forms may still be heard in precise speech, though they are not common.

Contextual elisions of many kinds are frequent in English, especially in rapid speech. The following are examples of contextual elisions commonly made in ordinary (not rapid) speech:

blind man	/'blaɪn 'mæn/ (elision of d)
strand magazine	/'stræn mægə'zi:n (elision of d)
a good deal	/ə 'gudi:l/ (elision of d)
take care	/'teɪ 'keə/ (elision of k)

last tour /'la:s 'tʊə/ (elision of t)

Sit down is pronounced by some people sɪ'daun with elision of t.

10.5 Stress and Rhythm

English has a stress-timed rhythm. The stressed syllables in English occur at regular intervals of time, irrespective of the number of unstressed syllables coming between them. This is the basis of the stress-timed rhythm of English. All the words are not given equal prominence. Only those words, that are important for meaning, are stressed. These are generally lexical or content words e.g. nouns, interrogative and demonstrative pronouns, adjectives, principal verbs and adverbs, rather than grammatical or structural words e.g. articles, personal and relative pronouns, auxiliary verbs, prepositions and conjunctions. Hence all content words are stressed and grammatical words are left unstressed in a normal English utterance. If the word to be stressed has more than one syllable, the stress will fall on the syllable or syllables that are normally stressed when the word is spoken in isolation.

Primary or tonic stress is marked by an oblique bar (') on the top of the line and secondary stress at the bottom (,) before the stressed syllables.

Examples:

1. 'Switch off the 'light

2. 'That 'd be a 'waste of 'money

3. I'm af'raid I'm 'very 'late.

4. The 'snow was 'falling 'thick and 'fast.

5. An 'apple a 'day keeps the doctor a'way.

10.6 QUANTITY AND QUALITY

(i) Accented Words:

Vowels and continuant consonants in accented syllables which form the hub of a rhythmic group are shortened according to the number of unaccented syllables in group. Thus the /aɪ/ in /taɪd/ (tide) shows progressive shortening in such rhythmic groups as tidy, tidily, she tidied it, etc., the /ʌ/ and /m/ of /kʌm/ (come) are similarly shortened in comfort, comfortable, come for me, circumference. Or again, a comparable phonemic sequence will have slight variations of sound length according to the division into rhythmic groups:

aboard a liner	/ə'bɔːd ə' laɪnaə/
a border liner	/ə 'bɔːdə ˌlaɪnaə/ /ɔː/

being slightly shorter in the second case. Such variation of rhythmic grouping, involving changes of quantity, constitutes a reality for the speaker, but it is doubtful whether slight modifications of this kind are markedly significant to a listener, since the choice of meaning for such similar phoneme sequences is normally determined by the context, such cues as are provided by rhythmic variation of quantity being redundant.

(ii) Unaccented Words:

A more marked effect is that which characterizes the quantity and quality of unaccented words. Content words generally have in connected speech the qualitative pattern of their isolate form and therefore retain some of qualitative prominence even when no pitch prominence is associated with them and when they are relatively unstressed. But many form words have two or more qualitative and quantitative patterns according to whether they are unaccented or accented. As compared with the accented realizations of these words (the 'strong' forms), the unaccented ('weak' forms) varieties of these words show reductions of the length of sounds, obscuration of vowels towards /a,ɪ,u/, and the elision of vowels and consonants. The following list of examples presents the most common of these words, first in their unaccented weak forms and secondly in their less usual accented strong form:

	Unaccented	**Accented**
a	/ə/	/eɪ/
am	/m/, /əm/	/æm/
an	/n/, /ən/	/æn/
and	/ənd/, /nd/	/ænd/
are	/ər,r/+vowel	/**a:**/
as	/əz/	/æz/

at	/ə̆t/	/æt/
been	/bin/	/bɪ:n/
from	/frə̆m/	/frɔm/
had	/hə̆d/,/ə̆d/, /d/	/hæd/
him	/ɪm/	/him/
she	/ʃɪ/	/ʃɪ:/
to	/u/+vowel	/tu:/
us	/ə̆s/, /s/	/ʌs/

It should be noted that prepositions, e.g. to, from, at, for, apart from having a strong form when receiving a primary accent, also have a qualitative prominence when final and unaccented, e.g. Where have they gone to? (/tu:/, also /tu/, but not /tə̆/); Where's he came from? (/frɔm/rather than/frə̆m/); when a preposition occurs before an unaccented pronoun, either the strong or the weak form may be used for the preposition.

It may be said that the more rapid the delivery, the greater the tendency to reduction and obscuration of unaccented words. Even monosyllabic content words may be reduced in rapid speech, if they occur in a relatively unaccented situation adjacent to a primary accent, and especially if they contain a short vowel, e.g.,

/ɪ/ You sit over here

/ju: s(ə̆)t ˌə̆uvə̆ 'hɪə̆/;

/u/ He put it there

/hɪ: p(ə̆)t it ðeə̆/;

/^/ He will come back

/'hi:l/ k(ə)m ˌbæk/;

less frequently with the more prominent short vowels /æ,ɔ/, e.g.,

/æ/ They all sat down on the floor

/ðel 'ɔ:l sət 'daun ən ðə 'flɔ:/;

and finally, the diphthong /əu/, with its dominant central /ə/ element, is readily reducible to /ə/ under weak accent, e.g.,

You can't go with him

/ju 'ka:nt gə 'wɪð ɪm/;

He is going to do it

/'hi:z gənə ˌdu: ɪt/

10.7 INTONATION

Intonation is the term used for the melody of speech, variations of pitch of the voice. Each language has its own characteristic intonation patterns. Patterns of intonation, have two main functions:

(i) Accentual Function

(ii) Attitudinal Function

(i) Accentual Function:

Intonation changes are the most efficient means of rendering prominent for a listener those parts of an utterance on which the speaker wishes to concentrate attention; pitch change is especially

significant as a cue for signalling the word or words carrying primary accent.

(A) The Accentual Function of Intonation

The various degrees of accentuation in an utterance may be signalled by means of intonation in the following way-

(a) Primary (nuclear) accent- by means of a change of pitch direction initiated by the syllable receiving the accent (marked $_{\backslash}{}^{\backslash}$, $_{/}{}^{/}$, $_{\vee}{}^{\vee}$, $_{\wedge}{}^{\wedge}$).

(b) Secondary (pitch prominent) accent- by means of a change of pitch level (higher or lower) on the accented syllable (marked').

