

**MAEN102CCT**

# **The Structure of Modern English**

for

**M.A English  
(First Semester)**

**Directorate of Distance Education**

**Maulana Azad National Urdu University**

**Hyderabad-32, Telangana- India**

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**M.A English**  
**The Structure of Modern English**  
**1<sup>st</sup> Semester**

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(SLM Based on UGC CBCS)

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**Vice Chancellor**

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**Director**

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**Coordinator**

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## Message

Maulana Azad National Urdu University (MANUU) was established in 1998 by the Act of Parliament of our beloved country. The four mandates of the university are (1) promotion of Urdu language, (2) accessibility and availability of professional and technical education in Urdu medium, (3) providing education through traditional and distance learning mode, and (4) a specific focus on women's education. These are the points that distinguish this central university from all other central universities and give it a unique feature. It has been emphasized even in the National Education Policy 2020 to achieve education in mother tongues and regional languages.

The very objective of promotion of knowledge through Urdu is meant to facilitate the accessibility of contemporary knowledge and disciplines to Urdu knowing community. For a long time, Urdu has remained devoid of scholarly materials. A cursory glance over a library or shelves of a book seller substantiates the fact that Urdu language is diminished to only a few "literary" genres. The same situation can be seen often in journals and newspapers. The writings available in Urdu take readers sometimes to the meandering paths, sometimes involve emotionally in political issues, sometimes illuminate religions on creedal background, and sometimes burdened our minds with complaints. Further, the Urdu reader/community is unaware of the today's most important areas of knowledge whether it is related to his own health and life or related to the financial and commercial systems, whether it is related to machines and gadgets around him or the issues related to his environment or vicinity. The unavailability of content related to the above domains of knowledge has created an atmosphere of apathy towards attaining knowledge that exhibits the lack of intellectual abilities in Urdu community. These are the challenges that Urdu University is confronted with. The scenario of Self Learning Materials (SLM) is also not very different. The unavailability of course books in Urdu at school level comes under discussion at the commencement of every academic year. Since the medium of instruction of Urdu University is only Urdu and it offers almost all the courses of important disciplines, the preparation of books of all these subjects in Urdu is the most important responsibility of the University. To achieve these objectives, the Urdu university was commenced in 1998 with Distance Learning.

I am immensely pleased that due to the hard work of the concerned faculties and full cooperation of the writers, the process of publications of books has begun on massive scales. For the students of Distance Learning, the process of preparing and publication of Self Learning Materials (SLM) has begun in a minimum possible time. The books of first Semester got published and sent to the students. The books of second Semester too will be sent to the students shortly. I believe that we will be able to meet the requirements of a large Urdu knowing community through our Self Learning Materials and will fulfill the mandate of this University, and justify our presence in this country.

With best wishes.

**Prof. Syed Ainul Hasan.**

**Vice Chancellor,**

MANUU, Hyderabad

## Message

You all are well aware that Maulana Azad National Urdu University began to function from 1998 with the Directorate of Distance Education and Translation Division. Regular mode of education commenced from 2004 and various departments were established which were followed by the appointments of faculty. Self Learning Material was prepared through writing and translation with full support of competent authority.

For the past few years UGC-DEB kept emphasizing on synchronizing the syllabi of distance and regular mode to enhance the level of distance learning students. Accordingly, at Maulana Azad National Urdu University, the syllabi of distance and regular mode are synchronized by following the norms of UGC-DEB and Self Learning Materials are being prepared afresh for UG and PG courses containing 6 blocks - 24 units and 4 blocks - 16 units respectively.

Distance education system is considered highly effective and beneficial around the globe. The large number of people enrolled in it stands a witness to the same. Realizing the literacy ratio of Urdu speaking population, Maulana Azad National Urdu University implemented Distance education from its beginning. In this way, the university reached out to Urdu speaking population through distance learning method prior to regular. Initially, the study materials of Dr. B. R. Ambedkar Open University and Indira Gandhi National Open University were borrowed. The intention was to prepare our own study materials rapidly and not to be dependent on other universities but the intent and effort could not go hand in hand. Consequently, it took plenty of time to prepare our own Self Learning Material. Eventually, the task of preparing Self Learning Material commenced systematically at war foot. We had to face numerous hindrances but never gave up. As a result, university started to publish its own study material at high speed.

Directorate of Distance Education runs fifteen courses consisting of UG, PG, B.Ed, Diploma, and certificate courses. In a short span of time, courses based on technical skills will be started. A huge network of nine regional centers (Bengaluru, Bhopal, Darbhanga, Delhi, Kolkata, Mumbai, Patna, Ranchi, and Srinagar) and six sub-regional centers (Hyderabad, Lucknow, Jammu, Nooh, Varanasi, and Amravati) was established to facilitate the students. One hundred and forty four Learner Support Centres (LSCs) and twenty Programme Centres are run simultaneously under these regional and sub-regional centers to provide educational and administrative support to the students. DDE also utilizes ICT for its educational and administrative activities.

The admissions in all programs are done only through online mode. The soft copies of Self Learning Material for students are made available on the website of Directorate of Distance Education. In near future, the links of audio and video recordings will also be made available on the website. In addition, SMS facilities are being provided to students to have better communication. The students are informed through SMS regarding various facets of programs such as course registration, assignment, counseling, exams, etc.

Directorate of Distance Education will not only play a vital role to bring educationally and economically backward Urdu speaking population into the main stream but also in the increase of Gross Enrolment Ratio.

**Prof. Mohd Razaullah Khan**

*Director, Directorate of Distance Education, MANUU, Hyderabad*

## Introduction to the Course

The M.A. English programme is designed to give a sound knowledge in English Language, Literature and Literary Theory so as to empower the prospective students for higher studies and employment apart from helping them prepare for competitive exams. It is spread over two years (four semesters) minimum duration. The objectives of the programme are as follows:

- a. to provide a sound base in English Language
- b. to provide insights into the development of English and the phonological, morphological, syntactical and stylistic aspects of language
- c. to provide knowledge in the teaching of English
- d. to explore the various literatures in English
- e. to provide exposure to the different genres, movements and periods of English literature
- f. to facilitate critical and analytical abilities
- g. to introduce literary theory and criticism
- h. to build confidence among the learners with language skills in English
- i. to enable the working target group to enhance their qualifications and
- j. To facilitate higher education in the open distance learning mode.

At the end of the two year post graduate programme in M.A. English, the learner would have mastered the theoretical knowledge of the English language and literature. The learners would be able to appreciate literatures in English, take up critical analysis, understand the different movements, periods and concepts in the study of English language and literature. The two year programme will prepare the learner for competitive examinations, for employment and for research by developing their skills apart from leading to refinement.

The course “The Structure of Modern English” is designed to introduce you to the background with introduction to linguistics and the different branches of linguistics. This Course also provides in-depth information on phonetics and phonology, morphology and syntax with specific reference to the English language. The course is divided into four Blocks, each Block has four Units. As students of M.A. English, you should gain expert knowledge in the structure of the English language. This course will help you in improving your English language skills and will further help you in the field of teaching. It will also help you in exploring areas of research for further studies.

This SLM is supplemented by audio-video lessons. You may visit IMC MANUU YouTube channel <http://youtube.com/u/imcmanuu> for the complete list of AV lessons in English.

With you in your journey through the fields of English literature!

**Prof. Gulfishaan Habeeb**  
**Programme Coordinator**



# **The Structure of Modern English**



# Unit-1: Introduction to Linguistics

## Structure

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## 1.0 Introduction

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Dear students, in this Unit, we shall study what linguistics is, its definition, and basic linguistic elements with a brief explanation. Further, this Unit also consists of assessment questions to help you examine whether they have understood the essentials of linguistics or not.

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## 1.1 Objectives

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This Unit has the following objectives:

- to make you understand the role of linguistics
- to familiarize you with definition of linguistics
- to make you acquainted with sub-branches of linguistics
- to enable you to learn the essentials of linguistics

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## 1.2 Introduction to Linguistics

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Before we start talking about what linguistics is, let us first try to study the basics of ‘*language*’. It is understood that the students who are interested in learning and studying a language are familiar with the general definition of language, yet we will look into some universally accepted definitions:

- Language is a medium or channel through which we express our ideas, share our feelings and emotions.
- Language is a means of communication or a channel of communication to converse, share ideas, express feelings or emotions and exchange information.
- *Oxford Advanced Learner’s Dictionary* (1989) defines language as a ‘system of sounds, words, patterns, etc. used by humans to communicate thoughts and feelings.’

As you know, it is a general fact that human beings are interested in learning language and are inquisitive to understand the structure of language to appreciate how effectively it works. However, speaking one’s native language is the most spontaneous, natural and effortless job which we do most of the time. For this reason, you may ask, besides a few rules of pronunciation and grammatical rules, what else is there to study about human language? In reality, there is a lot to learn if we use and read consciously. Therefore, it is important to understand and study the need for language and basics linguistics.

### 1.2.1 Language:

The word ‘*language*’ originates from the Latin word ‘*lingua*’ which means tongue. The term ‘*language*’ is defined and described differently by linguists. So let us understand and look at the definitions given by distinguished linguists. Some of their definitions are given below:

- Hockett (1958) states, “*language is the most valuable single possession of the human race and the use of language is an integral part of human beings.*”
- Humboldt believes that “*man is the man through the use of language alone.*”
- Trager (1949) defines language as “*a system of arbitrary vocal symbols by means which the members of a society interact in terms of their total culture.*”
- R.H. Robbins (1990) defines language as “*a form of communication through the system of symbols principally transmitted by vocal sounds*”.
- Brown (1984) says, “*Language is the most sophisticated and versatile means available to human beings for the communication of meaning.*”
- Sapir (1921) defines language as “*a purely human and non-instinctive method of communicating ideas, emotions and desires using voluntarily produced symbols.*”
- Fromkin and Rodman (1974) describe language as “*the system by which sounds and meanings are .*”
- Mario Pei and Frank Gaynor (1954) state: “*Language is a system of communication by sound, i.e. through the organs of speech and hearing, among human beings of a certain group or community, using vocal symbols possessing arbitrary conventional meanings.*”

#### ***Check your progress***

1. Write a short note on ‘*Language*’

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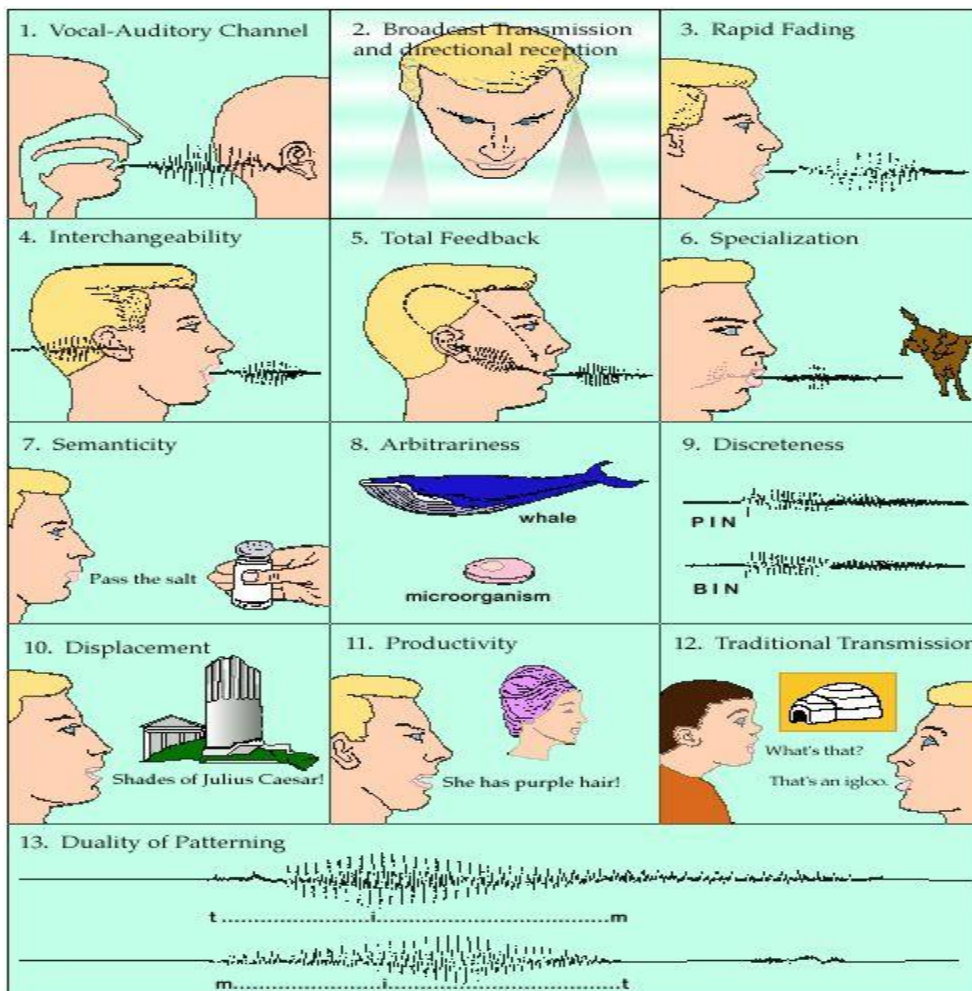
2. How does *Oxford Dictionary of English* define language?

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### 1.2.2 Animal Communication vs. Human Language:

Language, in the limited sense in which linguists describe the term, is a special gift to human beings and only humans have the ability of speech. The appropriate question, therefore, to ask at this point is: *How is animal communication different from human language?* To answer this question, we shall now study the similarities and differences between animal communication and human language. In order to understand these similarities and differences, let us now look into the design features listed by the famous American linguist Charles F. Hockett (1960).



source: <https://commons.wikimedia.org/w/index.php?curid=26057645>

#### Vocal-auditory channel:

Human languages signify both hearing and speaking. In the beginning, when Hockett (1960) described this design feature it did not cover sign language, which replicates the ideas of verbal

communication that was prevalent during that time. This specifically designed feature was later on added to other means of language. For example, tactile symbols in case of Braille language.

**Broadcast transmission and directional reception:**

When human beings speak, sounds are passed on in all directions; nevertheless, listeners recognize the way from which the sounds are coming. Likewise, signers broadcast to prospectively anyone within the vision, while that watching see who is signing.

**Rapid fading:**

It is also called transitoriness. Rapid fading refers to the transitory quality of language. The language sounds are present for only a short time, after which they are not seen. Usually, sound waves immediately fade away once a speaker stops speaking. This is also true of signs. On the contrary, other forms of communication such as writing and knot-tying are more permanent.

**Total feedback:**

Human beings can hear their speech and know how to control and modify what they are saying as they say it. For instance, signers see, feel, and control their signing.

**Learnability:**

Language can be learnt and taught also as spokespersons acquire their first language, they are also competing with other languages like second language or foreign languages. It is nothing that young kids learn with competency and effortlessness; though language learning is confined by difficult phases such that it turns more complicated once kids surpass a certain age.

**Prevarication:**

Human language has the unique quality of prevarication, which means the ability to lie or deceive, whereas we do not find this feature in animal communication. When human beings give speeches, they can make senseless or completely fake or false speeches. Hockett (1960) mentions animals are neither able to speak lie nor utter something that is not present.

**Semanticity:** Semanticity is another design feature that refers to some definite sound signals that are straight away connected to certain meanings. For example, the quality of a linguistic system has to be able to convey meanings.

**Duality of structure / Patterning:**

The human language consists of two levels of patterning where meaningless units i.e. phonemes are combined generate arbitrary signs i.e. words and finally, signs, are recombined to form new and larger meaningful units i.e. sentences. For example, in languages only two levels of structures are identified as of now: They are given below:

**Primary level:** compounding of sounds or phonemes into words

S+P+O+T = SPOT

T+O+P+S = TOPS

O+P+T+S = OPTS

P+O+T+S = POTS

**Secondary level:** compounding of words into sentences.

Spot+ the+ tops+ of+ the+ pots = spot the tops of the pots

**Creativity / Productivity:**

It is a fact that human beings can speak and produce messages on any topic at any time. Humans can create or frame a sentence that has never been spoken or used by anyone before. Hence, the same limited sets of a phoneme are combined in a new form to the given new messages. On the other hand, animal communication is little and barely creates any new words and form new sentences. For instance, if I say “*Last week I had a wonderful time with a tiger in the forest*” it would be a new sentence that I have never heard or read anywhere. The production of such new sentences engrosses creativity/productivity.

**Interchangeability:**

Human beings are able to send as well as receive messages in the process of communication; this special quality of human language is known as interchangeability. It is an exceptional characteristic feature of human language but not with the animal communication system. For example, bee dance is done only by hunters and birdsong is performed only by males. The calls are not interchangeable between the sexes in the animal communication system but they are fully interchangeable in human language.



**Cultural / Traditional transmission:**

Language is a set of principles that results because of the common living of people. Therefore, these principles are common to the total social communities that use the language. Charles Hockett (1955) points out that the system of conventions particular to each language is culturally transmitted i.e. acquired through learning and not genetically transmitted i.e. acquired through heredity. Psychologists often make a distinction between instinctive and non-instinctive behaviour. For example, human beings have no instinct about the construction of houses. They have to learn how to build houses because nature has not supplied them with an inbuilt knowledge of engineering.

**Displacement:**

Displacement means that users of the system can refer to events remote in space and time. Animals cannot talk about imaginary past or future which humans can do with language. In other words, human language is context-free whereas animal communication is context-bound. For instance, human beings can speak about the experience without actually experiencing them because human language is not controlled by the impetus.

**Specialization:**

Specialization implies that there should not be total physical involvement in the process of communication. Humans can talk even if they are engaged in activities that are not related to the subject under discussion. For example, human beings can discuss cricket while cooking food. A bee in a bee dance, however, is completely involved physically in the communication process. As a result, animals or birds cannot do anything new.

**Arbitrariness:**

Arbitrariness means that there is no natural or intrinsic link between a written word or sound and its reference or symbols. This is true of human language except for a few onomatopoeic words or sentences. Hence, the connection between words and their meanings is arbitrary; it is entirely a question of custom or convention. For example, there is no logic behind why a word like rose refers to a flower of a specific kind and is simply arbitrary. There is nothing logical about it. A group of people decided to call it a rose and people accepted it as a word in the English language.