(c) Secondary accent without pitch prominence- Secondary accent on some words may be manifested by qualitative, quantitative or rhythmic prominence, without pitch prominence (marked,).

(d) Unaccented syllables- do not normally have pitch or other prominence and are unmarked.

(a) Realization of Primary Accent:

The primary accent in a sentence is shown by initiating a change of pitch direction, with the nucleus on the appropriate syllable of the word (or words) on which attention is particularly to be concentrated. The situation of the nucleus or nuclei is, therefore, of prime importance in conveying meaning, e.g.

(a) `Jack ˌlikes ˌfish (i.e. not George, but Jack)

(b) ˌJack `likes ˌfish (i.e. there is no question of his hating fish).

(c) ˌJack ˌlikes ˌfish (i.e. not meat or poultry, etc.)

In the sense that the nuclear syllable stands out from amongst its neighbours, the nucleus and its situation may be said to have to special contrastive function.

(B) Types of Nucleus:

(a) The falling nucleus (ˌ,`)

The falling glide may start from the highest pitch of the speaking voice and fall to the lowest pitch, or from a mid pitch to the lowest pitch, or with variations of starting point according to the intonation context. The falling glide is most perceptible when it takes place on a syllable containing a long vowel or diphthong or a voiced continuant (m,n,ŋ,l,z). When a fall occurs on a syllable containing a short vowel with its limits formed by fortis, voiceless consonants, the glide, particularly of a low-fall, is so rapid that is not easily perceptible, or may be realized merely as a low level pitch in relation to a preceding higher pitch, e.g.,

'What have you `got? or

'What have you ˌgot?

Again, when syllable follows the nucleus - the tail - the fall may be realized as the juxtaposition of relatively high pitch on the nuclear syllable and low pitches on the syllables of the tail, e.g.,

- It'll `rain in a ˌminute

- It was ˏyesterday

(b) The rising nucleus (ˏ,ˊ)

In the same way, a rising glide which may extend from low to mid, or from mid to high, or with other variations of starting and end points between low and high, is more easily perceptible when it occurs on a syllable containing a long vowel or diphthong or a voiced continuant consonants, e.g.,

ˏNo. 'Can you ˏsee?

He's ˌnot ˏill.

When a low-rising glide occurs on a short syllable, it must necessarily be accomplished much more rapidly, or may merely consist of a relatively high level pitch in relation to a preceding low pitch, or even of a slightly lowered level pitch in relation to a preceding mid or high pitch, e.g.,

ˌCan she ˏcook ?

'Can she ˏcook ?

(iii) The falling-rising Nucleus (∨)

The fall and rise may be confined within one syllable, the glide beginning at about mid level and ending at the same level; in the case of a short syllable the dip in pitch is made extremely rapidly may be realized as an instant of 'creaky' voice or even a cessation of voice, e.g.,

- ∨No. It's ∨true. It's ∨shut

When an unaccented tail follows the nuclear syllable, the fall occurs on the nuclear syllable and the rise is spread over the tail, e.g.,

It's ∨raining. It's quite ∨comfortable.

When a secondary accent follows the primary (nuclear) accent, the fall takes place on the nuclear syllable and the rise is initiated on the syllable carrying the secondary accent, e.g.,

He didn't ∨telephone.

He's ∨educated.

(d) Rising Reinforcement of a Fall (∧)

A fall may be reinforced by an introductory rise, especially on a long syllable containing voiced consonants, e.g.,

It was ^raining.

He ˌwasn't ^alone.

A reinforced short syllable followed by a tail may be realized as a low accented nuclear syllable followed by a fall on the tail, e.g.,

- How ^wonderful.

- It was ^yesterday.

(iv) Realization of Secondary Accent

(a) Pre-nuclear- Syllables preceding the nucleus may have pitch prominence through being given a high level pitch when initial or a high level pitch in relation to preceding syllable. The first pre-nucleus syllable is known as the head, any syllables occurring between the head and the nucleus constitute the body.

Pre-nuclear syllables may also be accented without pitch prominence, i.e. they are accented only for reasons of rhythmical stress, quality, or quantity, or because the content nature of the word.

(b) Post-nuclear- After a falling nucleus, a secondary accent is manifested by rhythmic qualitative or quantitative prominence, the pitch remaining low.

(c) Secondary Accent between Fall and Rise:

Syllables carrying secondary accent, without pitch prominence,

may occur between a fall and a rise; in this case, the unaccented syllables and those carrying secondary accent have a relatively low level pitch, e.g.,

`That was ˌquite ˏgood.

`All of us were surˌprised toˌ hear that you'd ˏgone.

(d) Realization of Unaccented Syllables- Unaccented syllables, in addition to the fact that they are said very rapidly and usually undergo some obscuration of their quality, do not normally have any pitch prominence. They may occur before the head or the nucleus, within the body, or after the nucleus.

(i) Pre-nucleur- Unaccented syllables occurring before a nucleus, like syllables carrying secondary accent without pitch prominence, are normally relatively low, whether a nucleus is a fall or a rise, e.g.,

It's `not.

There were eˏleven

Unaccented syllables before a high head are usually said on a relatively low pitch, the head having contrastive prominence in relation to them, e.g.,

He's always, late

It was 'after ˏdinner.

If pre-nuclear unaccented syllables, their weak quality remaining, are said on a relatively high pitch (marked¯), the utterance has a specially bright, lively, encouraging character before a rise, or an indignant, quarrelsome note before a fall, e.g.,

¯There were ˌnine of us. (lively)

¯There were `nine of us. (indignant)

(b) Within Body- Within the body, unaccented syllables remain on almost the same pitch as the preceding accented syllable, e.g.,

'All of us 'wanted to ˌhelp him

'Put it 'on the ˌtable

If the unaccented syllables are on a higher pitch than the preceding accented syllables, a special impression of liveliness, eagerness, impatience, or encouragement is again produced, e.g.,

'Mary was 'always ˌlate. (annoyance)

'Come and 'sit by ˌme. (encouragement)

'Are we 'nearly ˌthere? (eagerness)

It is to be noted that in these cases the accented syllables within the body receive extra relative pitch- prominence, the pattern being equivalent to a series of rising nuclei.

(c) Post nuclear- Unaccented syllables following a falling nucleus remain on a low level, e.g.,

He's a `bachelor

There are ad`ministrative ˌdifficulties.

After a rising nucleus, unaccented syllables continue (or effect) the rise (the last syllable of all having a short rising glide sometimes, which gives it an extra prominence without contrastive significance). e.g.,

'Put it 'on the ˌtable.

It's ˌnot imˌpossible.

The rise of a falling-rising nucleus may be spread over the following unaccented syllables, e.g.,

He 'doesn't 'like ˇcriticism.

Between a fall and a rise, unaccented syllables remain relatively low e.g.,

`Yesterday was ˌfine.

(ii) Attitudinal Function- Intonation, in addition to its function of providing a means of accentuation, may also serve to distinguish sentence types (e.g., statement and question) and to indicate the emotional attitude of the speaker. The main types of utterance are:

(a) Assertions

(b) questions containing an interrogative word (X-questions)

(c) questions expecting 'Yes' or 'No' as an answer (Yes/No questions)

(d) question tags

(e) commands, requests etc.

(f) exclamations, greetings etc.

(A) Falling Tone

(a) Low Fall

- **Statements**

  ˌThanks. ˌYes.

  (When did you arrive?) ˌMonday (uninterested)

  (Who did it?) ˌJohn (detached)

  (Who is your teacher?) ˌMary (detached)

- **Wh-Questions-** (beginning with words like what, when, etc).

  ˌHow? (very curt)

  ˌWhen will she come? (weak, uninterested insistence on when)

  'What can I do for you? (blunt, unemotional)

- **Yes/No Questions**

  ˌIs she ˌcoming? (uninterested)

ˌDo you think so? (curt, exhibiting impatience)

'Could you ˌmeet him? (uninterested, showing no involvement)

- **Tag Questions-**

(It's a lovely day.) ˌIsn't it?

(I'm hard up) ˌaren't we ˌall?

(She is working hard) ˌisn't she?

} expecting agreement

- **Commands/Requests**

ˌWrite ˌdown. (calm uninterested)

'Go 'straight and 'turn to the ˌleft. (neutral)

'See me in the ˌevening. (expecting to be obeyed without any doubt)

- **Exclamations, Greetings etc.-**

ˌPity! (not moved)

'How very ˌtragic! (bored, even mildly sarcastic)

'Good ˌMorning (routine uninterested)

- **High fall-** Strongly contastice or contradictory; often showing strong indignation or excitement, very common in ordinary colloquial speech.

- **Statements**

`No. I `did
'certainly `not
} (strong agreement of disagreement)

- **Wh-questions**

`When? `Where?
`Why ,can't you?
} (expressing surprise, anger, disbelief)

- **Yes/No questions**

'Can you go?
'Did you `meet him?
} (demanding a reply)

- **Tag Questions**

(We don't work on Sundays) `Do we?
(It is not possible to do this) `Is it?
} (demanding agreement)

- **Commands etc.**

'Shut the `door
'Go `ahead
} (angry command)

- **Exclamations, etc**

'What a 'pleasant sur`prise! (strong surprise)

'Good `evening, (hearty greetings)

(B) Rising Tone

(a) Low-rise

- **Statements**

'Cheer ˌup. (reassuring, encouraging)

It's not very ˌgood. (bored, resigned)

It 'won't 'last ˌlong. (reassuring, encouraging)

- **Wh-questions-**

ˌWhy did you ˌdo it? (strong insistence on why)

ˌWhy can't you do it? (threatening)

'When can you ˌcome? (polite enquiry)

- **Yes/No questions**

ˌIs he ˌsleeping (insistence on is)

Is 'brother at ˌhome? (polite, interested)

ˌCan you? (doubtful)

- **Tag questions** (He didn't do it) ˌdid he? (asking for information)

(These are nice) ˌaren't they?

(These are lovely birds) ˌaren't they?

- **Commands/Requests**

,Write here.

,Take this. (gentle command or request).

'Shut the ,door. (polite request).

- **Exclamations, Greetings etc**

,Yes (an interested question)

'Best of ,luck (cheerful good wishes)

'Good ,morning, (cheerful greeting)

(b) High rise- This tone is usually associated with questions, surprise disbelief or eagerness. Consider the following examples:

'Present? (Did you say present? or Do you want some present?)

(expressing eagerness and enthusiasm)

'Is she 'here?

(expressing weagerness)

Can we a'fford it?

'concern expectancy, apprehension)

It 'wasn't 'yours!

(dismay, surprise, indignation)

(C) Falling-Rising:

This tone normally indicates that something is implied something not expressed in the utterance, though this tone can express other attitudes as well. The fall and the rise may occur within the same syllable.

Examples-

(Do you play hockey?) ˅sometimes. (not always, surely)

˅Now. (doubtful)

I 'saw you at the ˅cinema, (reproaching-'you said you had to study physics')

˅Gently! (encouraging, soothing, warning)

'John's here al˅ready. (so do hurry up)

'She is ˅beautiful. (but not very clever)

The ˅coffee was ˌgood (but the service was awful)

At times the fall and the rise may occur on different syllables.

Examples: `He ˌcould. (but I doubt whether you could)

`Do ˌsit ˌdown. `See if you ˌcan. (pressing request)

`Well ˌdone! (warm, sympathetically appreciative)

`Mind ˌhow you ˌgo. (strong but sympathetic warning)

(D) Rising Falling:

This tone is a combination of a rise and a fall. The rise reinforces the meaning conveyed by the following fall. In addition, the initial rise may indicate warmth, anger or sarcasm.

Examples-

It was ^frightful (enthusiastic agreement).

How ^interesting (sarcastic).

Are you ^sure this will go? (suspicious mocking).

(E) Other Devices for Signalling Attitudes:

Many other devices exist for expressing in sound, the mood of a speaker in addition to the actual words used. A rapid rate of delivery, for instance, may express irritation or urgency, whereas a slower rate may show hesitancy, doubt, or boredom in statements, or sympathy or encouragement in questions and commands. An egressive voiceless air-stream with friction (at the rounded lips) and a falling pitch expresses surprise, admiration, relief, whereas an ingressive air-stream of the same type may, in addition, be used to signify pain or pleasurable anticipation; and the utterance may be punctuated by sighs, denoting boredom, impatience, or sorrow.