**Redundancy / Reduplication:**

It means repeating the same words or sentences several times. Human language certainly has a lot of repetition but not in the case of animal communication. For example, when we use a sentence like: Is she coming? There are two markers to show that it is a question: the placement of the helping verb at the beginning, and the rising tone with which the question would be asked. This kind of redundancy i.e. two or three markers to show the same thing does not exist in the animal communication system.

**Discreteness:**

Human language is made up of different sounds. Each sound preserves one meaning, but several sounds merged in a definite order can have diverse meanings. For example, with the help of three discrete units like *b*, *a* and *t* we can create *bat* and *tab*. This is not possible in the animal communication system.

**Reflexiveness:**

The quality of producing an immediate response is spontaneous. We do not have any proof by saying that other species on the earth use grammatical structures to use and learn the language.

**The approximate number of basic vocal signals for different species is given below:**

Species	No. of vocal signals
Chickens	20
Cows	08
Foxes	36
Pigs	23
Dogs	10
Dolphins	7-9
Monkeys	10-37
Human beings	11-20

Based on the number of signals alone, the monkeys that use 37 signals are more sophisticated than human beings who use a language that has about 20 signals.

### 1.2.3 What is NOT Linguistics?

Before we study more about linguistics, let us first try to understand what is not linguistics. Human beings are always interested in learning a new language. People who are interested in language tend to learn more languages to have fun. For instance, playing with riddles, puzzles and referring to dictionaries. It is a fact that playing with these things does not mean that these people are working with linguistics because it is an informal interest in language, no matter how strong that interest may be. The media and authors write books and articles, political leaders make public speeches, translators take ideas from one language and restructure them in another language while advertisers choose the best words to sell manufactured goods. However, using a language is not simply linguistics and is not even the same as studying a language it is beyond that. Linguistics is the objective study of language and not the use of language. Nevertheless, linguistics is not an interest in language for some other purpose rather it is an interest in language for studying the language itself. Linguistics differs from all other disciplines as it requires external motivation. The linguistic study of language is always unique and studied for the sake of art.

### 1.2.4 Linguistics:

The word '*linguistics*' is borrowed from the Latin word '*lingua*' meaning '*tongue*'. Generally, linguistics deals with the scientific study of language or languages. To know more about linguistics let us look at some definitions to familiarize ourselves with linguistics. Some of these definitions are as follows:

- Online *Merriam Webster Dictionary* defines linguistics as “the study of human speech including the units, nature, structure and modification of language.”
- *Macmillan English Dictionary for Advanced Learners*: “Linguistics is the study of language and how it works.”

So linguistics is the specialized study of language and its structure which includes grammar, syntax, and phonetics. Specific branches of linguistics include sociolinguistics, dialectology, psycholinguistics, computational linguistics, comparative linguistics, and structural linguistics

### 1.2.5 Meaning of Scientific Study:

We studied the general definition of linguistics as the specialized study of language. Now, let us try to understand linguistics as a '*scientific*' study. Most of us have an impression that the main thing about Science is the topics that are related to scientists. For instance, Science is the study of the physical world, of chemicals in chemistry, the forces and energy that operate in physics, living things, biology, stars and planets, astronomy etc. They are apprehensive whether the mind, emotions, human behaviour, art and literature can even be a part of Science. The other connotation of Science is that, it seeks to explain why things are the way they are. It is the search for clarifications, an attempt to answer the question of "why", which is the essence of Science. Science is about solving problems and to answer these problems we have to examine the facts meticulously, decide whether facts are relevant and make calculated guesses, and then check these speculations using rigorous logical thinking. A scientist, therefore, considers that explanation is more important than just describing and classifying a wide range of data. He is willing to narrow the data and even delay problems that could not be solved at the time and understand that being disproved does in no way undermine or invalidate his contribution.

In the same way, a linguist explores the observed data of natural languages by constructing hypotheses, theories and laws. And like scientific theories, a linguistic theory not only explains the examined data but envisages it too. Therefore, the details of the experimental data and the prediction of the potential data are the two roles of any scientific theory. Explanation and prediction are two sides of the same coin. A general rule explains what has already been experimented with and predicts what has not been observed as yet. A linguist, like a good scientist, is always trying to learn more about languages, improve his research methods, and creates better hypotheses.

#### ***Check your progress***

1. Briefly explain '*Linguistics as a scientific study of language*'.

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### 1.2.6 Studying a Language:

Dear Learners, have you ever thought about what the meaning of the word ‘*study*’ is? What is the difference between ‘*learning a language*’ and ‘*studying a language*? Most of us have learnt to use at least two languages, our mother tongue and English. Learning a language means learning how to use the language in our daily life. However, when we say a linguist studies a language, we mean he studies the mechanism of the language. For example, the way a language functions. Linguistics comprises language in all its forms and manifestations. It aims to seek a scientific understanding of language and how it is organized to fulfill the needs of its servers and the function it performs in life. Linguistics is concerned with human language as a universal and recognized component of human behaviour, rather than with any specific language or language. Thus, the study of an individual language is the grammar of that language while the study of language, in general, is linguistics.

### 1.2.7 Linguistic Elements:

So far, we have studied some important linguistic terminology like *language*, *scientific* and *study*. Now, let us briefly focus on the linguistic elements such as *applied*, *comparative*, *diachronic*, *descriptive*, *synchronic* and *theoretical* linguistics. Depending on the linguist's emphasis and attention, all of these components can be distinguished. As a result of the distinction proposed by *Ferdinand de Saussure*, we now have diachronic and synchronic linguistics.

- ***Diachronic linguistics*** is concerned with changes in language as a result of the language's historical development over time.
- ***Synchronic linguistics*** is the study of language states in their current condition, regardless of their historical context.
- ***Theoretical linguistics*** is defined as the attempt by linguists to create general rules for the study of all languages. They use descriptive linguistics when they want to establish the facts of a given language system.
- ***Comparative or typological linguistics*** is the term used when the focus is on the similarities and contrasts across languages.

- *Applied linguistics* is the application of linguistic principles and procedures to other fields such as language instruction, translation, and testing.

As discussed at the beginning of this unit, speakers of a particular language can make several utterances, including many new and unfamiliar ones. In other words, languages have a unique characteristic called ‘*creativity*’. It is linguistic competence, which represents the central subject matter of modern linguistics. In investigating linguistic competence, linguists focus on the mental system which allows one to form and interpret the words and sentences of one’s language.

Linguistics can further be divided into sub-branches. They are as follows:

- **Phonetics:** the scientific study of speech sounds.
- **Phonology:** the study of sounds in a particular language.
- **Morphology:** the study of the formation of words.
- **Syntax:** the study of structures in a particular language.
- **Semantics:** the study of meanings.
- **Pragmatics:** the study of contextual meanings.

#### 1.2.7.1 Phonetics:

The word ‘Phonetics’ is derived from the Greek word ‘*phone*’ which means ‘*sound or voice*’. It may also be defined as ‘*the scientific study of speech sounds*’. Phonetics is primarily concerned with the aural medium addressed to the ear. It is one of the sub-branches of linguistics, which deals with the medium of speech, production, transmission and reception of the sounds of human speech. J. C. Catford (1990) defines “*phonetics as the systematic study of human speech sounds. It provides means of analyzing, classifying and describing virtually all the sounds that can be produced by human vocal tracts*”.

The study of phonetics is essential to familiarize ourselves with the English language. It is generally not necessary to learn the phonetics of our mother tongue, as we acquire the correct pronunciation by imitating our parents and people who live around us. However, it does not mean that those whose native language is English will not study English phonetics. Nevertheless, the study of phonetics is essential in learning any new language.

### **1.2.7.2 Phonology:**

Phonology deals with “the study of sounds in a particular language”. According to George Yule, “phonology is essentially the description of the systems and patterns of speech sounds in a language. It is, based on the theory of what every speaker of a language unconsciously knows about the sound patterns of that language. Because of this theoretical status, phonology is concerned with the abstract or mental aspect of the sounds in language rather than with the physical articulation of speech sounds”. So we can say that phonology is the systematic study of the relationship between speech sounds of a language. It is the branch of linguistics that deals with system of sounds within a language or between different languages. The necessary activity in phonology is *phonemic analysis*, the objective of this analysis is to set up what the phonemes are and arrive at the phonemic inventory of the language.

### **1.2.7.3 Morphology:**

Morphology is one of the branches of linguistics that generally deals with words and how these words are formed in a given language. It is “*the study of the forms of things or a particular form, shape, or structure.*” It further deals with the study of the distribution and form of “morphemes,” taken to be as the minimal combination unit that languages use to build words and phrases.

### **1.2.7.4 Semantics:**

The word *semantics* originates from the ancient Greek language meaning significant. Semantics deals with the study of meaning. It further covers several related subfields like linguistics, computer science and philosophy.

### **1.2.7.5 Syntax:**

Syntax means the study of structures. The word *syntax* originates from primitive Greek means "coordination", which consists of "together", and "an ordering." In linguistics, syntax is how words and morphemes are made into larger units, for example, *phrases* and *sentences*. Most importantly syntax comprises word order, grammatical relations, sentence structure, agreement, the nature of cross-linguistic variation, and the relationship between form and meaning.

### 1.2.7.6 Pragmatics:

Pragmatics is one of the relevant fields of linguistics. It deals with the contextual study of language how context adds to meaning. For example, the field of the study examines how human language is used in community exchanges, as well as the relationship between the sender and the receiver. Further, pragmatics includes speech acts, relevance and conversation, as well as nonverbal communication. Theories of pragmatics go with theories of semantics, which concentrates on aspects of meaning, and studies sentence structures, principles, and relationships.

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## 1.3 Learning Outcomes

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Upon the completion of this Unit, you should be able to understand the term linguistics and its significance in learning a language. Further, you should be able to discuss and differentiate the terms language and scientific besides understanding the distinctions between animal communication and human language. Finally, you should be able to describe and define linguistic elements like phonetics, phonology, morphology, semantics, syntax and pragmatics.

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## 1.4 Glossary

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**Language:** The ability to communicate using words.

**Scientific:** Of or having to do with science.

**Prevarication:** The quality of deceiving, fake, false and lie.

**Auditory:** Aural or hearing.

**Communication:** The state of exchanging data or information between entities.

**Verbal Communication:** The use of words to convey a message. It is also called oral communication.

**Competence:** The system of linguistic knowledge possessed by native speakers of the language.

**Spontaneous:** Self-generated; happening without any external cause

**Mother Tongue:** The language one first learned; the language one grew up with; one's native/ first language.





4. 'Linguistics' is the scientific study of language.

(a) True

(b) False

5. 'Morphology' is the formation of sounds.

(a) True

(b) False

### 1.5.2 Short Answer Questions:

1. Write a short note on 'Morphology'.
2. Briefly comment on Semantics.
3. Give a short note on Syntax.
4. Write a brief note on Pragmatics.
5. Give a short note on elements of linguistics.

### 1.5.3 Long Answer Questions:

1. Elucidate the difference between animal communication and human language.
2. Describe linguistics as the 'scientific study of language'.
3. Explain the differences between *Phonetics* and *Phonology*.

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## 1.6 Suggested Readings

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1. Akmajian, A; R.A. Demers and R.M. Harnish *Linguistics: An Introduction to Language and Communication*. The MIT Press, Massachusetts. 1979
2. Balasubramanian, T. *A Textbook of English Phonetics for Indian Students*. New Delhi: Macmillan. 1981
3. Crystal, D. *The Cambridge Encyclopedia of Language*. CUP. Cambridge. 1987

## **Unit-2: Branches of Linguistics**

### **Structure**

**2.0** Introduction

**2.2** Objectives

**2.2** Branches of Linguistics

**2.2.1** Phonetics

**2.2.2** Phonology

**2.2.3** Morphology

**2.2.4** Syntax

**2.2.5** Semantics

**2.2.6** Related Fields of Linguistics

2.2.6.1 Sociolinguistics

2.2.6.2 Psycholinguistics

2.2.6.3 Historical Linguistics

2.2.6.4 Applied Linguistics

2.2.6.5 Computational Linguistics

**2.3** Learning Outcomes

**2.4** Glossary

**2.5** Sample Questions

**2.6** Suggested Reading

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### **2.0 Introduction**

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This Unit has been designed to present and illustrate the general idea about linguistics and its branches. Human language is a complex system of communication used to express needs, feelings, emotions, ideas and desires. Linguistics is the study of the structuring of this system. It deals with the process of acquisition, use, production and comprehension of messages. Linguists have continuously been struggling with questions like –

- What properties do all human languages have in common?

- How do languages differ?
- To what extent does this difference follow a system or pattern?
- How do languages change?
- What is the procedure involved in the change of languages?

The answers to these questions has led to the classification of language into various branches. In the present Unit we shall discuss in detail the various branches of linguistics.

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## 2.1 Objectives

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The Unit has been designed to fulfill the following objectives:

- to familiarize you with the concept and function of Linguistics
- to enable you to understand the how linguistics can be studied under various heads which make the different branches of linguistics.
- to enable you to understand the difference between phonetics and phonology
- to familiarize you with the basic idea of Morphology, Syntax and Semantics.
- to introduce you to the several interdisciplinary branches of linguistics

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## 2.2 Branches of Linguistics

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### 2.2.1 Phonetics:

We perceive language as a continuum of sounds that the listener decodes and understands as meaningful utterances. The study of these speech sounds as concrete manifestations of language is called *Phonetics*. Right from production of speech to transmission and receipt of the speech sounds and to perception of the same, it includes all of it. Each of these three stages are sub-fields of phonetics, viz.

- Articulatory Phonetics
- Acoustic Phonetics
- Auditory Phonetics

It will be interesting to know that the production of speech sounds involves a set of organs of speech and it is not just the tongue that we knew since our early education.

They are - lips, blade of the tongue, teeth, soft palate, hard palate, uvula, nasal cavity, epiglottis, vocal cords apart from the diaphragm that helps pump the air from within. We shall learn about them in detail in the module on phonetics.

Human speech which appears to be a single entity and is taken as a connected chain, can be analyzed in discrete units. The word *Exam* which appears to be a single unit can be discretely analyzed as a combination of /ɪ/, /g/, /z/, /æ/ and /m/. As each sound unit/segment can be studied separately so the breaking up is known as *segmentation*. However, there are elements in phonetics (stress & intonation) that cannot be analyzed as discrete segments. They are referred to as *suprasegmentals*.

A very significant contribution from this field to the world of linguistics has been the International Phonetic Alphabet (IPA) which assigns a symbol to each of the human sounds. These phonetic symbols denote a phoneme each. A phoneme together with a vowel sound forms a syllable. One or more syllables together make a meaningful word. These IPA symbols help us transcribe the sounds involved in the production of a word. In any standard dictionary, you will find the transcription of the word with the phonetic symbols right after the spelling of it. This helps us get the correct pronunciation of the word concerned.

### **2.2.2 Phonology:**

A selection is made in all the human languages of the distinct sounds which it makes use of. The selection of language A may not match with the selection of language B or may exist as position variant in language C. The in-depth study of these sounds in the backdrop of different languages has given room to two different areas of linguistic enquiry: *phonetics* which is simply the study of speech sounds and *phonology* which is the study of sounds of a particular language as an integrated system of features which are contrasting in nature.

Phonetics and phonology are interrelated. The primary difference between the two is that phonetics in general is applicable to all the human languages; however, phonology is specific about one particular language at a time. Thus, the study of how speech sounds form patterns in a language is phonology. For example, when we say English phonology, we are basically dealing with the sound system of only English.

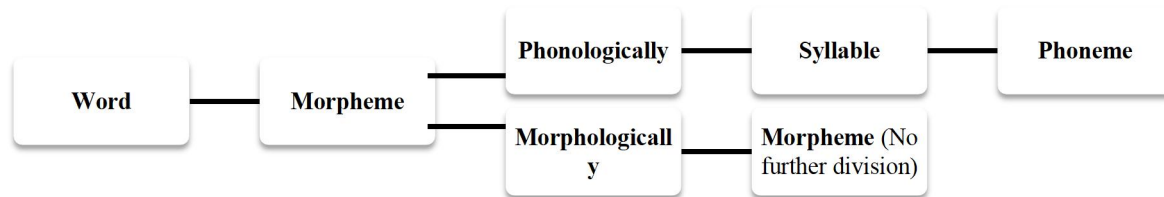
The fact that English phonology has 44 sounds, i.e., 20 vowel sounds and 24 consonant sounds, is not applicable to other languages. While English phonology does deal with pure vowel sounds as well as the glides, it does not take into account the nasal vowels as they are not found in English. Nasalization, despite being a redundant feature for English vowels, is indeed a distinctive feature for English consonants. For example, all the verbs in the progressive aspect have -ing /ɪŋ/ in English phonology. On the other hand, phonology of a language like Swahili shall certainly deal with nasal vowel.

### 2.2.3 Morphology:

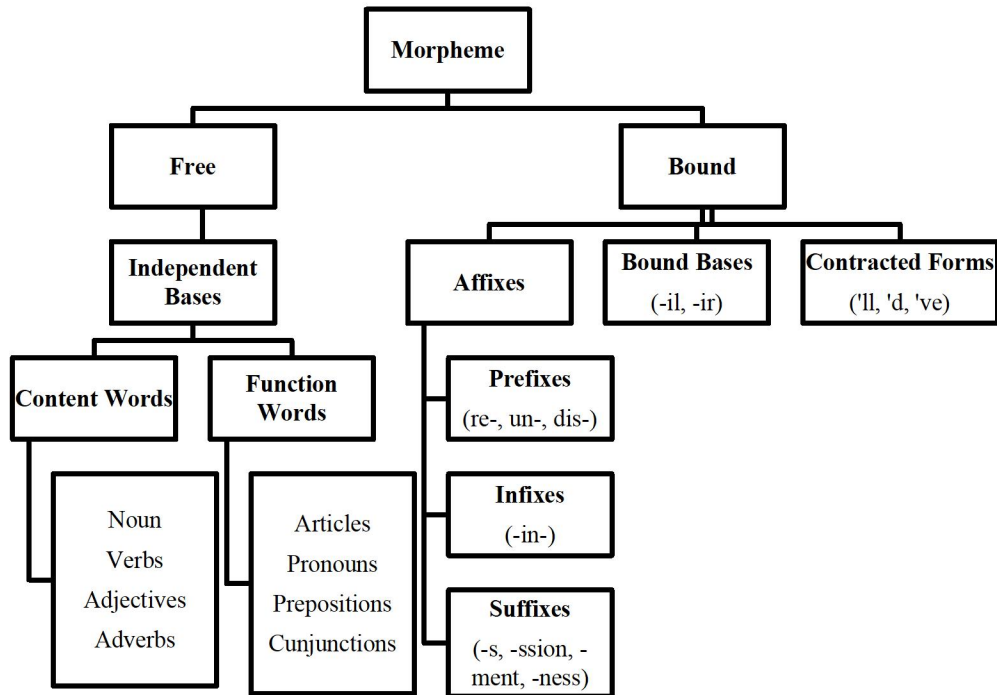
In simple terms, morphology is the study of the structure of words. Words play a fundamental role in meaning making. Therefore, words are of prime importance in any kind of language use. Think of an imaginary sentence where each word is from a different language, or the main verb is in another language. In both the cases, it is difficult to determine the meaning unless you know all the words. Therefore, to understand a sentence or an utterance, it is important to know the words of that language. It is due to this reason that words are called the fundamental units of linguistic structure.