10.8 THE WORD IN CONNECTED SPEECH

Every utterance is a continuous, changing pattern of sound quality with associated features of quantity, pitch and stress. The word is, like the phoneme, an abstraction from this continuum and must be expected to be realized in phonetically different ways according to the context. The various allophonic realizations of the abstract

unit known as the phoneme.The word constitutes, however, a separable linguistic reality for the speaker. Whether it has a simple or a complex morphemic structure, it is an element of language which is commutable in an utterance with other members of its class, i.e. nouns for other nouns, verbs for other verbs, etc. It is, moreover, often capable of constituting an utterance by itself. It must, therefore, be considered as an abstraction on a higher level than the phoneme, its separable identity having been recognized in the sophisticated written form of English by the use of spaces between words. If, however, the word is admitted as an abstracted linguistic unit. It is important to note the differences which may exist between its concrete realization when said in isolation and those which it has when, in connected speech, it is subject to the pressures of its sound environment or of the accentual or rhythmical group of which it forms part. Those word forms which are typical of connected speech are often known as special context forms. The variations involved may affect the word as a whole, e.g. weak forms in an unaccented situation or word accentual patterns within the larger rhythmic pattern of the complete utterance; or may affect more particularly the sounds used at word boundaries, such changes involving a consideration of the features of morpheme and word junctures, junctural assimilations, elision and liaision forms.

10.9 NEUTRALIZATION OF WEAK FORMS

A number of form words may have different pronunciations

according to whether they are accented or, more typically, are unaccented. Such is the reduction and obscuration of the unaccented forms that words which are phonetically and phonemically separate when said in isolation may be neutralized under weak accent. Such neutralization causes no confusion because of the high rate of redundancy of meaningful cues in English; it is only rarely that the context will allow a variety of interpretation for any one cue supplied by an unaccented word form. The examples of neutralization which follow might occur in rapid, familiar RP:-

/ə/ **unaccented are, a** (and, less commonly, her, or, of)

The 'plays are ˌpoor

She 'wants a ˌdog

'Two 'books are ˌmine

'One or 'two of them are ˌcoming

(or/ɔ:/for or, /əv/ for of)

/əv/ unaccented have (aux), of

'Some of ˌone,

'Some have ˌwon

The 'boys have 'eaten ˌfish

The 'boys of 'Eton ˌfish

/ər/ unaccented are, or

'Ten or ˌunder (less rapidly/ɔ:r/ for or)

'Ten are ˌunder

/ðə/ unaccented the,there

There 'seems a ˌchance

The 'seems are ˌcrooked

/s/ unaccented is, has, does

'What's (s = does or is) he ˌlike?

'What's (s = has) he ˌlost?

/z/ unaccented is, has, does

'Where's (s=has, less commonly does)

he, ˌput it?

where's (s = is) he ˌgoing?

/əz/ unaccented as, has

'How 'much has he ˌdone?

As 'much as he ˌcan

/ən/ unaccented and, an

'On and ˌoff

'On an ˌoff chance

/n/ unaccented and, not

Didn't he ˌdo it? /'dɪd n̩ ɪ:/

He 'did and he ˌdidn't /hɪ dɪd n̩ ɪ: ˌdɪdnt/

/d/ unaccented had, would

I'd ('d = had, would) put it here

10.10 LIAISON

It is usual in connected speech for the linking /r/ forms of words

to be used before a vowel, e.g. thanks for everything /fər/, my father and mother /fa:ðər/,

the weather ought to improve /weðər/,

here and there /hɪðr/,

I don't care if they do /keər/,

the door opened /dɔ:r/,

With some speakers, however, fear of using the intrusive /r/ may inhibit such liaison, a vowel glide or glottal stop being used, e.g.,

the door opened /ðə 'dɔ: ˌəupənd/ or

[ðə 'dɔ: ˌ ʔəupənd]

It is usual for a word final consonant to be carried over as initial in a word beginning with an accented vowel, the identity of the words. Thus,

run off	/rʌ `nɒf/
given in	/gɪ `vɪn/
less often	/ˌle `sɒfn/;

are rarely more particularly, the fortis, plosives do not acquire aspiration such as would accompany their shift to an accented syllable-initial position, e.g.,

get up [ˌge `tʰʌp]

look out [lu `kʰaut]

stop arguing [stɒ `pʰa:gjuɪŋ]

are not usually. One or two phrases in common use do, however, show such transference, e.g.

at home [ə tʰəum]

not at all [nɒt ə tʰɔ:ɬ]

often pronounced; they may be considered as constituting, in effect, composite word forms.

10.11 JUNCTURE

Juncture is the transition from one segmental phoneme to another; it is either close or open and if open, either internal or terminal. Some linguists have identified four significant types of juncture.One is internal or open and three are terminal. These can be illustrated as follows:

/ənɛɪm/ a name - (relatively long / n /, associated with stress onset and possible pitch change)

an aim (relatively short /n/, stress and pitch change beginning of /ei/.

/ðætstʌf/- that stuff - (unaspirated /t/, strong /s/)

that's tough - (aspirated /t/, weaker /s/)

/ðə weɪtə kʌt ɪt/ the waitor cut it (reduced /eɪ/, rhythmic groups /ðə weɪtə kʌt ɪt/)

the way to cut it (long/eɪ/,

rhythmic groups /ðə weɪ - tə kʌt ɪt/

/haustreɪnd/ how strained (long /au/, strong /s/ little devising of /r/

house trained (reduced /au/, weaker /s/, devoiced /r/)

/waɪt ʃu:z/ white shoes (reduced /aɪ/, long /ʃ/)

why choose (long /aɪ/. short [ ]

element of /tʃ/ affricate)

Similarly, simple word entities may be distinguished from words composed of separable morphemes-

/haɪnɪs/ highness (/aɪ/ and /n/ in close juncture rhythmical shortening of /aɪ/)

high-ness (/aɪ/ and /n/ open junctures full length of /aɪ/)

/naɪtreɪt/ night-rate (/t/ and in open junctural relationship, little devoicing of /v/.

nitrate (/t/ and /r/ close junctured, devoiced /r/)

+ (six + tea + cups - sixty + cups)

It is to be noted, however, that such junctural cues are potentially distinctive and, in any case merely provide cues to word identification additional to the large number already contained in any utterance. Junctural oppositions are, in fact, frequently neutralized in connected speech or may have such slight phonetic value as to be difficult for a listener to perceive; they may, therefore, be said to be on a lower place of relevance than the phonemic units conveyed by qualities and the various accentual patterns.

CHAPTER-11

SUGGESTIONS FOR THE IMPROVEMENT OF INDIAN SPEAKERS' ENGLISH PRONUNCIATION

11.1 FEATURES THAT AFFECT THE INTELLIGIBILITY OF INDIAN SPEAKER'S ENGLISH SPEECH

(a) National Level

(i) Lack of clear articulation, with parts of the utterance slurred over and sometimes even important words not coming out clearly; this is particularly noticeable in oral reading.

(ii) Accent on the wrong syllable of a word, which sometimes distorts the phonetic shape of the word completely.

(iii) Substitution of a different vowel or consonant for the one normally used in English.

(b) International Level

(i) Accent on the wrong syllable of a word

(ii) Word ordinarily accented in connected speech left unaccented; this is often accompanied with a very close juncture with the preceding or the following accented word.

(iii) Substitution of [d̪] for English /ð/.

(iv) Substitution of [ʋ] or [ʋʰ] for English /v/.

(v) Substitution of [ʋ] for English /w/.

(vi) Unfamiliar proper names.

(vii) Wrong usage.

(viii) Use of short [e] for R.P. /eɪ/.

(ix) Elision of one or more syllables.

(x) Use of unaspirated /p/, /t/, /k/ at the beginning of accented syllable.

(xi) Uncommon usage.

(xii) Mistakes in reading; substitution of another word, insertion of a word, omission of an inflectional suffix.

(xiii) Substitution of [s] for [z] in inflectional suffixes.

(xiv) Choice by the listener of a word that is more likely in the context.

(xv) Substitution of [t̪ʰ] or [t̪] for English /θ/.

11.2 SUGGESTIONS FOR IMPROVEMENT

(a) The Following Suggestions are Offered for Improving the Efficiency of Indian English and Making it Nationally Intelligible:

(i) Aspirated /p,t,k/ in initial accented positions should be acquired.

(ii) Dental plosives /t̪h/ and /d̪/ can be safely used for English dental fricatives /θ/ and /ð/.

(iii) Labio-dental fricative /v/ should be learnt.

(iv) The distinction between /v/ and /w/ should be maintained.

(v) /r/ can be retained in all positions.

(vi) Post-alveolar /t̲/ and /d̲/ can be used for English alveolar /t/ and /d/.

(vii) Consonant and vowel sounds should be clearly articulated.

(viii) /w/, /ɒ/ and /ɔ:/ should be pronounced with considerable lip rounding as required in normal English.

(ix) Initial and final consonant clusters should be correctly articulated.

(x) Addition, omission and undesirable substitution should be carefully avoided.

(xi) Distributional characteristics of English consonants and vowels should be correclty maintained.

(xii) /f/ should not be used for /v/ in of.

(xiii) /ə/ should be pronounced in the before a consonant and /ɪ/ should be pronounced in the before a vowel. This distinction should be consistently maintained.

(xiv) The correct use of /t,d,s,z/ in inflectional suffixes is required.

(xv) Vowels and diphthongs, should be pronounced with the correct length.

(xvi) /e:/ and /o:/ should be sufficiently long when used for R.P. /eɪ/ and /əu/.

(xvii) Phonemic distinction between English /ɒ/ and /ɔ:/ should be maintained.

(xviii) Spelling pronunciations should be clearly avoided with the help of a standard English pronouncing dictionary which should be constantly used.

(xix) English words should be pronounced with the correct stress patterns as used in normal English.

(xx) Sentences should be given the correct stress and rhythmic patterns accordig to the requirements of normal English.

(xxi) Unstressed syllables should be pronounced weakly and rapidly between two stressed syllables in order to acquire the characteristic rhythmic patterns of normal English.

(xxii) Weak forms of form words and the correct pronunciation of contractedforms - like isn't, hasn't, wasn't, wouldn't,shouldn't, didn't, etc. should be learnt and practised.Strong forms in unstressed positions should be avoided.

(xxiii) The correct division of sentences into tone groups should be learnt according to the principles followed in normal English.

(xxiv) The correct use of English tones - distinguishing different kinds of utterances and also conveying the speaker's attitude correctly is required to be learnt and practised as they are used in normal English.

(b) The Following Suggestions are Offered for Improving the Efficiency of Indian English and Making it Internationally Intelligible;

(i) The correct patterns of English word accent should be maintained.

(ii) The correct patterns of sentence stress and rhythm should be maintained.

(iii) The consonants /θ/, /ð/, /v/ and /w/ should be acquired.

(iv) Unfamiliar proper names should be clearly pronounced.

(v) In vocabulary and syntax the normal usage should be observed.

(vi) English vowels and diphthongs should be given correct length. If Indian /e:/ and /o:/ are used for R.P. /eɪ/ and /əu/, they should be sufficiently long.

(vii) There should be no elision of syllables.

(viii) The voiceless plosives /p/, /t/, /k/ should be aspirated at the beginning of accented syllables.

(ix) The reading of a set text should be done carefully with proper grouping of words and avoiding substitutions and omissions.

(x) The correct distribution of /s/ and /z/ in inflectional suffixes should be maintained.

(xi) The correct distribution of English vowels and consonants should be learnt by the constant use of a pronouncing dictionary.

Part- III

Exercises for Practice

Part-III

EXERCISES FOR PRACTICE

1. **Vowels**
2. **Consonants**
3. **Consonant clusters**
4. **Conversations**

VOWELS:

	Initial	**Medial**	**Final**
/i:/	evening	seed	see
	east	feed	fee
	eve	seat	tea
	even	feat	bee
	eat	seize	tree
/ɪ/	it	bit	city
	if	hit	pity
	in	fit	lady
	ink	sit	memory
	India	rich	many
/e/	end	bed	-
	any	many	-
	else	sense	-
	edge	neck	-
	egg	seven	-
/æ/	axe	mat	-
	ant	bat	-

	apple	cat	-
	ass	pat	-
	angry	hat	-
/a:/	after	hard	jar
	ask	card	car
	arm	heart	far
	artist	pass	star
	artisan	cart	bar
/ɔ/	offer	fog	-
	often	log	-
	Austria	God	-
	Australia	cod	-
	order	top	-
/ɔ:/	ought	stall	core
	all	short	saw
	oar	board	law
	awful	hoard	jaw
	office	caught	war
/u/	-	wood	-
	-	hood	-
	-	good	-
	-	cook	-
	-	nook	-
/u:/	ooze	rude	blue
	oops	food	shoe
	oofs	bute	two
	oomph	root	zoo

	ooziness	moon	chew
/ʌ/	upper	bus	-
	utter	luck	-
	occur	bug	-
	oven	gun	-
	other	fun	-
/3:/	earn	word	her
	earth	girl	fur
	early	curse	sir
	earlier	hurt	err
	err	burn	purr
/ə/	alone	melody	data
	ago	lemon	bitter
	about	famous	father
	affect	cupboard	over
	accept	method	villa