Words in general can be divided as **open-class** words and **closed-class** words mostly referred to as content words and function words, respectively. Words belonging to the PoS category of nouns, verbs, adjectives and adverbs are the open-class or content words. The reason behind this is that in these categories unlimited number of new words can be added, and can be formed by bringing together two or more vocabulary items from the same or different categories. Thus, these four PoS categories are open to welcome new entries. However, the closed-class words are the ones which do not allow/accommodate new entries. For example, we have three articles in English – one definite, and two indefinite. We do not hear of a fourth article. Similarly, the number of personal pronouns too are fixed and do not evolve. As an exercise, you may count the pronouns in English followed by those in your mother-tongue and compare to learn which has more of them. Apart from the articles and the pronouns, conjunctions and prepositions too come under the closed-class of words also known as function or grammatical class. This class of words largely determines the relation between the content words. For example, in *The Game of Thrones*, ‘game’ and ‘throne’ are the content words and ‘of’ determines the relation between the two and thereby helps construction of meaning.

At another level, words can be divided into two categories: phonological and morphological. Phonologically (i.e., based on the sound system), morphemes can be divided into syllables and phonemes, whereas, in the morphological structure, morphemes are the smallest fundamental meaningful unit which cannot be divided further. For example, the word ‘bat’ has only one syllable, and comprises of three phonemes - /b/, /æ/ and /t/ at the phonological level. However, in the morphological sense, the word ‘bat’ is a morpheme and cannot be divided further as a meaningful unit. Nonetheless, it can be a constituent morpheme along with other morphemes like, ‘-s’ and ‘man’ to form ‘batsman’. Thus, morphemes are the “minimal meaningful unit” (Bloomfield, 1933).

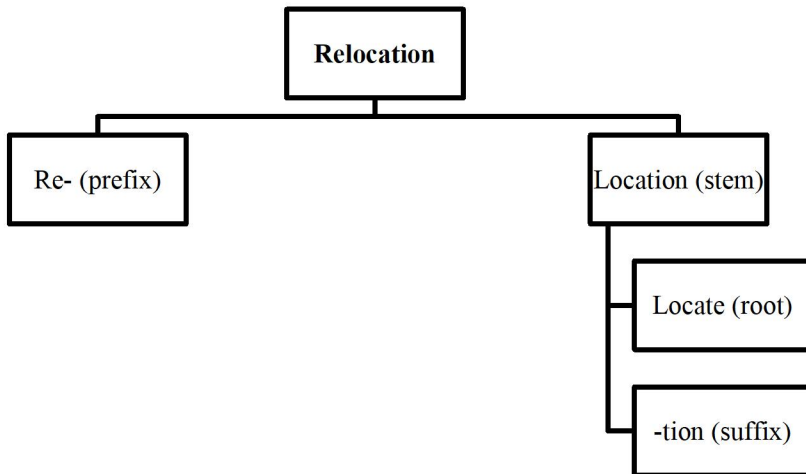


Morphemes are categorised into two classes – free morphemes and bound morphemes. Free morphemes are so called because they can exist on their own, i.e., independently. However, the bound morphemes do not exist independently, and require a host word to be attached with, to modify their meaning. For instance, a polymorphic word, i.e., a word with multiple morphemes, always carries a free morpheme as a nucleus/root that contributes the most towards meaning of the morphologically complex word. For example, ‘infect’ is the free morpheme in the word ‘disinfecting’ removing which from this word leaves us with ‘dis-’ and ‘-ing’ which do not have a meaning of their own. It is the morpheme ‘infect’ that contributes the most to the meaning of the word ‘disinfecting’, and the affixes, i.e., prefix ‘dis-’ and the suffix ‘-ing’, qualify that meaning further. Mostly, bound morphemes are the affixes (prefixes, suffixes and infixes), bound bases and contracted forms as shown in the following diagram.



**Affixes, the root and the morphological order of word-building process:**

The independent morpheme which is part of a polymorphic word is its root. For example, in the word ‘relocation’, the root is ‘locate’. It is this root which the affixes get attached to, and effect a gradual change in meaning as shown in the diagram below:



The bound morphemes ‘re-‘ and ‘-tion’ modify the meaning of the root ‘locate’ at each stage as they get attached to it. The word ‘relocation’ too becomes a stem if we were to further attach a suffix ‘-al’ to it to make it ‘relocational’. These affixes are defined depending on which side of



the root they get attached to. The ones getting their place at the left of the root are called prefixes and the ones at the right of it are suffixes. Infix, on the other hand, gets its place in between the root. For example, to indicate plurality for ‘passerby’ we shall include the plural marker ‘s’ in between the word to get ‘passersby’ and the infix used here is indicated as ‘-s-’. Thus, we have three kinds of affixes: prefix, suffix and infix. Conventionally, in morphology, a prefix is written with a dash after it, a suffix has the dash before it whereas the infix has the dash before and after it whenever written separately as you can see in the examples used in this section. A morphological entity that an affix gets attached to is called a stem. At times, the root can be the stem too. As we saw in the example of ‘relocation’, the root, i.e., locate, does function as a stem when the suffix ‘-tion’ is attached to it. Therefore, it can be said about the stem that it continues to grow as long as the last possible affix is attached to it.

Based on the affixes, we have two main types of morphological operations: inflection and derivation. The **inflectional affixes** modify a word’s form without changing its meaning. For example, the plural marker ‘-s’ for the English nouns is an inflectional suffix. Similarly, in the case of English verbs, we use ‘-ed’ as an inflectional suffix with the present form to obtain the past form. In both the cases, it can be seen that the process of inflection modified the word form a bit, and thereby, the grammatical subclass of the word, but without any change in its primary meaning. On the other hand, when the root form changes into another POS category post-addition of an affix, it is called derivation. **Derivational affixes** cause changes in the category and/or the meaning of the root form. Some of the best-known derivational affixes are -al, -ise, -tion, -able, -ic, -ing, -ity, -ness, -ment, -ssion, -logy, -ics, -try, etc.

### **Morphological analysis of data:**

We use morphological aspects as tools for analyzing linguistic data of a new language and extract new and relevant information. Consider this linguistic data from Egyptian Arabic:

1. xabbar            “he told”
2. xabbarak        “he told you” (masc.)
3. xabbarik        “he told you” (fem)
4. xabbarkum      “he told you” (pl)
5. xabbarhum      “he told them”

From these examples, we can infer that the suffixes like -ak, -ik, -kum and -hum exist in that language and it can be deduced that they mean ‘you’ (masc.), ‘you’ (fem), ‘you’ (pl) and ‘them’, respectively. However, it is hard to identify the equivalents for ‘he’ and ‘told’.

#### **2.2.4 Syntax:**

As native speakers of our mother-tongue we can form and understand any number of sentences in that language. It is not due to any marathon memory exercise where we memorised thousands of sentences. This ability is due to our mother-tongue which helps in two factors – one, we know the words, and two, we are familiar with the way words are ordered in that language to provide meaning. This word ordering is significant as each language follows a linear and logical pattern to form phrases as well as sentences. Syntax basically talks about these structures of sentences and phrases in a language.

Generally, one of the first things we notice about the sentences of human languages is that the words in a sentence occur in a certain linear order. To understand this notion of syntax, think of a four/five-word sentence in your mother-tongue. Now, number each of the words from the beginning to the end of the sentence. Next, try placing the word positioned at number 2 at the beginning of the sentence. Compare your original sentence and the new one at hand. Do you notice any difference in the form of the sentence or in the meaning due to this shifting in the word order? If you do, it means that yours is a fixed word order language like English. However, if you do not notice any change, your language certainly belongs to the free-word order category of languages. Some of the languages showing freedom of word order are: Sanskrit, Latin, Russian, Japanese and many Indian languages like Hindi and Urdu.

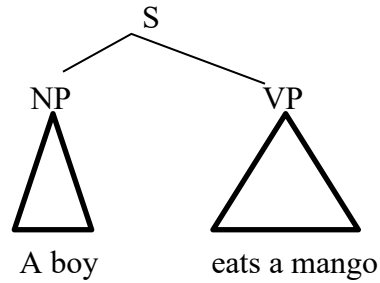
#### **Constituents of sentences:**

What can be the building blocks of a sentence? Let us look at the constituents of a simple sentence. A simple sentence is made of a noun phrase (NP) and a verb phrase (VP). Eg:

(1) A boy eats a mango.

NP        VP

In syntax, the general way of representing the constituting elements of a sentence is through a tree diagram. Using a tree diagram the example sentence (1) can be represented as following:



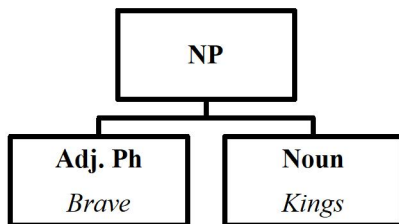
Here, the three labels you see in the diagram are called **nodes**. The S-node is the mother node and the NP and the VP are its daughter nodes. The two lines branching out of the S-node and connecting the NP and VP nodes are, thus, called the branches. With such equation in place, the NP-node and the VP-node are, therefore, called sisters.

The triangles drawn under the NP and VP nodes are indicative that these nodes can further be divided into constituents. This division is now at the phrase level. We shall now see some rules on how sentences are structured out of phrases and phrases out of words. It is generally termed as phrase structure (PS) rules.

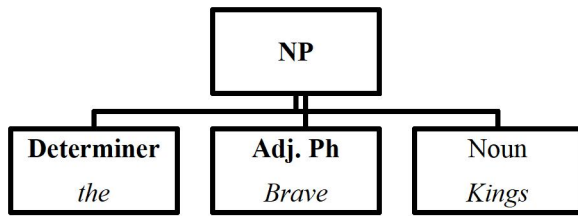
### Constituents of NP:

A noun phrase has to have a noun as its head word. This head word (a noun) may be preceded or followed by several other elements to form a meaningful noun phrase. For example, 'Akbar' is a noun and features as a head word in both of these phrases: 'the great Akbar' and 'Akbar the great'. In both the usages, it is 'Akbar' (the head word) that gets the attribute/s. Let us consider another example and understand it using a tree diagram.

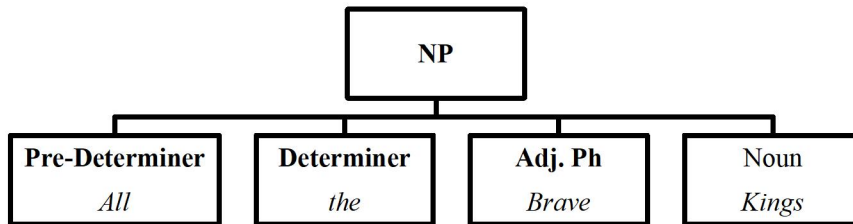
(1)



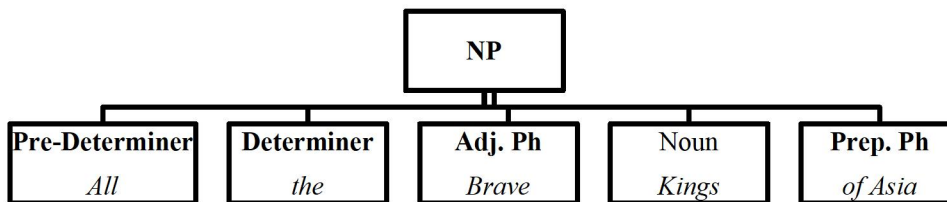
(2)



(3)



(4)



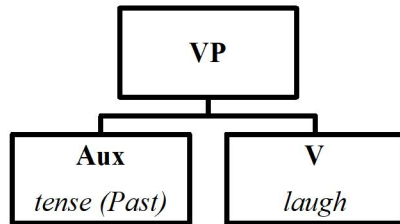
All the examples here (1 - 4) testify that a noun is the most definite part in a noun phrase, and its presence is the reason for it being called so. The qualifiers like predeterminer (Pre-det), determiner (Det), adjectival phrase (Adj P) etc. are added to the left of the head word, i.e., noun (N), and to its right, like the prepositional phrase (PP) in (4). You should notice that the PP node in (4) is further marked with a triangle which means that its constituents shall be divided further. In PP node too, noun is an obligatory constituent.

### Constituents of a VP:

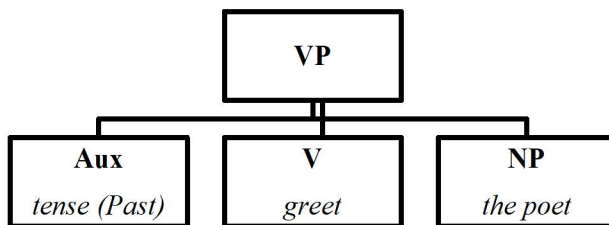
Like the noun is an integral part of an NP, verb too is a must for a verb phrase (VP). The VP mainly consists of an auxiliary which can be a carrier of tense, modal, perfective, progressive, passive component etc. and a verb. Thus, in a simple sentence like *John laughed*, the VP consists of 'laughed' and carries the tense together with the verb, i.e., the action word, as shown below in (5). Very much like the noun in the NPs the verb in the VP too may carry constituting elements

to both its left and right positions as shown in example (6) *John greeted the poet* and (7) *John has welcomed the poet*.

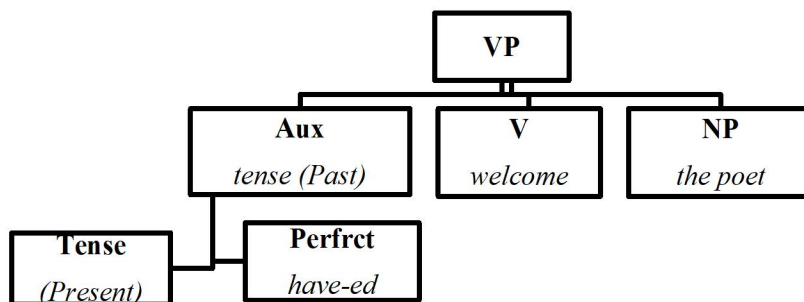
(5)



(6)



(7)



In example (7), the VP has been shown through the tree diagram and informs it to be in present tense and the aspect as perfective through its markers ‘have’ and the -ed form of the main verb – welcome. The VP here also comprises of the NP ‘the poet’ which has not been further branched out. Similarly, a VP can also comprise of a prepositional phrase (PP), an adjectival phrase (Adj P) and an adverbial phrase (Adv P) which can come in place of/ together with the NP.

However, the auxiliary shall always be an integral component of a VP as it carries the time reference.

As we have learned so far that an NP must consist of a noun and a VP of a verb which are their respective head words, in the same manner a PP must comprise of a preposition, Adj P of an adjective and an Adv P of an adverb as their respective head words. It can, thereby, be summed up that for each lexical category, viz., N (noun), V (verb), Adj (adjective), Adv (adverb) and P (preposition), there is a corresponding phrasal category, viz., NP (noun phrase), VP (verb phrase), Adj P (adjectival phrase), Adv P (adverbial phrase) and PP (prepositional phrase). In other words, every phrasal category has its corresponding lexical head. Thus, the formula for this notion can be:

$$XP \rightarrow \dots X \dots \text{ [where, } X = N/V/\text{Adj P/ Adv P/ PP]}$$

### **Sentence structure: argument, thematic and anaphora:**

Having understood the constituents of a sentence, let us now understand certain functions of the constituents. Some constituents function as **arguments**. By argument, we mean a referring expression which can be a person, a thing, an entity etc. For example, in the sentence *John ate a mango*, ‘John’ and ‘a mango’ are the arguments and the verb ‘ate’ is the **predicate**. The predicate conveys some relation between the referring expressions, i.e., John and a mango (the arguments). The predicate *eat* will always carry two arguments because for the action of eating to happen we need someone who will eat, and we need something that is to be eaten. These types of predicates which take two arguments are called two-place predicates. It is to be noted that the arguments of a two-place predicate are always NPs. Some examples of two-place predicates are meet, drink, watch, read, write, construct, etc. and in a sentence, both of their arguments shall be the NPs. You might like to form a couple of three/four-word sentences using these two-placed predicates in order to check the truthfulness of the above generalisation.

However, not all the verbs are two-place predicates. There are some which are one-place predicates and some which are three-place predicates. Verbs like sleep, snore, smile, cough etc. take only one argument in a sentence, and therefore, are examples of one-place predicates. On the other hand, verbs like, give, put, show, etc. are called three-place predicates as they take three arguments. A predicate like ‘give’ requires someone to perform the action of giving (argument 1)

and someone to be at the receiving end (argument 2), apart from something to be given (argument 3). In other words, 'give' requires a giver, a receiver and the thing that is to be given. For example, *Trees give us fruits*. Here, 'Trees' is argument 1, 'us' is argument 2 and 'fruits' is argument 3 to the predicate 'give'.