Diphthongs

/eɪ/	aim	made	day
	age	game	pray
	ache	late	play
	ape	face	whey
	ate	safe	they
/aɪ/	ice	mine	fly
	eyes	hide	buy
	either	like	dye
	idle	tight	lie
	aisle	mild	pie

/ɔɪ/	oil	noise	joy
	ointment	coin	boy
	oilpaint	joint	toy
	oilrig	choice	coy
	oilwell	soil	employ
/au/	out	loud	now
	owl	town	cow
	ouch	mouse	how
	outskirts	mouth	vow
	ounce	cows	sow
/əu/	over	home	toe
	own	road	doe
	old	post	foe
	oak	goat	hoe
	oath	both	sloe
/iə/	ear	beard	fear
	ear-ring	real	near
	ear-ache	fears	dear
	earwax	serious	here
	earwitness	period	tear
/uə/	-	during	tour
	-	jury	dour
	-	curious	poor
	-	spurious	moor
	-	furious	cure

/eə/	aerosol	cared	fair
	aeroplane	chairs	pair
	aerogram	scarce	there
	air-gun	careful	care
	aerobics	vary	bear

2. CONSONANTS

Plosives

/p/	pin	appear	lap
	pill	apple	shape
	pain	upper	pulp
	play	captain	cheap
	pew	happen	pump
/b/	big	rubber	rib
	bin	obtain	sob
	boast	ribbon	bulb
	begin	bubble	job
	beauty	object	ebb
/t/	take	steak	beat
	tall	butter	boat
	try	football	late
	tin	button	past
	tune	cattle	act
/d/	do	leader	mad
	dog	headgirl	road
	dry	sudden	old
	duke	admit	bathed
	date	middle	loved

/k/	come	skin	duck
	car	income	luck
	kin	looked	rock
	cry	acknowledge	lock
	quick	buckle	desk
/g/	gease	figure	dog
	guess	bigged	fog
	glass	ignore	leg
	green	bugle	bag
	grass	bangle	rogue

AFFRICATES

/tʃ/	cheese	feature	watch
	choke	lecture	catch
	charge	culture	much
	chin	vulture	coach
	choose	sculpture	porch
/d3/	gin	margin	huge
	jar	danger	age
	joke	object	judge
	jew	agenda	large
	join	urgent	edge

FRICATIVES

/f/	feet	affair	leaf
	fat	coughs	loaf
	fool	sphere	roof
	fit	baffles	stuff
	photo	rafts	laugh

/v/	veal	ever	leave
	vat	fever	give
	vice	loaves	have
	voice	silver	dove
	vain	ovens	love
/θ/	thief	method	path
	thick	author	oath
	thin	athiest	warmth
	thought	anthem	twelfth
	three	langthy	breath
/ð/	this	leather	breath
	they	gather	seethe
	then	worthy	with
	there	southern	loathe
	that	either	swathe
/s/	sat	essay	pass
	spare	escape	license
	stain	whisper	cats
	soap	excite	pulse
	stew	axes	tents
/z/	zoo	easy	says
	zero	busy	ribs
	zeal	lazy	legz
	zest	palsy	bulbs
	zinc	thousand	hands

/ʃ/	sugar	mission	push
	shrink	machine	bush
	shop	cushion	cash
	shout	ashore	wash
	shed	ressal	fish
/3/	genre	pleasure	rouge
	gigue	measure	prestige
	gigolo	treasure	massage
	jalousie	usual	beige
	-	vision	garage
/h/	heat	ahead	-
	hot	behind	-
	hate	behave	-
	huge	manhood	-
	horse	perhaps	-

NASALS

/m/	meat	smoke	warm
	meal	lemon	harm
	march	sermon	game
	mat	summer	tomb
	mouse	symbol	comb
/n/	neat	sneeze	mean
	net	many	gone
	nurse	wonder	soon
	name	hunter	learn
	near	suddenly	moon

/ŋ/	-	singer	sink
	-	anchor	rank
	-	anger	taken
	-	monkey	hang
	-	uncle	monk

LATERAL

/l/	leave	blow	feel
	lock	yellow	call
	loud	hopeless	simple
	look	bulb	fell
	late	doubled	doll

FRICTIONLESS CONTINUANT

/r/	road	very	faraway
	royal	proud	poorold man
	rude	surprise	here at least
	raw	library	once for all
	real	dress	there are two

SEMI-VOWELS

/j/	yes	huge	pew
	yield	accuse	queue
	young	attuned	stew
	year	tune	persue
	Europe	secure	new
/w/	west	twig	-
	wood	twelve	-
	womb	squash	-

	one	away
	wheat	language

3. CONSONANT CLUSTERS

(a) Initial clusters

/pl-/	please	plain
	plight	plough
	plum	plaster
/pr-/	pray	prick
	prove	prattle
	pride	preserve
/pj-/	pure	puny
	pupil	putrid
	pugilist	purity
/bl-/	blow	black
	blue	blast
	blood	blink
/-br-/	bright	brown
	brief	brook
	brutal	brother
/tr-/	try	truth
	trip	trust
	true	traditional
/tj-/	tune	tumour
	tutor	tunics
	tumult	tuition
/tw-/	twin	twilight
	twelve	twitter

	tweet	twist
/dr-/	draw	dress
	dry	drama
	drain	drastic
/dj-/	duke	dence
	duress	duty
	durable	duration
/kl-/	clean	client
	clothes	classical
	clever	kleptomania
/kr-/	cream	crate
	cross	cricket
	crouch	crafty
/kj-/	cute	curious
	queue	cubicle
	cure	cube
/kw-/	quite	qualms
	queen	quick
	quell	quantity
/gl-/	glass	glad
	glow	glide
	glum	gleeful
/gr-/	green	great
	grow	grand
	grind	groto
/fl-/	flow	flay

	flat	flute
	fleet	flirt
/fr-/	fright	frigid
	friend	frantic
	frame	freedom
/fj-/	few	fugitive
	fumes	furious
	futile	fusion
/θr-/	throw	thrive
	through	throne
	thrust	threatened
/sp-/	spin	speed
	spank	sport
	spend	spoil
/st-/	steal	stay
	still	sty
	stall	stock
/sk-/	skate	scarecrow
	skill	scanty
	sky	scapegoat
/sm-/	smear	smirk
	small	smell
	smoke	smack
/sn-/	snake	snore
	snail	sneer
	snow	snip