The predicates also assign thematic roles to their arguments. The thematic roles in short are called theta roles which is denoted as 'θ-roles'. It can best be understood through a two-place predicate. In a sentence like, *The Batsman hit the ball*, of the two arguments 'Batsman' is in the role of agent as he is the doer of the action - hitting, and 'the ball' is at the receiving end, hence, its role is that of the patient. So, the role of arguments can be that of **agent** and **patient**. However, this labelling does not always clearly explain the role of all the arguments, therefore, some linguists use a variety of labels like, target theme, experiencer, beneficiary, goal, cause etc. to indicate various θ-roles. The number and the kind of θ-roles that a predicate can have is represented through a grid called theta grid.

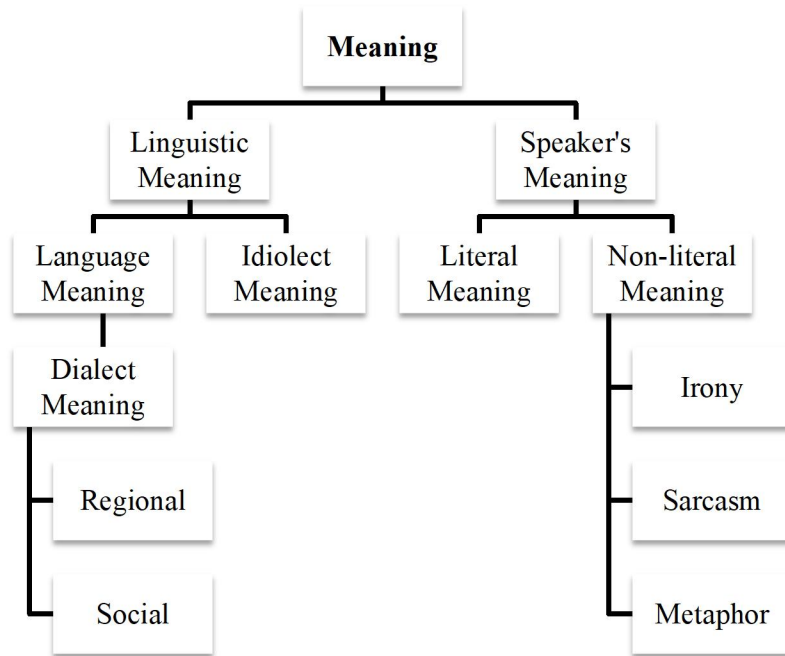
Further, the arguments as an NP can have a reflexive pronoun as a constituting element. The morpheme *self* when clubbed with personal pronouns as a suffix yields the reflexive pronouns, and indicates that the agent and the patient of the predicate are linked to the same entity. Therefore, as a constituent in a sentence, it establishes a relatedness between two NPs, i.e., two arguments of a predicate. Such a relation is called **morphological anaphora**, or, that the referent and the referring constituent are in anaphorical relation. For example, in the sentence *John sees himself in the mirror*, the arguments 'John' and 'himself' are in anaphorical relation.

### 2.2.5 Semantics:

Semantics is the study of meaning in human languages. Before we deal further with the definition, let us first consider what we understand by the word meaning. The primary sources to understand meaning of words are dictionaries. The official dictionaries of a language tell us what the valid and acceptable meaning/s of a word are. However, that is not all. In the daily life conversations, you might have heard expressions like, "I did not mean that" or "do you mean to say ..." and many like that. This tells us that there is a meaning that the speaker wants to convey which is extra than the sum total of the meaning of the words used. You might have also heard expressions like "I understood it as ..." or "I thought you meant ...". Such expressions

inform us that there is a meaning based on how the hearer perceives the words used. So, we have two kinds of meanings, i.e., speaker’s meaning and hearer’s meaning, apart from the dictionary meaning. Then, we have meaning based on the tone and expression used during the utterance. You might have also heard of sarcastic comments. In sarcasm, total meaning conveyed by the words used differs from the latent meaning.

Linguists, however, divide meaning at two levels – linguistic meaning and speaker meaning. An expression like ‘postpone’ means ‘to put off the deadline for doing something’. This is the linguistic meaning. On the other hand in an expression like ‘the stairs which take you up take you down as well’ would mean that the speaker wants the hearer to leave. Here, more than the words it is what the speaker intends makes the meaning. The levels of meaning have been illustrated in the diagram below:



*Figure 1: Levels of meaning*

As seen in the figure above, the linguistic meaning and speaker’s meaning have further sub-divisions. Linguistic meaning is divided into language meaning and idiolect meaning. Language meaning consists of the meaning which is there in the dialect. Idiolect meaning on the other hand, is based on an individual’s use of language. At this



point, we can understand that idiolect meaning is individual centric and language meaning is the meaning that has been accepted by the speech community at large. Dialect, thus, is fed by the regional and social meaning as the varieties of a language vary at the phonological as well as semantic levels. Speaker meaning is characterized by literal and non-literal meanings. Hence words convey their meaning as per their entitlement by the official dictionaries; it is termed as literal meaning. When speakers use elements like metaphor, sarcasm or irony to express thoughts, the meaning conveyed is called non literal meaning.

### **Denotational and Connotational meaning:**

Denotational meaning is generally the dictionary meaning which is not open to interpretations. For example, the word 'kitchen' in all its meaning and across cultures would mean that it is the place to cook food, and is definitely not the place to take bath. However, kitchen as the domain for women, let us say in the fields of gender or literary studies, would mean much more. That is the connotational meaning. Thus, denotational meaning is the literal or primary meaning of the word, whereas, the associated meanings or the suggestive meanings are connotational. Let us take another example. A window in its general concept means a physical structure in a room/house to let air and sun in. This is its denotational meaning. However, ever since the evolution of computers, Windows became a technical term and has versions. Another meaning of it can be seen in its figurative use in a sentence like, 'Open your windows to the ways of the world'. A cultural or emotional association to the meaning, thus added to the meaning, defines feature of connotational meaning.

However, semantics did not enjoy a prominent role in modern linguistics. Particularly in the United States, during the period between World War I to the early 1960s it was not seen as quite respectable. The linguists of the era found it to be lacking in scientific description and felt that its principles and processes were sort of methodological impurity. And thus, there was an aversion to include semantics in the grammar of a language. Nevertheless, conventionally, language is defined as a system for communication, i.e., conveying messages. Linguistic communication is comprises of the words and sentences which have certain shared meanings. Therefore, linguists agreed that to characterize this system of communication via language it is vital to

describe the meanings. Thereby, semantics holds an important space in the description of grammar of a language.

### **2.2.6 Related Fields of Linguistics:**

In general, linguistics is a very vast topic to enumerate. There are numerous subfields or branches of linguistics that have emerged over the past few decades. The following are some of the interdisciplinary fields of linguistics –

- a. Anthropological linguistics
- b. Applied linguistics
- c. Biological linguistics
- d. Clinical linguistics
- e. Computational linguistics
- f. Educational linguistics
- g. Ethnolinguistics
- h. Geographical linguistics
- i. Mathematical linguistics
- j. Neurolinguistics
- k. Philosophical linguistics
- l. Psycholinguistics
- m. Sociolinguistics
- n. Statistical linguistics

In the discussion to follow we shall look at some of the main interdisciplinary branches of linguistics in detail.

#### **2.6.1 Sociolinguistics:**

Sociolinguistics looks into the interaction between language and society. Its scope ranges from study of dialects of a given region to how language/s differ between men and women to the socio-ethnic factors determining a language's character. A primary assumption in sociolinguistics is that language is ever changing. As a result, language is always in the state of flux, and continuously undergoing change. One way that sociolinguists study language is through dated written records. They examine both

hand-written and printed documents to identify how language and society have interacted in the past. This is often referred to as historical sociolinguistics. The most common engagement of sociolinguists is with dialects as they are regional, social and ethnic variation of a language. Sociolinguists also engage in educational and governmental policies w.r.t. languages apart from standardisation of languages.

### **2.6.2 Psycholinguistics:**

Psycholinguistics basically deals with the processes a human language goes through inside the brain. It is largely the study of the mental aspects of language and speech. It is considered as a field of cognitive science. The term psycholinguistics was coined by Jacob Kantor, an American psychologist, in his book titled, *An Objective Psychology of Grammar* (1936).

In his book, *Psychology of Language*, David Carrol talks of two important elements that comprise psycholinguistic work. One is, the knowledge does a person require to use language, and the other, the cognitive processes involved for the general use of language. By and large, this forms the framework for psycholinguistic studies as we start looking into the nitty-gritties of the processes of language like listening or speaking. It is indeed an interdisciplinary field that draws ideas from the fields of phonetics, semantics and other core fields of linguistics. William O'Grady in his book *Contemporary Linguistics* states: "Psycholinguists study how word meaning, sentence meaning, and discourse meaning are computed and represented in the mind."

### **2.6.3 Historical Linguistics:**

Historical linguistics, also known as diachronic linguistics as well as philology, is the scientific study of language change over a period of time. In other words, it studies history and development of language/s. It uses a comparative method to establish relationship among languages that are oral or lack written records. Many linguists are of the opinion that the term or the field was coined in Sir William Jones' lecture *The Sanskrit Language* delivered at the Asiatic Society in 1786 where he compared and reported a common origin for Greek, Latin and Sanskrit.

You might wonder why language changes at all. Historically, language has always been in the state of flux. As society and humans evolve with time so does language. It has been reported that the causes of changes in human language/s is rooted in the physiological and cognitive configuration of human beings. The most common types of change in language one notices are articulatory simplification and borrowing from other languages due to language contact. The field of historical linguistics helps us make an educated guess about the form of a language that it once was.

#### **2.6.4 Applied Linguistics:**

As per the Linguistic Society of America, the term ‘applied linguistics’ refers to a broad range of activities which involve solving language-related problem or addressing some language related concern. It started off as an independent course in the University of Michigan in 1946. In the early days, both in the US and the UK, this term was used to refer to applying the ‘scientific approach’ for teaching foreign languages including English to the non-native speakers. It is the branch of linguistics concerning the application of linguistic findings for language related real-life problems. Its scope is wide as it deals with language teaching, language learning, translation, speech therapy, lexicography, forensic linguistics, etc. as well as with larger fields of psychology, sociology and anthropology. It is interdisciplinary in a large sense as it encompasses a wide variety of fields. The primary difference between general linguistics and applied linguistics is that the former deals with the language itself, whereas, the later addresses the practical problems related to language using the findings in linguistics. One of the main goals of applied linguistics is to ascertain workable application of linguistic theories as they evolve vis-a-vis everyday language use.

#### **2.6.5 Computational Linguistics:**

It is the branch of linguistics in which techniques of computer science are applied to the theories and principles of linguistics. It is a field which concerns itself with computational modeling of human languages. Computational linguistics is integral to the AI (Artificial Intelligence). As per Britannica, research on computational linguistics, beginning in the late 1960s, drew on approaches from work

on artificial intelligence. As computers became more powerful and the using the internet became everyday affair computational linguistics developed statistical methods like tools for concordance and counting frequencies of sounds and words etc. Google Translator, voice commands, GPS enabled navigation, e-commerce, online-reservation system, online teaching or medical consultation - all have computational linguistics at the core. One of the core aspects in computational linguistics as well as AI is natural language processing (NLP).

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## 2.3 Learning Outcomes

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It is expected that upon the completion of this Unit, you have a good understanding of the various branches of linguistics. You should be able understand how different languages operate. Further, you are expected to have also understood the importance of studying linguistics as a field of study.

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## 2.4 Glossary

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**Anaphora:** Repetition of a word or expression at the beginning of successive phrases, clauses, sentences, or verses

**Clipping:** Formation of new words by shortening of existing ones in the language

**Closed Class Words:** The closed classes include pronouns, modal verbs, determiners, prepositions and conjunctions

**Compounding:** Formation of new word by joining two word to words

**Connotation:** An idea or feeling which a word invokes in addition to its literal or primary meaning of a word

**Denotation:** The literal or primary meaning of a word

**Entailment:** Sentence B logically follows the preceding sentence A

**Inflectional Language:** A language that draws heavily on the use of prefix and suffix to express grammatical features

**Language:** Infinite sentences that the native speaker is able to produce for the purpose of communication

**Morpheme:** The smallest unit of grammar that has a function and meaning

**Morphology:** The study of the internal structure of words and the ways of word formation

**Nasalization:** Sounds produced while the velum is lowered and some air escapes through the nose

**Noun Phrase:** A phrase that has a noun or pronoun as its head or performs the same grammatical function as a noun

**Open Class Words:** Content words

**Phoneme:** The basic sound unit of a language

**Phonetic:** Pertaining to the production of speech

**Phonology:** The functional study of the sound system of language. It deals with the function of each phoneme.

**Semantics:** The study of meaning

**Segmentation:** The process of breaking down phonetic sequences into discrete sound units

**Supra-segmental:** The process of study of elements in phonetics such as stress & intonation that cannot be analyzed as discrete segments

**Syntax:** The grammatical component that deals with the relation between the words in a sentence

**Verb Phrase:** A phrase consisting of a verb plus another word that further illustrates the verb tense, action, and tone.

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## 2.5 Sample Questions

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### 2.5.1 Objective Questions:

A. Choose the correct option to answer the following questions:

1. The branch of linguistics that studies human language and the properties of sounds is called \_\_\_\_\_ .
  - (a) Phonetics
  - (b) Acoustics
  - (c) Articulation
  - (d) Semantics

2. \_\_\_\_\_ are the abstractions of speech sounds which differ on the basis of meaning.
- (a) Segments
  - (b) Morphemes
  - (c) Phonemes
  - (d) Monophthongs
3. Which of these morphemes can almost all English verbs have added to them?
- (a) -ing
  - (b) Un-
  - (c) -ly
  - (d) -ry
4. Semantics is \_\_\_\_\_ .
- (a) the study of word formation
  - (b) the study of sound system of language
  - (c) the study of meaning of words phrases and sentences
  - (d) the study of the relation between language and society
5. Which sentence describes inflectional morphology?
- (a) Adding a morpheme to produce a new word but the same lexeme.
  - (b) Adding a morpheme to produce a new word and different lexeme.
  - (c) Adding a morpheme to produce the same word but different lexeme.

**B. State whether the following statements are True or False:**

1. In English language inflectional morphemes can be suffixes only.
- (a) True
  - (b) False
2. Words can often be divided into lexemes.
- (a) True
  - (b) False
3. Grammar of a language is a set of rules related to how that language operates.
- (a) True
  - (b) False
4. Infix is the common term used for both prefixes and suffixes.
- (a) True
  - (b) False

5. The relationship between a linguistic expression and its speaker can be termed as semantics.

(a) True

(b) False

### 2.5.2 Short Answer Questions:

1. Which of these best define syntax? Give a reason.
  - a. The study of the rules governing specifically the sounds that form words.
  - b. The study of the rules governing sentence formation.
  - c. The study of the rules governing word formation.
2. What do you understand by the term morphology?
3. How is morpheme different from phoneme?
4. What are the main constituents of NP?
5. How would you distinguish between literal meaning and figurative meaning?

### 2.5.3 Long Answer Type Questions:

1. How is linguistics an autonomous discipline?
2. What is the need of dividing linguistics into several branches? Give reasons.
3. How are different branches of linguistics linked to each other?

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## 2.6 Suggested Readings

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1. Crystal, D., *The Cambridge Encyclopedia of Language*. Cambridge: CUP, 1987.
2. Katamba, F., *Morphology*. London: Macmillan, 1993.
4. Leech, G.N., *Semantics*. Harmondsworth: Penguin, 1981.



## **Unit-3: Phonetics and Phonology**

### **Structure**

**3.0** Introduction

**3.1** Objectives

**3.2** The Speech Mechanism

**3.2.1** Respiratory System

**3.2.2** Phonatory System

**3.2.3** Articulatory System

**3.2.4** Active and Passive Articulators

**3.2.5** Classification of Speech Sounds

**3.2.5.1** Consonants

**3.2.5.2** Place of Articulation

**3.2.5.3** Manner of Articulation

**3.2.6** Vowels

**3.2.6.1** Description

**3.2.6.2** Simple vs Complex Vowels

**3.2.7** Phonetic Transcription

**3.2.7.1** Phoneme and Allophones

**3.2.7.2** Syllable

**3.2.8** Word Accent, Stress and Rhythm

**3.2.9** Intonation

**3.3** Learning Outcome

**3.4** Glossary

**3.5** Sample Questions

**3.6** Suggested Readings

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### **3.0 Introduction**

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This Unit has been designed to present and illustrate the general theories about the speech sounds and their use in the spoken language. The theoretical concept behind the spoken aspect of any language is dealt in **Phonetics and Phonology**.

Since English is not our first language, the exposure to the language is limited. This makes it all the more important for the students of English language and literature to consciously learn the spoken aspects of the language. In the course of study we will deal with the following areas of language –

- |                    |              |
|--------------------|--------------|
| ➤ The Sound System | ➤ Rhythm     |
| ➤ Word Accent      | ➤ Intonation |
- 

### 3.1 Objectives

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This Unit has been designed to fulfill the following objectives:

- to familiarize you with the speech mechanism of language
  - to familiarize you with the organs of speech and their roles in the production of sounds
  - to enable you to recognize the need for learning correct pronunciation as non-native speakers of English.
  - to enable you to differentiate between vowel and consonant sounds.
  - to familiarize you with the stress pattern in English.
  - to familiarize you with the concept of intonation and the role it plays in creating meaning.
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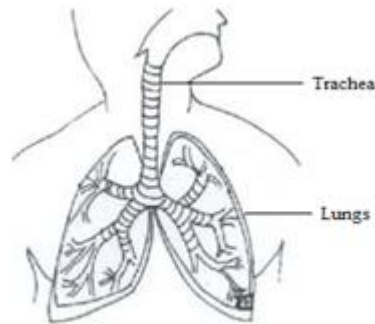
### 3.2 The Speech Mechanism

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We are well aware that for production of any kind of sound, some disturbance in the air has to be created. For the purpose of speaking this disturbance is created by our body organs like vocal cords, lips, tongue, teeth etc. These organs are called *Organs of Speech*. These speech organs can be described under the following three heads.

#### 3.2.1 Respiratory System:

Our lungs, muscles of the chest, and the windpipe, also called trachea, makes up the respiratory system. We primarily breathe in and breathe out with the help of these organs. The pressure created by the muscles of the chest helps the lungs to compress and expand which as a result takes in and throws out air through the trachea to let us breathe.