/sl-/	sleep	slot
	slow	sluice
	sly	slaughter
/sw-/	swim	swerve
	swear	swamp
	swine	swarm
/spr-/	sprain	spritely
	spruce	sprout
	spree	sprint
/str-/	strain	straight
	strength	struct
	straw	stride
/skr-/	scrawl	scramble
	scrub	script
	scruplous	screw
/skw-/	squeeze	squat
	square	squint
	squirm	squatter
/hj-/	huge	humour
	humid	humidity
	humane	humility
/mj-/	mute	mural
	mutual	musical
	museum	music
/nj-/	news	neuter
	neutral	nuerosis
	newitis	nuclear

(b) FINAL CLUSTERS

/-tʃt/	lurched	matched
	reached	betched
	beached	attached
/-ft/	graft	left
	soft	loft
	raughed	bereft
/-kst/	axed	mixed
	boxed	relaxed
	hoaxed	fixed
/-ld/	killed	cold
	reeled	mild
	fold	called
/-sk/	task	husk
	mask	mosque
	risk	ask
/-ks/	seeks	box
	books	talks
	backs	bakes
/-ft/	laughed	graft
	coughed	soft
	theft	loft
/-ʃt/	pushed	rushed
	washed	crushed
/-ld/	cold	gold
	bold	mould
	hold	rolled

/-nt/	aunt	hunt
	ant	current
	want	burnt
/-nd/	hand	sand
	band	land
	pend	and
/ŋk/	wink	drink
	sink	shrink
	think	link
/-ns/	dance	hence
	since	pence
	lence	province
/-skt/	asked	risked
	husked	masked
	frisked	tasked

4. A. CONVERSATIONS

AT the `ration ˌshop

A. Good `morning, Mrs. ˌVerma

V. Good `morning.

A. 'What can I `do for you toˌday?

V. I'd 'like a 'kilo of `sugar, ˌplease.

A. I'm a'fraid our 'sugar 'ration isn't `in yet.

V. Why 'ever not? The 'shortage is sup'posed to be ˌover.

A. I `know it is,/ but I 'haven't `got any

V. You 'haven't been 'selling your allo`cation on the 'black `market,/ ˌhave you?

A. Of `course I ˌhaven't. You 'know me 'better than ˇthat.

V. Well 'where `is it ˌthen?

A. I 'don't `know. There's 'something 'wrong with the distri`bution ˌside of ˌthings.

V. 'Who's in 'charge of 'rationing `anyway.

A. Mr. `Pathak I ˌthink his ˌname is.

V. I've a 'good mind to 'ring him `up/and 'tell him what I ˌthink of him.

A. There's 'no 'harm in ˇtrying. I 'don't `like ˌturning aˌway ˌcustomers.

V. Have you 'got any ˌwheat?

A. `Yes,/ its 'decon`trolled ˌnow. You can 'have as 'much as you `like.

V. As 'much as I can af`ford, you ˌmean. 'How much `is it?

A. 'One ru'pee and 'seventy 'paise a ˌkilo.

V. `What? 'That's ri`diculous. It's gone 'up 'twenty 'paise since 'last ˌweek.

A. I'm 'very ˅sorry/but the ˅wholesale price/ has gone 'up even `more. My 'profit 'margin is 'low en`ough as it, is.

V. 'Give me `ten kilos ˌthen. The ˌthings one `can get ˌcost too ˌmuch/ and the ˌthings whose 'price is ˌright / 'aren't a˗vailable.

A. 'Times are ˗hard, Mrs. ˌVerma, for `all of us. 'Here's your `wheat. 'That 'll be `seventeen ruˌpees.

V. `Thank you

A. `Where are you `going?

V. To 'ring up Mr. ˗Pathak.

2. 'Asking the ˗Way

Stranger : Ex˅cuse me, Will 'this 'take me to the ´station?

Resident : `Yes, 'straight ˌon. 'Turn to the ˗left when you get to the ˌend. You'll 'see a `notice there you `can't go ˌwrong.

Stranger : 'Is it ´far?

Resident : About ˌthree or four ˌminutes,

Stranger : 'Thank you very `much.

'Optimism

Jim : Oh, 'what a 'beastly `day.

Mary : 'There you `are, 'grumbling a`gain

,What's gone ,wrong `now?

Jim : ,What's gone ,wrong? 'Ask me 'what went `right to,day.

Mary : You 'seem to be in 'one of your 'usual `moods. 'Have a 'cup of 'coffee ,first and 'then 'tell me `all a,bout it.

Jim : `No. Thanks ,Mary I've 'just `had ,tea.

Mary : 'Did you 'go to the 'Provident 'Fund com,missioner? 'What did he 'say a'bout your appli`cation.

Jim : 'No, I `didn't ,see him. You ,see, I got 'up late this ,morning, be'cause the a'larm 'clock didn't go `off. Be'cause of ,that I 'missed the 'eight o'clock `bus. I had to 'wait for 'ages be'fore I 'got a `taxi. When I 'reached his ,office it was `10.00 and my a'ppointment was for 'half 'past `nine. I 'spent Rs. '10 on the ,taxi and the 'whole 'visit was an 'exercise in fu`tility.

Mary : 'Cheer `up ,Jim.May 'be it was 'one of those ,days when `nothing goes ,right. There's ,always a to,morrow.

Jim : `No I 'met the Co'mmissioner's ,secretary and my 'next a'ppointment is for the ei'ghteenth of No`vember.

Mary : 'That's 'real 'bad `luck, `isn't it, Jim? Doesn't ˌmatter. `Something will ˌturn ˌup.

Jim : 'You are an `optimist, I ˌtell you

4. A 'Trip A˧broad

Sara : 'Are you very ´busy just• now?

Joan : ˌNo, ˌnot for a ˌfew ˌminutes.

Sara : I 'want to •ask you a `favour if I ˌmay.

Joan : `Certainly. 'Won't you sit ´down?

Sara : `Thanks, I `won't ˌkeep you a ˌmoment.

Joan : 'By the `Way. I ˌheard you were 'thinking of •going a`broad this ˌsummer.

Sara : That's 'just what I •wanted to `see you about. It was 'wondering if you'd •mind ˌsigning may `passort appli˛cation.

Joan : ˌNot at `all. Have you 'brought the •form ´with you.

Sara : ˌYes, `Here it, is.

Joan : 'Let me ˌsee; where do I ˌsign?