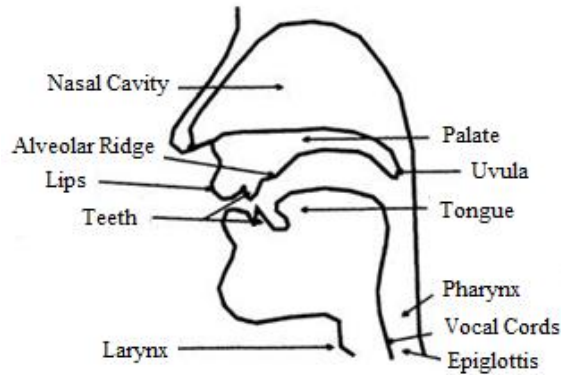


**Position of Lungs and Trachea**

Breathing provides the air stream, the disturbance in which results in the production of speech sound. The air stream provided by the lungs during the process of exhalation is chiefly used for speech production. This is called *pulmonic egressive air stream mechanism*. (the word *pulmonic* refers to lungs and *egressive air stream* means the air that comes out of the lungs)

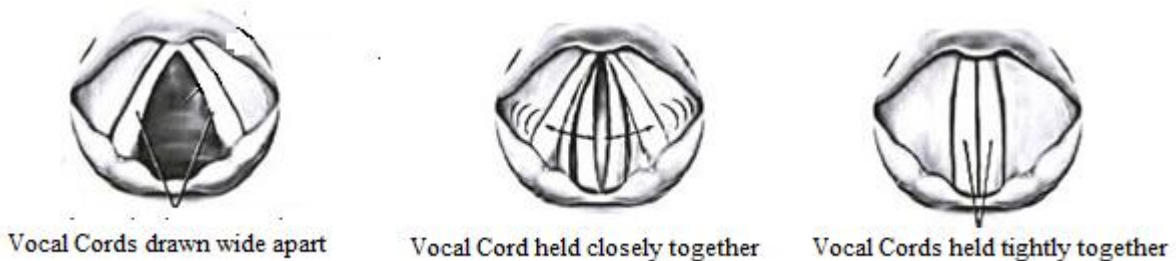
### **3.2.2 Phonatory System:**

The stream of air which comes out of the lungs undergoes several modifications before it is finally released through the mouth or nose. These modifications start right from the *larynx* which is located at the upper end of the trachea.



Organs of Speech

Commonly known as the *Adam's apple*, larynx is the muscular structure which can prominently be seen in adult men. The larynx has two finger like protrusions from its inner walls called the *vocal cords*. The vocal cords are attached in the front and free at the back end. The space between the two vocal cords is termed as *glottis*. These vocal cords can assume a number of positions. We shall here describe the three main positions which the vocal cords usually assume.



- a. **Vocal Cords are drawn wide apart:** When the vocal cords are held wide apart there is enough space in the glottis. In this position, the air stream doesn't disturb (vibrate) the vocal cords. This is usually the position of the vocal cords during normal breathing. Sounds produced in this position do not create any kind of buzzing/humming sound (which can otherwise be felt if one keeps his palm on the throat) hence such sounds are called *Voiceless sounds*. The first sounds of the English words 'pen' (پ), 'kettle' (ك), 'thing' (تھ), and 'shine' (ش) are some examples of voiceless sounds.

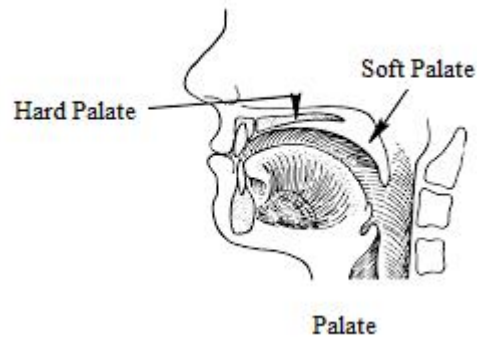
- b. **Vocal Cords held loosely together:** When the vocal cords are held loosely together, the stream of air while moving out from the lungs disturbs (vibrate) the cords. Unlike the voiceless sounds, in this case the vibration of the sounds creates a buzzing / humming sound (which can be easily felt by placing one's fingers on the throat). Such sounds are called *Voiced sounds*. The first sounds of the English words 'little' (l), 'brown' (b), 'zebra' (z) and 'well' (w) are some examples of voiced sounds.
- c. **Vocal Cords are held tightly together:** When the vocal cords are held tightly together, the glottis is completely closed providing absolutely no passage for the movement of air. This position of the vocal cords is a gift of nature as it stops the food particles to enter our lungs while we eat or drink. The sudden opening of the vocal cords (after the complete closure) providing passage to air results in a kind of explosive sound which is very similar to the coughing sound.

### 3.2.3 Articulatory System:

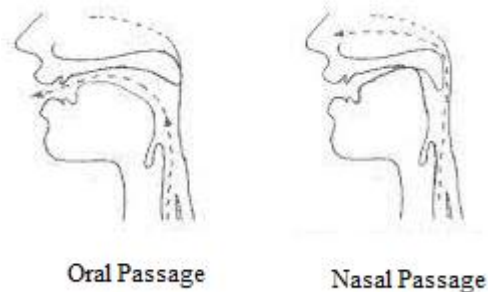
Once the stream of air passes through the larynx, before reaching the outside air, it gets further modified by the organs of speech which assume various shapes. These organs together form the articulatory system. The following are the parts of the articulatory system –

- a. **The Pharynx:** Right from the upper part of the larynx to the root of the tongue lies the pharynx. The shape and size of the cavity formed by the pharynx (commonly known as the pharyngeal cavity) can be modified a great deal. The movement of the hind portion of the tongue and the position of the soft palate can also bring about modification in the pharyngeal cavity. Any such change affects the quality of the sound produced.
- b. **The Lips:** The lips play an important role in the production of the speech sounds. They can be pressed together to produce consonant sounds like **p** and **b** or they are brought in contact with the teeth to produce the sounds like **f** and **v**. Lips have a crucial role in the production of the vowel sounds too. We round our lips to produce sounds like the middle one in the word **boot (u:)**

- c. **The Teeth:** Teeth help in the production of many consonant sounds. The initial sounds of the word *through* (تھرو) and *there* (تھر) are produced by touching the tip of the tongue with the teeth. Similarly the Hindi consonant sounds त, थ, द, ध are produced when the tip of the tongue touches the back portion of the upper teeth.
- d. **The Teeth Ridge:** Immediately behind the upper teeth, the convex part of the roof of the mouth is called the teeth ridge or the alveolar ridge. It helps in the production of consonant sounds like the initial ones in the words *ten* (ٹن) and *den* (ڈن). In the same way the consonant sound स / س is pronounced when the passage of air at the teeth ridge is narrowed down with the help of the tongue.
- e. **The Hard Palate:** Often referred to as the roof of the mouth, it is the bony concave structure which is just behind the teeth ridge. The initial sound of the English word *yak* (yak / yak) is produced at the hard palate.



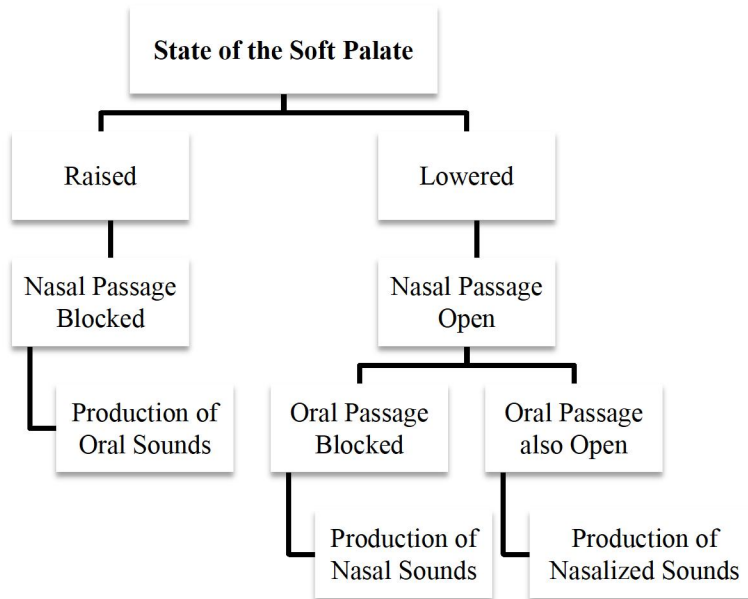
- f. **The Soft Palate:** After the hard bony concave roof of the mouth is a comparatively soft part which is called the soft palate or the *velum*. It allows the air to pass through the nose and the mouth. The initial sound in the English words *kill* (kil) and *green* (grin) and some Urdu sounds like خ and غ are produced at the soft palate.



The soft palate helps in the production of the sounds by –

- i. its articulation with or against the back of the tongue and
- ii. raising itself to touch the hind part of the pharynx.

The Hindi sounds क, ण, ख and घ are the examples of the same process. When the soft palate is raised, the nasal passage gets blocked and no air can escape through it. The only passage available to the air is the mouth. The sounds thus produced are called **oral sounds**. The initial sounds of the words *feather*, *tiger*, and *doctor* are some of the examples of oral sounds. Contrary to this if the velum is lowered, the air either passes through the nose only or through the nose as well as mouth. Air passing through the nose only produces **nasal sounds** like the initial sounds in the words *main* (म/ः) and *nail* (न/ः). The sounds produced when the air escapes both through the nose and the mouth are called **nasalized sounds**. The middle sound in the English word *hanger* (ŋ) is an example of the same.

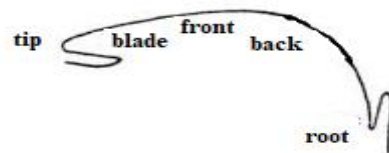


(Sethi & Dhamija: 8)

- g. **The Uvula:** The place where the soft palate ends, there is small fleshy pendent like structure which is called *uvula*. When the back of the tongue articulates

with the uvula, sound like ‘ک / ق’ as in the initial position of the Urdu word ‘کریب / قریب’ is produced.

- h. **The Tongue:** The tongue is considered to be the most important organ of speech. As it is a highly flexible voluntary organ of the human body, it can take various shapes for the production of speech sounds.



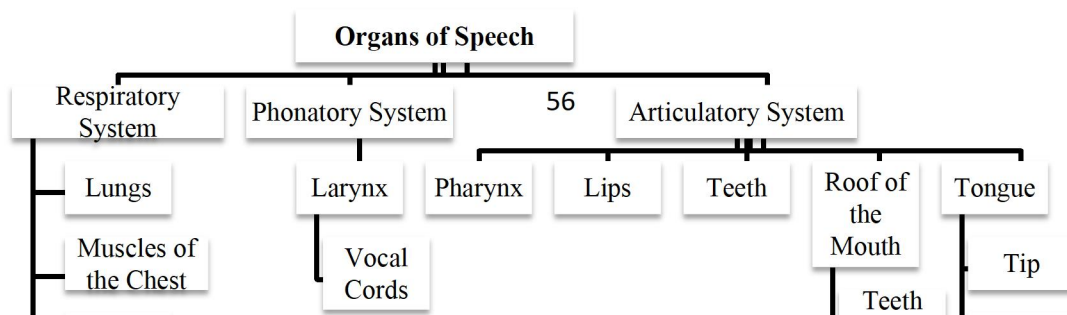
Sub-divisions of the tongue

Though there are no divisions drawn on the tongue, we divide the tongue into different imaginary parts. The part opposite the teeth ridge is called the **blade** of the tongue. The part opposite the hard palate is called the **front** of the tongue and in front of the velum is the **back** portion of the tongue.

### 3.2.4 Active and Passive Articulators:

Before going into the details of the speech sounds, we must first understand the difference between the active and the passive articulators. *Active articulators* are those speech organs which move from their original position towards those organs which either do not or cannot move. For example in the production of the sound **f** the lower lip moves towards (and touches) the upper teeth. Hence the lower lip is the active articulator and the upper teeth form the passive articulator.

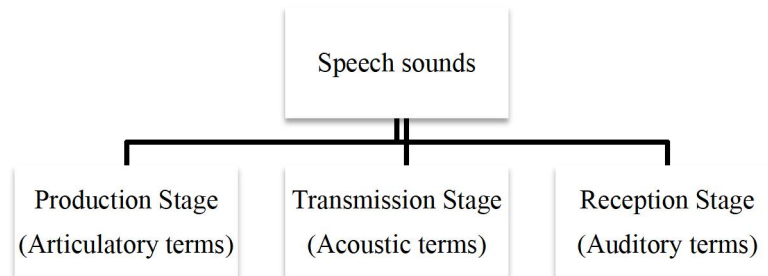
We know that the upper jaw, the lower jaw in humans is movable so most of the active articulators are in the lower jaw and the passive articulators are in the upper jaw. It is interesting to note that the soft palate is an exception to this rule. When it is raised to block the nasal passage for the production of the oral sounds, it is an active articulator. Contrary to this when the hind portion of the tongue is raised towards the soft palate (which itself remains static) for the production of the sounds like **k** (ک/ق) and **g** (گ/ج), the soft palate becomes the passive articulator.





### 3.2.5 Classification of Speech Sounds:

In the section to follow we will discuss how speech sounds can be described and classified. Speech sounds can be studied at the following three stages –



In simple terms, the production stage is the process of articulation of speech organs to bring about modification in the air stream for producing a given sound. The transmission stage pertains to the physical properties of the speech sounds produced and the reception stage associates with the features of the sound as perceived by the listener. Here, we shall concentrate on the description and classifications of sounds mainly in articulatory terms and partly in auditory terms. The two categories of speech sounds, *vowels* and the *consonants* are described best in terms of their articulation.

#### 3.2.5.1 Consonants:

In order to understand the articulation of the consonant sounds, we must look for the answers to the following questions –

- Is the air stream egressive or ingressive? (if the sound is produced while air is pushed out of the lungs, the sound is egressive. Almost all the languages follow the egressive sound system)
- During the production of the sound, do the vocal cords vibrate or not? (if the vocal cords vibrate, the sound is voiced, else voiceless)
- What is the position of the soft palate? (a raised soft palate will produce only the *oral* sounds whereas a lowered soft palate will produce either *nasal* or *nasalized* sounds.)
- What is the place of articulation? (it is determined by the passive articulator for example during the production of the initial sound in the English word *fan* the lower lip which is the active articulator moves towards the upper teeth which is the passive articulator; so the place of articulation for the sound **f** will be the upper teeth)
- What is the manner of articulation? (it refers to the kind of closure / narrowing of the air passage by the articulators. For the production of the initial sound in the word *pan* (پ/پ) both the lips join and block the air passage. The air is then released with a sudden burst)

We shall now describe the place of articulation and manner of articulation in detail.

### 3.2.5.2 Place of Articulation:

The following are the main places of articulation for consonant sounds –

- a. **Bilabial:** The articulators are the two lips.

Example: the initial sound in the words *pin* (پ/پ) and *bin* (ب/ب)

- b. **Labio-dental:**

Active articulator: lower lip

Passive articulator: upper teeth

Example: the initial sound in the words *fan* (ف/ف) and *van* (و/و)

- c. **Dental:**

Active articulator: tip of the tongue

Passive articulator: upper teeth

Example: the initial sound in the words *thing* (ث/ت) and *then* (ث/د)

**d. Alveolar:**

Active articulator: blade/tip of the tongue      Passive articulator: teeth ridge

Example: the initial sound in the words *top* (ط/ٹ), *den* (د/ڈ), *sun* (س/س), *zero* (ز/ز), *nest* (ن/ن) and *look* (ل/ل)

**e. Post-alveolar:**

Active articulator: tip of the tongue      Passive articulator: teeth ridge

Example: the initial sound in the word *red* (ر/ر)

**f. Retroflex:**

Active articulator: underside of the tip of the tongue

Passive articulator: front portion of the hard palate

Example: the initial sound in the Hindi words *टोपी* (ٹ) and *डोल* (ڈ). In the production of these sounds, the tip of the tongue is curled back in such a manner that the underside of it touches the hard palate. English doesn't have any retroflex sounds.

**g. Palato-alveolar:**

Active articulator: blade of the tongue      Passive articulator: teeth ridge

At the same time the front of the tongue is raised towards the hard palate.

Example: the initial sounds in the word *China* (چ/چ), *jungle* (ج/ج), *shine* (ش/ش), and the middle sound in the word *pleasure* (ژ)

**h. Palatal:**

Active articulator: front of the tongue      Passive articulator: hard palate

Example: the initial sound in the word *yarn* (ی/ی)

**i. Velar:**

Active articulator: back of the tongue      Passive articulator: soft palate

Example: the final sound in the words *pick* (ک/ک) and *rug* (گ/گ)

**j. Uvular:**

Active articulator: back of the tongue      Passive articulator: uvula

Example: the initial sound in the Urdu word for 'pen' قلم / کلام (ق/ق). There are no Uvular consonant sounds in English phonology.

- k. **Glottal:** For the production of the glottal sounds, the two vocal cords are the articulators. The sound is produced by friction caused by obstruction / narrowing down (not by vibration) of the vocal cords.

Example: the initial sound in the word *horn* (ह/ः)

### 3.2.5.3 Manner of Articulation:

As already mentioned the *manner of articulation* indicates the kind of closure or narrowing involved in the production of the speech sound. On the given basis the consonant sounds are classified into the following nine categories.

- a. **Plosive:** A complete closure in the vocal tract for the passage of air builds a pressure at the site of closure. The pressure is released suddenly as the closure is removed resulting in the production of plosive sounds.

Example: the initial sounds in the English words *pan* (प/प), *bin* (ब/ब), *take* (ट/ठ), *day* (ड/ड), *king* (क/क), *game* (ग/ग).

- b. **Affricate:** The air passage is closed completely which lets the pressure of air build and then the articulators move apart slowly resulting in a gradual release of the blocked air.

Example: the initial sounds in the English words *chain* (च/च) and *jail* (ज/ज).

- c. **Nasal:** During the production of nasal sounds, the soft palate is lowered blocking the oral passage completely but the nasal passage is left open and the air passes freely through the nasal passage.

Example: the final sounds in the words *sum* (म/म), *sun* (न/न) and *sing* (अ/अ)

- d. **Roll:** Unlike the plosives, nasals and affricates, during the production of roll sounds there is no blockage of the air passage. What is important to note here is the *repeated taps*. The tip of the tongue (active articulator) taps repeatedly against the alveolar ridge (passive articulator).

Example: the second sound in the English word *bright* (र/र)

- e. **Flap:** As against the roll sounds when the tip of the tongue taps just once against the passive articulator, the sound produced is called a *flap*.

Example: the middle sound in the Hindi word *jorna* (जोड़ना / ड)

In English phonology, the **r** sound is most of the times pronounced as a flap when it falls between two vowel sounds (boring, precarious)

- f. **Lateral:** A partial closure in the mouth allowing the stream of air to pass continuously through either or both sides of the contacts results in the production of *lateral* sounds.

Example: the initial sounds in the English word *late* (ल / ल) and the Hindi word लड़ना.

- g. **Fricatives:** Like the *lateral* sounds, in the production of the *fricatives* too there is no total obstruction of the air stream instead there is a narrowing of the passage through which the air is passes with an audible friction. This movement of air may continue for some time and so does the fricative sound. Hence it is also termed as continuant.

Example: the initial sounds in the English words *fan* (फ़ / ف), *van* (व / و), *thank* (थ / تھ), *than* (द / د), *son* (स / س), *zero* (ज़ / ز), *shoe* (श / ش), *heat* (ह / ہ)

- h. **Frictionless Continuant:** We know that if a sound is produced with an audible friction due to narrowing down of the oral passage, it is called *fricative*. But if the narrowing of the passage is not enough to cause audible friction, the sound produced is called *frictionless continuant*.

Example: the initial sounds in the Hindi word वीरता – [veerta] (व / و)

- i. **Semi-vowel:** These are vowel sounds which function as consonants.

Example: the initial sounds in the English words *wait* (व / و), *yawn* (य / ی)

Sethi & Dhamija very aptly point out that “the English **v**-sound is a fricative, the English **w**-sound a semi-vowel, and the Hindi व [v] sound a frictionless continuant.” (1989:22)

### 3.2.6 Vowels:

As mentioned earlier, it is the passage of air stream which distinguishes the articulation of vowels and consonants. *Collins Dictionary* describes vowel **a** as “a voiced speech sound whose articulation is characterized by the absence of friction causing obstruction in the vocal tract, allowing the stream of air a free passage.” In

other words, vowels can be considered as a tone (hum) which is produced by the vibration of the vocal cords in the glottis making it a voiced sound.

### 3.2.6.1 Description:

The articulation of a vowel sounds is determined by the following –

- a. Whether the soft palate is raised (oral vowel sounds) or lowered (nasalized vowel sounds):- All English vowels are oral which means that in the production of the English vowel sounds, the soft palate is always raised. However, there are nasalized vowels in Hindi language which are produced with lowered soft palate (example: ईँट)
- b. The shape of the lips (spread, normal or rounded):- The lips can assume a number of shapes in the process of production of the vowel sounds.

<i>Spread</i>	as in the word ‘egg’
<i>Neutral</i>	as in the word ‘girl’
<i>Open</i>	as in the word ‘star’
<i>Open rounded</i>	as in the word ‘shot’
<i>Close rounded</i>	as in the word ‘shoot’

- c. The position (height) of the tongue:- We know that the tongue is divided into three (imaginary) parts viz. front, central and back. The part of the tongue which is raised in the production of the vowels define if the vowel is a *front vowel*, *back vowel* or a *central vowel*.

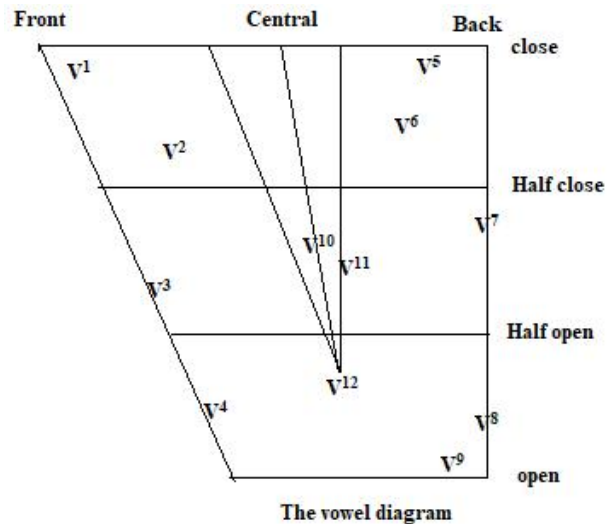
Any part of the tongue can be raised to any degree towards the palate. Let us see in detail the various possibilities.

For the production of vowels, the tongue is raised only to the height that there is no audible friction (an audible friction would turn the sound into a consonant). Similarly the tongue is lowered only to the point that there is no audible friction. The vowel sounds produced when the tongue is raised to the highest possible point are called *close vowels*. Contrary to this when the tongue is at the lowest position, *open vowels* are produced.

Example: During the production of the vowel sounds in the English words *peel* (i:/ $\overline{\text{e}}$ ) and *pool* (u:/ $\overline{\text{u}}$ ), the front of the tongue and the back of the tongue are raised respectively to the highest point.

Between the open and closed position, two more positions have been identified i.e. *half close* and *half open*. These positions are equidistant from extreme open and close positions.

Example: The pronunciation of the words *pit*, *peal*, *pet* and *pat* illustrate the production of *half close* and *half open* vowel sounds.



### 3.2.6.2 Simple vs Complex Vowels:

We have seen that during the production of the vowel sounds, the tongue position remains same and so does the quality of the vowel. Such vowels are called *simple / pure* vowels or **monophthongs**. However, there is a possibility that the tongue might change its position during the process of the production of the vowel sound. This results in the quality of the vowel. Such vowels are called *complex* vowels or *diphthongs*. As the tongue moves smoothly from one position to the another, these vowel sounds are often termed as **glide** too. (Example: the final sound in the English word *tie* wherein the vowel sound initiates from the open position and ends at the close position)

### 3.2.7 Phonetic Transcription:

It was realized that to represent the speech sounds was a real challenge as in English language, most of the times the pronunciation of the word is no perfect match to how that word is spelt. It is because of this reason that often, non-native speakers of English end up in pronouncing the word incorrectly. It is hence important for us to distinguish between letters and sounds.

Example: *Bough* (/bau/) and *Cough* (/kɒf/); In spite of the same ending letters, the latter ends in /f/ sound which is a consonant whereas the first word ends in a vowel sound. Similarly the **q** being a single letter produces a combination of **k** and **w** sounds in the words *quality*, *queen* and likewise.

So it was strongly felt to develop a set of symbols in which any language of the world could be written. In response to this need, the International Phonetic Association devised an alphabet which was called *International Phonetic Alphabet*. Any spoken language of this world can be easily transcribed using the International Phonetic Alphabet. The 26 Roman letters used in English language were insufficient to denote all the possible speech sounds so letters from Greek language (like φ, β, θ) were used

**Diacritics**

ɸ	Voiceless	ɹ̥	Velarized	ɾ̥	No audible release	ɸ	Retracted tongue root
ɸ̥	Voiced	ɹ̥̄	Pharyngealized	ɾ̥̄	Syllabic	ɸ̄	More rounded
ɸ̥̄	Aspirated	ɸ̄̄	Breathy voiced	ɸ̄̄̄	Nasalized	ɸ̄̄̄	Less rounded
ɸ̄̄	Dental	ɸ̄̄̄	Creaky voiced	ɸ̄̄̄̄	Rhoticity	ɸ̄̄̄̄	Advanced
ɸ̄̄̄	Apical	ɸ̄̄̄̄	Linguolabial	ɸ̄̄̄̄̄	Non-Syllabic	ɸ̄̄̄̄̄	Retracted
ɸ̄̄̄̄	Laminal	ɸ̄̄̄̄̄	Velarized / pharyngealized	ɸ̄̄̄̄̄̄	Raised	ɸ̄̄̄̄̄̄	Centralized
ɸ̄̄̄̄̄	Labialized	ɸ̄̄̄̄̄̄	Nasal release	ɸ̄̄̄̄̄̄̄	Lowered	ɸ̄̄̄̄̄̄̄	Mid-centralized
ɸ̄̄̄̄̄̄	Palatalized	ɸ̄̄̄̄̄̄̄	Lateral release	ɸ̄̄̄̄̄̄̄̄	Advanced tongue root		

**International Phonetic Alphabet (IPA)**



as

well.

Consonants (pulmonic)												Consonants (non-pulmonic)		
	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal	Clicks	Voiced implosives	Ejectives
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ			
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ					
Trill				r					ʀ					
Tap or flap				ɾ		ɽ								
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ			
Lateral fricative				ɬ ɮ										
Approximant		ʋ		ɹ		ɻ	j	ɰ						
Lateral approximant				l		ɭ	ʎ	ʟ						

Clicks	Voiced implosives	Ejectives
ʘ Bilabial	ɓ Bilabial	ʼ examples:
ǀ Dental	ɗ Dental / alveolar	ɓ' Bilabial
ǃ (Post) alveolar	ɟ Palatal	t' Dental / alveolar
ǂ Palatal-alveolar	ɠ Velar	k' Velar
ǁ Alveolar lateral	ʄ Uvular	s' Alveolar fricative

International Phonetic Alphabet (IPA)

### 3.2.7.1 Phoneme and Allophones:

We know that all the spoken languages have a definite number of distinctive sound units which are called *phonemes*. The term ‘distinctive’ has been used because these sounds are the smallest units which are used to differentiate meaning. Phonemes can be easily identified by taking into consideration *minimal pairs* (two words which differ only in one sound are called minimal pairs).

Example: *gate, rate, wait, hate, date*

These words are considered examples of minimal pairs as they differ with respect to only one sound (the initial sound). The replacement of that one initial sound (/g/, /r/, /w/, /h/, /d/) for the other would bring about a change in meaning.

The pronunciation of a phoneme may differ depending upon the position it occupies in the word of a particular language. The variants of the same phoneme are termed as its *Allophones*. Transcription using the phonemic symbols is indicated between two slant lines / / whereas transcription using the allophones is indicated between straight brackets [ ].

Example: In English language the phonemes /p/, /t/, and /k/ are pronounced as [p<sup>h</sup>], [t<sup>h</sup>], and [k<sup>h</sup>] when they occur at the *initial accented* position in the word else their pronunciation remains as [p], [t], and [k].

	Phonemic Transcription	Phonetic Transcription	Remark
<b>Pit</b>	/pɪt/	[p <sup>h</sup> ɪt]	/p/ is in the initial accented position
<b>Spin</b>	/spɪn/	[spɪn]	/p/ is at the non-initial position
<b>Tin</b>	/tɪn/	[t <sup>h</sup> ɪn]	/t/ is in the initial accented position
<b>Stick</b>	/stɪk/	[stɪk]	/t/ is at the non-initial position
<b>King</b>	/kɪŋ/	[k <sup>h</sup> ɪŋ]	/k/ is in the initial accented position
<b>Skit</b>	/skɪt/	[skɪt]	/k/ is at the non-initial position

### 3.2.7.2 Syllable:

The next higher unit of sound (phoneme) is called a *syllable*. A syllable is that part of the word which is pronounced in a single breath force. In terms of features, a syllable –

- can have one or more phonemes
- will necessarily have a vowel sound (syllabic consonants are exceptions)
- may exist without a consonant sound
- may exist independently in the form of a single vowel sound (example ‘I’ /aɪ/)

**Syllable Division:** We know that a syllable is a segment of speech sound which is pronounced in one breath force. On this basis the word *exam* can be divided into two syllables (eg-zam) but the word *examination* will have five syllables.

Exam	/ɪg - 'zæm/
Examination	/ɪg - ,zæ - mɪ - 'neɪ - ʃən/

### 3.2.8 Word Accent, Stress and Rhythm:

During the pronunciation of any multi-syllabic word, all the syllables are not spoken with equal prominence. For example in the word *exam*, the second syllable /zæm/ receives more breath force than the first syllable /ɪg/. The syllable which receives the prominence is said to be *accented*. Along with the accent if the pitch of sound also changes at the stressed syllable then the syllable is said to have the

*primary/tonic accent*. Any other prominent syllable (other than the tonic syllable) is said to have the *secondary accent*. Primary accent is denoted by a small vertical bar over the stressed syllable whereas the secondary stress is marked with a bar below (/ɪg ,zæmɪ'neɪʃən/).

<b>Stress on the first syllable</b>	Baggage	/ 'bæ-gɪdʒ/
	Accident	/ 'æk-sɪ-d(ə)nt/
	Calculate	/ 'kæɪ-kjʊ-leɪt/
<b>Stress on the second syllable</b>	Because	/ bɪ- 'kɔːz/
	Exception	/ ɪk- 'sep-ʃ(ə)n
	Example	/ ɪg- 'zɑːm-p(ə)l/
<b>Stress on the third syllable</b>	Disappear	/dɪs-ə- 'pɪə/
	Introduce	/ ɪn-trə- 'djuːs/

The way one particular syllable is pronounced more prominently in disyllabic or polysyllabic words, similarly at sentence level some words stand out in every utterance which has two or more words. The words (syllables in case of polysyllabic words) which are usually more prominently pronounced in utterances are called *accented*.

- Examples:
1. He's 'found their 'classroom.
  2. 'Can you 'meet me to'morrow.
  3. I 'couldn't 'join the 'party.

On close observation, we realize that accented words in a sentence are usually the *content* or *lexical* words which carry the meaning of the sentence.

<b>Words usually accented</b>	<b>Words usually not accented</b>
<i>Noun</i>	<i>Articles</i>
<i>Main verbs</i>	<i>Auxiliary verbs</i>
<i>Adjectives</i>	<i>Preposition</i>
<i>Adverbs</i>	<i>Conjunction</i>
<i>Interrogative &amp; demonstrative pronouns</i>	<i>Pronouns other than Interrogative &amp; demonstrative</i>

**Rhythm:** A regular periodic repetition of a particular pattern of design, colour or sound is termed as *rhythm*. In music the periodic repetition of a particular beat is the rhythm of that musical piece. Similarly, in language, rhythm is the recurrence of a certain pattern of sound in the speech. The spoken languages of the world usually follow either of the following two rhythms.

*Syllable-timed rhythm:* In the languages following the syllable-timed rhythm the syllables (accented or unaccented) occur at equal time intervals. It means that the time taken between two accented syllables will be in proportion to the number of unaccented syllables between them. The French language follows the syllable-timed rhythm pattern.

*Stress-timed rhythm:* In the languages following the stress-timed rhythm, the two accented syllables usually fall at equal interval of time, irrespective of the number of unaccented syllables between them. English is one of the languages which follows the stress-timed rhythm.

### **3.2.9 Intonation:**

During the production of *voiced sounds*, the vocal cords vibrate at varying rates. The cycles of vibration performed by the vocal cords in unit time is called *frequency of vibration* which determines the *pitch of the voice*. A close analysis makes us realize that there is hardly any language in the world which is spoken without any change in the pitch. During conversation, our pitch constantly keeps changing (keeps going up or down) and usually forms a pattern of variation which is called *tone*. This pattern of pitch variation is responsible for *intonation* of a language. The accented syllable at which there is a variation in pitch is said to be the tonic syllable. There are various ways in which the tone may change. Chief among them are the following –

- a. Falling tone (change from high to low pitch)
- b. Rising tone (change from low to high pitch)
- c. Fall-rise tone (change from high to low and then again to high pitch)
- d. Rise-fall tone (change from low to high and then again to low pitch)

It is important to note here that *intonation* is not used merely for melody purpose. It has a linguistic function too. A change in tone has the capability of bringing about change in the meaning of an utterance. Intonation usually performs the following three functions –

- a. Grammatical function
- b. Attitudinal function
- c. Accentual function

Examples:	i.	He 'isn't 'coming.	Falling tone – a declarative statement
	ii.	He 'isn't coming.	Rising tone – statement intended to be a question
	iii.	They're good.	Fall-rise tone – statement with some reservation
	iv.	'How good him!	for Rise-fall tone – sarcasm

### 3.3 Learning Outcomes

It is expected that upon the completion of this Unit, you would have understood the concepts of *Phonetics* and *Phonology*. You should be able to differentiate between speech sounds in terms of place of articulation and manner of articulation. Further, You are expected to have understood the importance of stress and intonation in spoken language.

### 3.4 Glossary

**Phonetic:** Pertaining to the production of speech

**Phoneme:** The basic sound unit of a language

**Trachea:** Also called the windpipe; air is breathed in and out through trachea

**Pharynx:** A speech organ (it extends from the windpipe to the root of the tongue)

**Larynx:** Also called the voice box or glottis. It is the passageway for air between the pharynx above and the trachea below.