Sara : On `this line, please

Joan : `I see, `That's it, then.

Sara : Thank you ˇs˛o much.

Joan : ˌNot atˋ all. When do you intend ˏleaving.

Sara : Abˌout the 'middle of •next ˏmonth, I 'hope to get as •far as Italy.

Joan : ˌThat'll be ˋvery ˌnice. Well, 'have a good ˏtime.

Sara : ˏThanks; I'm ˋsure

And 'thanks ˏagain, for your

ˋhelp, ˋGoodˏ bye

Joan : ˋ¯Goodˏ bye; ˋlet me hear ˌhow you getˏ on.

B. Poetry

Childe Harold

Canto IV: Stanza 178

There is a ˋpleasure/
in the 'pathless ˏwoods,/
There is a ˋrapture
/on the 'lonely ˏshore,/
There is soˋciety
/where none inˏtrudes,/
By the 'deep ˏsea
/ and ˋmusic/ in its ˏroar;/
I 'love not 'Man the ˏless
/ but 'Nature ˏmore,/
From 'these our ˏinterviews,
/in which 'steal/

From 'all ˌmay be,

/ or have 'been bˌefore./

To 'mingle with the ˌuniverse,

and 'feel

What I can 'ne'er exˌpress,

/yet 'cannot 'all conˌceal./ *Lord Byron, 1818*

C. Prose

Fooling the people

You can ˌfool 'some of the •people ˌall 'the •time, and 'all the •people some of the ˌtime; but you 'can't •fool 'all the ˌpeople `all the ˌtime.

D. Verse

The 'Paradox of ˌTime

'Time ´goes, you •say

--Ah ∧ no.

AˌIas, ˇTime \\stays,

\\We ∨ go *(Henry Austin Dobson, 1840-1921)*

E. Shakespearen Extracts

Hamlet, Act I, Scene III

Polonious: ˌNeither a 'borrower nor a `lender be: For 'loan 'oft •loses both it'self and `friend; And ˇborrowing 'dulls the •edge of ˌhusbandry 'This above ˌall: to thine 'own`self be ˌtrue And it must 'follow as the 'night the ˌday Thou `canst not ˌthen be 'false to ˌany man.

F. Anecdote

'How to •Fill ˌBookshelves

While 'visiting some `friends one ˌday, a small •girl was 'taken into their `study, which contained 'numerous 'well-•filled `book shelves. She 'gazed at them 'long and earnestly for ˌsome ˌtime, and 'then re•marked; "^We get ˌbooks from the library, ^too, but 'we •take ˇours \\back".

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THE INTERNATIONAL PHONETIC ALPHABET (Revised to 1979)

CONSONANTS (pulmonic air-stream mechanism)

	Bilabial	Labiodental	Dental, Alveolar, or Post-alveolar	Retroflex
Nasal	m	ɱ	n	ɳ
Plosive	p b		t d	ʈ ɖ
(Median) Fricative	ɸ β	f v	θ ð s z	ʂ ʐ
(Median) Approximant		ʋ	ɹ	ɻ
Lateral Fricative			ɬ ɮ	
Lateral (Approximant)			l	ɭ
Trill			r	
Tap or Flap			ɾ	ɽ

CONSONANTS (non-pulmonic air-stream)

	Bilabial	Dental, Alveolar, or Post-alveolar	Retroflex
Ejective	pʼ	tʼ	
Implosive	ɓ	ɗ	
(Median) Click	ʘ	ǀ	
Lateral Click		ǁ	

	Palato-alveolar	Palatal	Velar	Uvular	Labial-Palatal	Labial-Velar	Pharyngeal	Glottal
Nasal		ɲ	ŋ	ɴ				
Plosive		c ɟ	k g	q ɢ		k͡p g͡b		ʔ
Fricative	ʃ ʒ	ç ʝ	x ɣ	χ ʁ		ʍ	ħ ʕ	h ɦ
Approximant		j	ɰ		ɥ	w		
Lateral Fricative		ʎ						
Trill				ʀ				
Tap or Flap				ʀ				
Ejective			kʼ					
Implosive			g					
Click								

VOWELS

Front		Back		Front		Back
i	ɪ	ɯ	Close	y	ʏ	u ʊ
e	ɘ	ɤ	Half-close	ø	ɵ	o
ɛ	ɜ	ʌ	Half-open	œ	ɞ	ɔ
æ	ɐ					
a		ɑ	Open		ɶ	ɒ
Unrounded				Rounded		

DIACRITICS

̥	Voiceless n̥ d̥	̹ or ˖	Raised e̹, ɹ̹, β̹ w̹
̬	Voiced s̬ t̬	̜ or ˕	Lowered e̜, ɹ̜, β̜ ɣ̜
ʰ	Aspirated tʰ	̟	Advanced u̟, y̟
̤	Breathy-voiced b̤ a̤	̠ or ˗	Retracted i̠, i˗, t̠
̪	Dental t̪	̈	Centralized ë
̺	Labialized t̺	̃	Nasalized ã
ʲ	Palatalized t̺	˞, ˠ, ˤ	r-coloured ɑ˞
̴	Velarized or Pharyngealized ɫ, l̴	ː	Long ɑː
̩	Syllabic n̩	ˑ	Half-long ɑˑ
‿ or ͡	Simultaneous s͡ʃ (but see also under the heading	̯	Non-syllabic ŭ
		˃	More rounded ɔ˃
		˂	Less rounded y˂

OTHER SYMBOLS

ɕ, ʑ	Alveolo-palatal fricatives
ʃʲ, ʒʲ	Palatalized ʃ, ʒ
ɾ̝	Alveolar fricative trill
ɺ	Alveolar lateral flap
ʃ͡ɧ	Simultaneous ʃ and x
ʃˢ	Variety of ʃ resembling s, etc.
ɪ	= ɪ
ʊ	= ʊ
ɜ	= Variety of ɜ
ɚ	= r-coloured ə

STRESS, TONE (PITCH)

ˈ stress, placed at beginning of stressed syllable: ˌ secondary stress: ˉ high level pitch, high tone: ˍ low level: ˊ high rising: ˏ low rising: ˋ high falling: ˎ low falling: ˆ rise-fall: ˇ fall-rise.

AFFRICATES can be written as digraphs, as ligatures, or with alur marks; thus ts, tʃ, dʒ: t͡s t͡ʃ d͡ʒ.
c, ɟ may occasionally be used for tʃ, dʒ.