**Vocal Cords:** A pair of finger like folds in the larynx

**Palate:** The top part of the inside of the mouth

**Oral Sounds:** Sounds produced when the soft palate is raised and the air passes through the mouth only

**Nasal Sounds:** Sounds produced when the soft palate is lowered and the air passes through the nose only

**Nasalized Sounds:** Sounds produced when the soft palate is lowered letting the air pass through the mouth and nose

**Vowel:** Sounds during the production of which there is no significant obstruction of airstream

**Consonants:** Sounds during the production of which there is a significant obstruction of airstream

**Pulmonic Egressive:** Production of stream of air for speaking where in the air is forced out of the mouth

**Pulmonic Ingressive:** Production of stream of air for speaking where in the air is sucked in the mouth

**Pharyngeal:** Speech sound produced by a hindrance created in the pharynx

**Cardinal vowel:** A series of vowel sounds used as a standard reference point for identifying the vowels in actual languages

**Diphthong:** Combination of two vowel sounds pronounced together to produce one sound

**Allophones:** Phonemes that change their sounds based on the position occupied in a word

**Phonetic Transcription:** It is the representation of speech sounds with the help of allophonic symbols represented in square brackets [ ]

**Phonemic Transcription:** Representation of speech sounds in terms of phonemes between two slant lines //

**Stress:** Degree of emphasis given to a word or syllable in speech

**Pitch:** The relative highness or lowness of a tone which is heard

**Intonation:** Variation in the pitch of speech

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## 3.5 Sample Questions

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### 3.5.1 Objective Type Questions:

A. Choose the correct option to answer the following questions:

1. \_\_\_\_\_ produces the air required for the production of the speech sounds.  
(d) Articulatory system (f) Phonatory system  
(e) Respiratory system (g) Illocutionary system

2. Nasalized sound are produced when the\_\_\_\_\_
  - a. Soft palate is raised
  - b. Soft palate is lowered
  - c. Hard palate gets lowered
  - d. Hard palate gets raised
3. During the production of diphthongs, the position of the tongue\_\_\_\_\_
  - a. remains static
  - b. doesn't play any role
  - c. changes
  - d. is a hindrance
4. Which of the following is an example of *open rounded* vowel?
  - a. Pot
  - b. Pool
  - c. Pale
  - d. Pill
5. Which of the following is usually not accented during normal speech?
  - a. Adverbs
  - b. Auxiliary verbs
  - c. Demonstrative pronouns
  - d. Main verbs

**B. State weather the following statements are True of False**

6. The vocal cords remain wide apart during normal breathing.
  - a. True
  - b. False
7. Voiceless sounds cannot be heard by human ear
  - a. True
  - b. False
8. Vowel sounds are produced without the articulation of any speech organ
  - a. True
  - b. False
9. In the production of the *roll* sounds, the tongue is a passive articulator
  - a. True
  - b. False
10. In languages following the syllable-timed rhythm pattern, two accented syllables occur after equal number of unaccented syllables.
  - a. True
  - b. False

**3.5.2 Short Answer Questions:**

1. Give one example of each of the following-
  - a. Glottal sound
  - b. Fricative
  - c. Affricate
  - d. Pulmonic Egressive language

2. What is the role of the soft palate in the production of *nasalized* sounds?
3. Differentiate between phonetic and phonemic transcription.
4. What is a semi-vowel?
5. Define (i) stress (ii) Pitch (iii) Stress-timed rhythm

### 3.5.3 Long Answer Type Questions

1. Write a detailed note on –
    - a. Articulatory System
    - b. Phonatory System
  2. What do you understand by IPA? State its importance.
  3. Write note on the importance and functions of Intonation.
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### 3.6 Suggested Readings

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1. Abercrombie., *Elements of General Phonetics*. Edinburgh: Edinburgh University Press, 1967
2. Balasubramanian.T., *A Textbook of English Phonetics for Indian Students*. New Delhi: Macmillan, 1981.
3. Jones, D., *Outline of English Phonetics*. Cambridge: Cambridge University Press, 1975.
4. Roach, Peter., *English Phonetics and Phonology*. London: Cambridge University press, 1983.
5. Sethi, J. and Dhamija, P.V., *A Course in Phonetics and Spoken English*. New Delhi: Prentice Hall of India Private Limited, 1989.



## **Unit-4: Morphology**

### **Structure**

#### **4.0 Introduction**

#### **4.1 Objectives**

#### **4.2 Morphology**

##### **4.2.1 Morphology and Other Sub-fields of Linguistics**

##### **4.2.2 Morphemes and Their Types**

##### **4.2.3 Identification of Morphemes**

##### **4.2.4 Morphological Processes**

##### **4.2.5 Words and Their Types**

##### **4.2.6 Model and Approaches to Morphology**

##### **4.2.7 Inflectional and Derivational Morphology**

#### **4.3 Learning Outcomes**

#### **4.4 Glossary**

#### **4.5 Sample Questions**

#### **4.6 Suggested Readings**

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### **4.0 Introduction**

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Words are the most easily identifiable objects in a language. Words carry meaning and show different forms when grammatical & phonological rules are applied to them. Words acquire various forms when they are used in a sentence or a context. However, the forms that a word may adopt are not random. Rather, the forms they adopt are governed by some rules. Therefore, it is important to study words. Morphology is the study of words, especially their internal structure and parts. Besides providing insights into the structure of words, morphology also informs us about the word formation processes. This unit introduces the readers to morphology, a sub-field of linguistics that focuses on the study of words, word forms and word parts. The readers will be able to notice how morphology analyses words and thereby illuminates

the working of the mental lexicon. At first, in this Unit we offer a discussion on morphology and the relationship it shares with other sub-fields of linguistics. Following that, we discuss morphemes and their classification. Next follows a discussion on the identification of morphemes and morphological processes. Then, we discuss lexemes, words and their classification from different standpoints. After that, we discuss the principal models and approaches for morphology. A discussion on morphological processes including inflexion and derivation comes in the final section.

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## **4.1 Objectives**

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- to introduce you to basic morphology and widen their perception about the internal structures of words with illustrations from English.
  - to acquaint you with various extant models and approaches to analyse words, word forms and word parts as building blocks of language.
  - to make you aware of various types of affixation processes including prefixation, suffixation, infixation and circumfixation.
  - to provide you with the skills to identify morphemes in various kinds of words and classify them from conceptual-theoretical standpoints.
  - to help you in understanding morphological processes including inflexion and derivation with illustrations from English.
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## **4.2 Morphology**

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Human beings use language at different levels such as the following: the level of sounds and sound patterns, the level of words and word parts, the level of sentences and sentence parts, the level of paragraphs and discourses. Accordingly, the study of language also spans across different levels. Morphology is the study of words, their parts and their internal structures. Most scholars tend to give credit to Wolfgang von Goethe for inventing the term morphology in 1790. When we examine the term ‘morphology’ we notice that it has a Greek origin and its initial usage was in the field of Biology. The word ‘morphology’ is made up of two components including ‘morph’ that refers to shape/form and ‘ology’ that refers to study. Accordingly,

morphology refers to the study of the shape/form of words. This study of shape/forms of words also includes word parts, especially those parts that occur in several words in the form of prefixes or suffixes. When we use language and form sentences, the words that participate adopt different shapes/forms. Our knowledge of language and grammar determines the most suitable shape/form a word should adopt when it is used. Therefore, morphology is also linked to word formation and lexicon. Let us examine the following sentences:

(a) I have a book.

(b) I have two books.

A noticeable difference between sentence (a) and sentence (b) is the addition of the plural marker ‘s’ in the word book. These sentences indicate that the word ‘book’ as a noun can have two forms; book (singular) and books (plural). These sentences also indicate that ‘s’ is a form that can serve as a word part and a plural marker for nouns. The following pairs of words further illustrate these observations: book-books, cap-caps, blanket-blankets, lap-laps and nest-nests. On a similar pattern, let us examine some more words representing plural nouns of English.

Illustration-1: Plural formation in English nouns

Set	Singular and plural nouns	Observations
1	Cup-Cups, Cap-Caps, Book-Books, Cake-Cakes, Hut-Huts, Text-Texts and Task-Tasks.	Here, the small letter ‘s’ represents the plural marker and is pronounced /s/.
2	Car-Cars, Table-Tables, Cab-Cabs, Dog-Dogs and Bag-Bags.	Here, the small letter ‘s’ represents the plural marker and is pronounced /z/.
3	Class-Classes, Glass-Glasses, Bus-Buses, Branch-Branched, and Church-Churches.	Here, the letters ‘es’ represent the plural marker and are pronounced /iz/.
4	Ox-Oxen, Child-Children, and Brother-Brethren.	Here the letters ‘en’ represent the plural marker and are pronounced /en/.
5	Fish-Fish, Jewellery-Jewellery, Furniture-Furniture, Evidence-Evidence and Water-Water.	Here, both singular and plural forms are identical. There is no letter to represent the plural marker and no change in pronunciation.

The variegated use of words in day-to-day communication, indicates two interesting points; (a) Human beings possess a huge vocabulary in their mind that they use according to situations, and (b) Human beings are aware of rules and conditions that produce new words and different grammatical forms of the same word. Therefore, the study of words, word forms and word parts has the potential to illuminate the working of the mental lexicon possessed by human beings.

#### **4.2.1 Morphology and Other Sub-fields of Linguistics:**

Linguistics is an organized and systematic study of languages. It is a well-established discipline that focuses on various aspects of the human language including its sounds, sound patterns, words, word parts, sentences and sentence parts. Morphology is a sub-field of Linguistics that deals with the internal structures of words and the patterns in which words develop. Morphology focuses on words and word parts, but it has logical and demonstrable connections with phonology (the sub-field that deals with sound patterns), syntax (the sub-field that deals with the structure of sentences) and semantics (the sub-field that deals with meaning). Though morphology is considered a theoretical sub-field of Linguistics it has regular interactions with applied areas of Linguistics. For instance, linguists and researchers interested in dialects and varieties of a language often consider variations at the morphological level for their analysis. The typologists utilise the ideas of morphology for demonstrating the distinctions and relatedness between languages. Speech therapists use the knowledge of morphology to diagnose the precise points and degrees of language problems in their subjects. Those interested in language acquisition employ the findings of morphology in studying the development of language in children. The findings of morphology are of immense benefit for language instructors.

The morphologists and experts in the sub-fields described above focus on words and word forms when they carry out their tasks. Though morphology interacts with various sub-fields, all morphological operations occur at the word level. It would not be wrong to say that morphology is all about ‘words’ which is such a familiar concept that everyone thinks s/he knows it. Words are the most familiar and interesting entities in a language. In what follows, let us see what words are made of.

#### **4.2.2 Morphemes and Their Types:**

The term ‘morpheme’ refers to such units of a word that cannot be further divided into meaningful components. It is an abstract concept that is represented using curly brackets.

Consider the word *impatiently* in the sentence ‘He impatiently opened the gift’. The word ‘impatiently’ here can be divided into three parts namely {im}, {patient} and {ly}. These parts are morphemes because they communicate some meaning or perform some function and cannot be divided any further. Now consider the word ‘impact.’ The word ‘impact’ cannot be divided as {im} and {pact} because these components would not mean anything relevant to the word impact. So, it is important to distinguish a **morph** (the phonological realization of a morpheme) from a non-morph or pseudo-morph. Interestingly, the English lexicon has plenty of words with which one can understand the morphs and non-morphs. Not only this, but one can also understand **allomorphs** (the different phonological realizations or variants of a morpheme) and zero morphs (morphemes that have no phonetic realization). Alternatively, different forms of morphemes offer insights into different forms of words and the richness of the vocabulary of a language. The interest in different kinds of morphemes is natural and perhaps that is why scholars have adopted different parameters for the classification of morphemes. Conventionally, morphemes are represented by curly brackets. A small dash before or after the morphemic boundary or on both sides of a morpheme indicates the direction(s) in which it would permit addition. Accordingly, the morphemes {re}, {de}, {in}, {pre} and {un} represented as re-, de-, in-, pre- and un- indicate the possibility of attachment on the right boundary. Similarly, the morphemes {ly}, {est}, {ed}, {fy} and {ful} represented as -ly, -est, -ed, -fy and -ful point to the possibility of addition to their left boundary. A morpheme {dear} written as -dear- indicates that it can take morphemes on both sides and result in a word like ‘*endearing*’. These conventions for representing a morpheme are seldom practised in day-to-day language use. However, linguists and experts of morphology use these conventions to describe the morphemes accurately. Morphemes are very important to understand the patterns of a language. Let us examine them criterion by criterion.

On the basis of the autonomy criterion, morphemes are classified as **free morphemes** and **bound morphemes**. A free morpheme is isolatable and can occur freely as words. Consider the word ‘pen.’ This word can be isolated and can occur freely. Since {pen} cannot be further divided into smaller meaningful components it is a free morpheme. In contrast, a bound morpheme is isolatable but it cannot stand on its own like words representing free morphemes. Bound morphemes can occur as affixes but not as words. Consider the word ‘pens.’ This word

can be divided into two morphemes {pen} and {s}. In this example, {pen} is a free morpheme whereas {s} is a bound morpheme.

On the basis of function criterion, words can be **monomorphemic** or **polymorphemic**. Monomorphemic words have a single morpheme. For instance, the words cat, cap, hat, book, a, an, the etc have a single morpheme in them. In contrast, polymorphemic words have more than one morpheme. For instance, the word ‘mismanagements’ may be divided into four morphemes (i) mis- (ii) -manage- (iii) -ment- and (iv) -s.

On the basis of grammatical criterion, morphemes are classified as **lexical morphemes** and **grammatical morphemes**. A lexical morpheme expresses lexical meaning or contributes to the meaning aspect. Consider the word ‘unhappy.’ This word can be divided into two morphemes {un} and {happy}. While {happy} as a lexeme contributes to the meaning of the word, {un} also contributes to the meaning of the word ‘unhappy’. In contrast, a grammatical morpheme mainly provides obligatory information and appears like a bound morpheme when nouns show declension for plural numbers or verbs show declension for tense. Consider the morpheme {s} in words like kites, caps, pets, books and bikes.

On the basis of orthographic form, morphemes can be classified as continuous morphemes and discontinuous morphemes. Let us discuss empty morphemes and zero morphemes as two formally recognized types. **Empty morphemes** are morphemes that have forms but no meaning. In other words, empty morphemes have phonetic structures but no semantic content. For example, consider {cran} in the word cranberry. In contrast, **zero morphemes** are morphemes that are present even without phonetic or orthographic realisation. In other words, a zero morpheme is an invisible morpheme because it does not have a phonetic form but it modifies the meaning. For examples consider the plural of the following words *sheep*, *jewellery* and *fish*. The past tense of words such as *read*, *cut* and *hit* also serve as examples of zero morpheme.

Usually, morphemes are understood to carry only one meaning. However, **portmanteau morphemes** are morphemes that can express more than one meaning. A portmanteau morpheme is a single morph that contains/represents two or more underlying morphemes. Portmanteau morphemes are also known as mega-morphemes and cumulative morphemes as they convey multiple meanings and represent a blend of two or more underlying words. Consider the

following examples: mokumentary = mock+documentary, infotainment = information+entertainment) and ginormous = gigantic+enormous.

**Clitics** refer to a relatively less discussed type of bound morpheme. Clitics are phonologically conditioned morphemes that behave like a syntactic element. Clitics do not appear like free words. Rather, they appear like clipped or shortened words. In English morphology, clitics occur frequently and manifest diverse forms. Clitics are observed in all possessive markers on nouns, shortened forms of negative modals and contracted forms of auxiliary verbs. For example, consider the following:

Clitics in possessive genitive: father's name, children's school and teacher's day.

Clitics in shortened negative: can't, won't, didn't, don't and shouldn't

Clitics in contracted auxiliaries: you're, I'm, we're, they've and I'll

The preceding discussion on morphemes may help understand the different forms that words adopt when language users communicate. This discussion also highlighted some types of morphemes with which it becomes easier to understand and analyse words.

### ***Check your progress***

1. Divide the following words in free and bound morphemes: Regulatory, Openly, Running, Deforestation, Management

Free morphemes: \_\_\_\_\_

Bound morphemes: \_\_\_\_\_

2. Identify clitics in the following sentence: I'll come to the party but I won't eat the Domino's pizza because they aren't tastier than the home-made ones.

Clitics: \_\_\_\_\_

### **4.2.3 Identification of Morphemes:**

An important task in morphology is to identify the morphemes of all kinds. In this task, the principles proposed by Eugene A. Nida in 1949 are indeed very helpful. Nida proposed six principles for the identification of morphemes. Let us understand the ones that are relevant to the ongoing discussion.

**Principle 1:** “Forms which have a common semantic distinctiveness and an identical phonemic form in all their occurrences constitute a morpheme.”

**Explanation:** This principle states that forms that have the same meaning and pronunciation in all their occurrences are morphemes.

**Examples:** -er in words like fighter, teacher, driver, builder, & helper and -s in words like books, caps, hats, claps, cats & bats. Here we notice that -er is a morpheme which when attached to verbs like fight, teach, drive & build results in a noun and -s is a morpheme which when combined with nouns like cap, hat, clap, cat & bat results in their plural forms. With this consistent behaviour, both -er and -s qualify as morphemes in English.

**Principle 2:** “Forms which have common semantic distinctiveness but differ in phonemic form may constitute a morpheme provided the distribution of formal differences is phonologically definable.”

**Explanation:** This principle states that forms that have the same meaning and differ only in pronunciation in such a way that the difference can be explained in all their occurrences are morphemes.

**Examples:** -s in the words like books, hats, claps, bikes & chats and -z in words like cabs, bags, hands, cars, & dogs. Here we notice that -s and -z represented by the small letter ‘s’ are morphemes because they occur with nouns depending upon the voicing of the word-final consonant and make them plural. In nouns having voiceless consonants in word final position the plural marker ‘s’ is pronounced -s whereas in nouns having voiced consonants in word final position the same plural marker ‘s’ is pronounced -z.

**Principle 3:** “Forms which have a common semantic distinctiveness, but which differ in phonetic form in such a way that their distribution cannot be phonologically defined constitute a single morpheme, if the forms are in complementary distribution.”

**Explanation:** According to this principle, forms that have identical semantic content and grammatical role but they differ in pronunciation and occur in such a way that only one member of the set can be present at a time. This also explains the prevalence of allomorphs.

**Examples:** The plural markers in nouns such as *rats*, *bars* and *houses* have the same semantic value and grammatical role but different pronunciation. Also, the members of this set are in



complementary distribution i.e., morpheme {s} is present, the morpheme {z} of bars and the morpheme {iz} of houses do not occur in the same word.

**Principle 4:** “An overt formal difference in a structural series constitutes a morpheme, if in any number of such series the overt formal difference and a zero structural difference are the only significant features for distinguishing a minimal unit of phonetic semantic distinctiveness.”

Explanation: A morpheme can exist even without phonological realisation. Therefore, the plural marker absent in the plural form of words such as fish, furniture, jewellery, deer and evidence may be understood as zero morpheme or null morpheme (represented by a  $\emptyset$  symbol).

Examples: The past tense and past participle forms of the verbs cut, put, bet, recast, reset and cost have spelling and pronunciation identical with the present form of these verbs. It would be wrong to assume that these verbs do not have past form. Rather, in these cases, a null/zero morpheme is added to the base form.

**Principle 5:** “Homophonous forms are identifiable as the same or different morpheme on the basis of the following conditions:

Condition-1: “Homophonous with distinctly different meanings constitute different morphemes.”

Condition-2: “Homophonous forms with related meanings constitute a single morpheme if the meaning classes are paralleled by distributional differences, but then constitute multiple morphemes if the meaning classes are not paralleled by distributional difference.”

Explanation: Forms that are similar in sound but different in spelling may constitute different morphemes.

Examples: *Read* (as in past tense of the verb read) and *red* (colour)

**Principle 6:** “A Morpheme is isolatable if it occurs under the following conditions:

Condition-1: “In isolation”

Condition-2: “In multiple combinations in at least one of which the unit with which it is combined occurs in isolation or other combinations”

Condition-3 “In a single combination, provided the element with which it is combined in isolation or in other combinations with non-unique constituents.”

Explanation: Hepax or forms that occur only once in the language or have very restricted occurrence are morphemes.

Example: The instances of cran and rasp are singular in words like cranberry and raspberry.

The six principles suggested by Eugene Nida have limitations and may not be applicable for all languages, but they are exceedingly helpful for the identification of morphemes in English. They also help the language instructors and speech therapists to classify language problems precisely and work on remedies.

***Check your progress***

1. Using Nida's principles identify any ten distinct morphemes in the following text: I'd bought cranberries and cut them to see what's inside. I was surprised to see that cranberries didn't have crans.

Morphemes: \_\_\_\_\_

2. Examine the plural markers in the following nouns and identify the principle that can explain them: Caps, Cars, Churches.

Principle .....

3. Examine the bound morpheme in the following words and identify the principle that can explain them: Cut (past verb form), Read (past verb form), Fish (plural noun form), Deer (plural noun form)

Principle .....

**4.2.4 Morphological Processes:**

It is interesting to note that words are not always used as they are known to the language users or as listed in the dictionary of the language. Words in their free forms are called lexemes and are the basic units of the lexicon of a language. These lexemes undergo morphological processes to become words when they are used in a sentence or a context. Therefore, it is important to understand the morphological processes that participate in word-formation processes and convert a lexeme into a set of words. Let us first understand some key concepts related to morphological processes.

**Lexeme:** The term lexeme refers to the basic unit of the lexicon. It may contain a single word or a set of words. A lexeme may also be understood as a head entry in a dictionary that undergoes changes to produce various derived words. Lexemes are abstract units of morphological analysis. However, understanding a lexeme is important because it can help in a group of related words or word forms. Consider the word ‘teach’ as an example. The lexeme ‘teach’ can produce the following words: teach, teaches, teaching, taught, teacher, teachers, teachable, and teachability. In this set or paradigm, it is easy to notice that ‘teach’ is a lexeme and all other members are related to it despite belonging to different grammatical categories. Do you notice a similar pattern for the lexeme ‘learn’?

**Base, root and stem:** A base is a word form to which additions of morphemes and modifications take place resulting in the production of new words and word forms. A root is the smallest chunk that acts as the core of the word and does not change despite additions, modifications and productions of new word forms. A base may contain root and stem. A root can also act as a stem or base to which additions and modifications happen through morphological processes. Some common morphological processes include affixation, reduplication and modification. Among these, affixation is very common in English.

**Affixes and affixation:** An affix is a bound morpheme that is added to another morpheme or word and the process is known as affixation. In this process, a new word is generated. The morpheme or word to which an affix is added serves as a stem or root or root word. The affix as a bound morpheme can appear in the beginning or at the end of the free morpheme/word.

The term prefix refers to a bound morpheme that appears at the beginning of a free morpheme and produces a new word form. For example, consider the morpheme {in} in words like incapable, inability, independent, and instability. Similarly, the morpheme {un} is a prefix in words like unimportant, untrue, unbelievable and unprepared. The process by which a prefix is added to a free morpheme or a word is called prefixation. In other words, prefixation is a process to derive new word forms by adding a prefix. In contrast, the term suffix refers to a bound morpheme that appears at the end of a free morpheme and produces a new word form. For example, consider the morpheme {ly} in words like hardly, rarely, readily, calmly and newly. Similarly, the morpheme {ment} is a suffix in words like announcement, development, achievement, excitement and appointment. The process by which a suffix is added to a free

morpheme or a word is called suffixation. In other words, suffixation is a process to derive new word forms by adding a suffix. The outcome of prefixation and suffixation may be a new word of the same grammatical category or a different grammatical category. Also, depending upon the kind of affix the new word form may have similar or opposite and related or unrelated meanings.

General communications show frequent use of affixes and suffixes. Therefore, both prefixation and suffixation are highly productive morphological processes in English. The morphological processes found in other languages such as infixation and circumfixation are not very frequently occurring in English. However, it would be interesting to know them. An infix is an affix or a bound morpheme that appears within a base or root and produces a new word form. For example, consider the expression *my-bloody-self*. Here {bloody} is a bound morpheme that serves as an infix. In this expression, {bloody} is inserted within the base 'myself'. It is easy to notice that the insertion of an infix is within the base whereas the prefixes and suffixes are added to the boundaries of the base. A circumfix is yet another type of affixes that is not so frequently occurring in English. A circumfix is a bound morpheme having two parts that appear at the start and end of a base. Circumfixes may seem like a morpheme in which a prefix and suffix are clubbed. Therefore, a circumfix as an affix may be understood as a mirror image of an infix. The morphological process by which a circumfix is added to a base is known as circumfixation. For example, consider the morpheme {en} in the word 'enlighten.' Similarly, the word 'embolden' has a circumfix whose two parts are {em} and {en}. Among the various kinds of affixes, prefixes and suffixes are common.

**Reduplication:** Reduplication is a morphological process in which a morpheme or a word repeats to produce another word. For example, consider the following words: dilly dally, tick-tock, ping pong, hanky panky and bye-bye. From these examples, it is evident that the reduplication process involves a morpheme or word repeating itself partially or completely. Some examples of reduplication show the reduplicant part copying the base entirely. Consider the expressions knock-knock, bye-bye, ga-ga, so-so, bling-bling and blah-blah. Baby words like ta-ta, boo-boo, goody-goody, night-night, and tum-tum also show full reduplication. When the entire form is not repeated, the reduplicant or reduplicated part may echo the left edge or the right edge of the base. For example, consider the following words: pitter-patter, okey-dokey, hip-hop, nitty-gritty, zig-zag, see-saw and film-flam.

***Check your progress***

1. Identify prefixes and suffixes in the following words: Unrecognisable, Irresponsible, Illogical, Unreasonable, Inability.

Prefixes: \_\_\_\_\_

Suffixes: \_\_\_\_\_

2. Identify the root and stem in the following words: Pronunciations, Harmlessness, Festivities, Actualization, Decolonisation.

Roots: \_\_\_\_\_

Bases: \_\_\_\_\_

**4.2.5 Words and Their Types:**

Words are often understood as strings of letters that are separated by blank spaces on their boundaries. Words are also understood as minimum free forms in the sense that they can occur freely. However, in context-free environments, words are called lexemes. A lexeme is a unit that can refer to a word or a set of related word forms. Though words mostly occur in combinations and in the surrounding of other words, sometimes a word can exist as an independent form also. When a word occurs in a sentence or situation it can move and swap positions. Since most definitions highlight morphology as a study of the internal structure of words, it is important to discuss what a word is. A word is usually defined with semanticity (the property of meaning) and isolatability (the property of separability).

**Content words and Function words:**

In grammar, words are classified into several groups such as nouns, pronouns, verbs, adjectives, adverbs, determiners, prepositions, conjunctions etc. However, words can also be organised in two groups; content words and function words. Words that carry meaning and refer to abstract or concrete objects, actions and qualities are called content words. It is an open and infinite class in the sense that new members (words) can be added to it. The class of content words includes nouns, verbs and adjectives. In contrast, words that perform grammatical

functions and act as links between content words are called function words. It is a closed and repetitive class in which new members (words) cannot be added to it. The class of function words includes pronouns, prepositions, conjunctions, question words etc. Let us examine the following sentence: She has bought a beautiful car. In this sentence, the words *bought*, *beautiful* and *car* are content words whereas *she*, *has*, and *a* are function words.

### **Simple words or Simplex and Complex words:**

Morphemes refer to words or parts of words that are smallest and indivisible and have a meaning component or a grammatical function. If a word has only one morpheme it is called a simple word or simplex. Words such as *pen*, *come*, *red*, *the*, *he* and *of* are simple words or simplex because they are made up of only one morpheme and cannot be further divided. In contrast, a word that has two or more morphemes is called a complex word. Words such as *writers*, *adjustments*, *annoyingly*, *pens* and *coming* are complex words because they have two or more morphemes. The morphemes in a complex word like teachers are identified as follows: (1) teach- (2) -er-, and (3) -s.

#### ***Check your progress***

1. Examine the following words and rearrange them in groups of content words and function words: do, wish, dream, house, I, to, exam, wonderful, an, what, no, fly, ask, red, clever, you

Content words: \_\_\_\_\_

Function words: \_\_\_\_\_

### **4.2.6 Models and Approaches to Morphology:**

Scholars have shown interest in morphology for a long time. The earliest works on language (for instance, Panini's *ashtadhyayi*) mainly focus on morphology. Consequently, various models and approaches have emerged. Some models and approaches show similarities with each other while others are diagonally opposite to each other. According to Aronoff and Fudeman (2011), the approaches to the study of morphology can be classified into two groups; analytic approach and synthetic approach. The analytic approach focuses on logically dividing

the words into smaller units for further analysis. In contrast, the synthetic approach focuses on putting together smaller pieces into a larger unit. The two approaches have been complementary to each other, however, some scholars believe that analysis precedes synthesis. In the modern study of morphology, three distinct approaches emerged and received a lot of scholarly attention. These approaches are as follows:

**Item and arrangement approach:** Considering morphemes as the minimal unit of meaning, this approach focuses on the linear arrangement of morphemes. Promoted by Leonard Bloomfield and Charles F. Hockett, this approach is also known as a morpheme-based approach.

**Item and process approach:** Considering lexemes as the items on which rules are applied to produce word forms, this approach focuses on the isolation of lexemes and the sequence of morphemes that follows through different processes. This approach is also known as a lexeme-based approach.

**Word and paradigm approach:** Considering words as the minimal units, this approach focuses on paradigms. This approach argues against anything less than a word to be analysed in morphology. This approach is based on the whole word and that is why it is also known as a word-based approach.

The long interest of scholars in morphology and the structural variations in languages of the world have resulted in the development of numerous theories, ideas, models and approaches. These models and approaches have helped the research community and language instructors in understanding the structure and behaviour of words. However, no model or approach is adequate to analyse all languages or even a language completely.

***Check your progress***

1. Examine the following statements and state true or false.

I. Bloomfield and Hockett are associated with word and paradigm models/approaches.

I. Item and process is a lexeme-based model/approach.

2. Examine the following statements and state true or false.

I. Word and paradigm model/approach considers nothing smaller than a word.

I. Item and arrangement is based on vertical and hierarchical arrangement of morphs.

#### **4.2.7 Inflectional Morphology and Derivational Morphology:**

As discussed earlier, a morpheme is the smallest meaningful or grammatical or morphological unit of language. Also, the free morphemes can stand alone i.e., they can exist as words. The bound morphemes are added to a base or word. The bound morphemes are further classified as inflectional morphemes and derivational morphemes. Accordingly, the study of morphology is classified as inflectional morphology and derivational morphology. It is important for the students of morphology to understand the two groups.

When a lexeme is used in a sentence or context it becomes a word. This word can adopt different forms within or outside the grammatical category. Consider the word ‘play’ in the following sentences:

1. S/He plays football.
2. I/You/We/They play football.
3. S/He is playing football.
4. I am/You/We/They are playing football.
5. Who played football yesterday?
6. Why does s/he play football?

In the above sentences, the word ‘play’ has adopted various forms such as play, plays, playing, and played. It is evident that all these word forms of the lexeme ‘play’ are semantically related and belong to the same grammatical category. Therefore, the forms a lexeme or word adopts are grammatically-conditioned variants.

Inflectional morphology is a morphological process that focuses on the combination of inflectional morphemes with base forms. The term inflection refers to the combination of bound morphemes with free morphemes or stems resulting in grammatical words. For example, consider the forms that the lexeme ‘play’ adopted in the above sentences. Bound morphemes like -s, -ing, and -ed were added to the free morpheme play resulting in grammatical and contextual variants. Accordingly, these morphemes are called inflectional morphemes. In English, the suffix -s and -es occur as markers for plural nouns, third person and singular number agreement for verbs. Similarly, the suffix -ed occurs as a past tense marker for verbs. Again, the suffix -er and -est occur as markers of comparative degree and superlative degree respectively in English.



Inflection is also known as flexion and accidence. Inflection produces word forms that are manifestations of the same word.

Derivational morphology concerns word formation. It is a morphological process that focuses on the combination of derivational morphemes with base forms. The main outcomes of this morphological process are new lexemes and words that may not share the grammatical category of the combining forms. Derivation is a very productive process for creating new words. For example, consider the following pairs of verbs and nouns: teach-teacher, drive-driver, play-player, learn-learner and write-writer. An easy observation here is that various English nouns can be obtained by adding a derivational suffix -er to the verbs. It is important to note that when derivational morphemes are attached to a base the resulting new word may be very different.

### **Inflection versus derivation:**

As a morphological process, inflection differs from derivation in several ways. Some of these differences are given below:

1. In the sequence of affixation, derivation precedes inflection. As a process, inflection is final. After receiving inflection, the base form becomes an inflected word and does not allow additions. For example, the word 'happen' may receive affixes in the following order: happen → happening → **mishappening** → mishappenings. Notice, here the final word is an inflected form.
2. The addition of a derivational morpheme may alter the grammatical category of the stem/base. For example, the word 'fight' is a verb that can receive a derivational morpheme {er} and become 'fighter' which is a noun. In contrast, when the noun 'fighter' receives an inflectional morpheme {s} it becomes 'fighters' which is also a noun.
3. Numerically, derivational affixes are larger than the inflectional affixes. The set of inflectional morphemes is smaller than the set of derivational morphemes.
4. In English, the inflectional affixes mostly occur as suffixes. In contrast, the derivational affixes occur as prefixes as well as suffixes.
5. Inflectional morphemes operate within a grammatical class/category. For example, the bound morpheme {s} in plural nouns exists in the grammatical category of nouns only. On the other hand, the derivation morphemes can operate across grammatical classes/categories too.

***Check your progress***

1. Identify the inflectional and derivational morphemes in the following words: Happiest, Disillusioned, Remorseful, Decongestion, Unqualified

Inflectional morphemes: \_\_\_\_\_

Derivational morphemes: \_\_\_\_\_

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### **4.3 Learning Outcomes**

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This Unit introduced you to morphology with special reference to the structure of words in English. At the end of the Unit you are expected to know the background to the study of morphology as a sub-field of linguistics and as a window to understanding the mental lexicon. You should have an understanding of approaches to morphology, morphemes, their identification and classification. You should also have clarity on various morphological processes including inflection and derivation.

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### **4.4 Glossary**

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**Affixes:** The bound morphemes that are attached to free morphemes or base for the production of new words or word forms.

**Affixation:** The morphological process through which affixes are added to a base for creating new words or word forms.

**Allomorphs:** Variants or different phonological realisations of a morph are called allomorphs. For instance, the morph -ed indicating a past tense marker has two allomorphs /d/ and /t/ in words like bowled and asked respectively.

**Derivation:** A morphological process that involves the combination of free and bound morphemes resulting in the production of new words.

**Forms:** The various shapes and appearances that a lexeme or word or word part may take. For instance, read is a lexeme that can take forms like read, reads, reading, reader, readable, and readability.

**Inflection:** Also known as **inflexion**, flection and accidence, is a morphological process that involves the combination of a free morpheme with bound morphemes resulting in the production of grammatically related word forms.

**Lexeme:** A minimum unit of lexicon or context-free word that appears as a head entry in a dictionary. It can comprise a word or set of related words. When a lexeme is used in a sentence or a context it becomes a word.

**Lexicon:** A collection of all words and phrases of language or of a language user.

**Lexis:** The set of all words of a language.

**Morph:** The phonological realization of a morpheme in a language. A morpheme is an abstract entity whereas a morph is its actual realization.

**Morpheme:** A morpheme is the smallest unit of language that can either carry a meaning or perform a grammatical function. A morpheme can occur either as a word or as a part of the word.

**Morphology:** Refers to the analysis of the internal structure of words and word parts.

**Reduplication:** A morphological process in which a morpheme or a word repeats to produce a new word. In this process, the repetition can be partial or total or just an echo or rhyme.

**Word:** A minimum free unit of meaning that can be spoken or written. Words adopt different shapes/forms and combine to form sentences.

**Word forms:** The physical realizations or phonological shapes a word takes to express different grammatical or semantic contexts.

**Word-formation:** The processes by which new words are created or derived.

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## 4.5 Sample Questions

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### 4.5.1 Objective Questions

**A. Examine the following sentences and state whether they are true or false.**

1. A simplex or simple word is a word that has several formally indivisible components.
2. A word is a unit that is capable of independent use
3. Suffixes are added to the beginning of word/base forms.
4. A word is a set of lexemes that are grammatically related.

**B. Fill in the blanks with suitable words**

1. Derivation is a ..... process.
2. A ..... is a bound morpheme that is added to the beginning of a word/base.
3. The principles for the identification of morphemes were suggested by .....

**C. Multiple Choice Questions**

1. Inflection is a ..... process.  
(i) Phonetic                      (ii) Phonological  
(iii) Morphological      (iv) Syntactic
2. re- in words such as revise, repeat, recognize, reach and resemble is a .....  
(i) morpheme                      (ii) word  
(iii) inflection                      (iv) derivation
3. -ly in words such as highly, simply, amply, heavily and seriously is a .....  
(i) Free morpheme      (ii) Bound morpheme  
(iii) Allomorph                      (iv) Zero morph

**4.5.2 Short Answer Questions:**

1. Write a short note on base, root and stem.
2. Write a short note on affixation.
3. Briefly discuss the concept of reduplication with examples.
4. Explain the concept of lexeme and word.
5. Differentiate between free and bound morphemes.

**4.5.3 Long Answer Questions:**

1. Discuss morphology and morphological process.
2. Discuss the concept of morphemes with ways to identify them.
3. Differentiate between inflection and derivation as morphological processes.

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## 4.6 Suggested Readings

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1. Aronoff, Mark and Kristen Fudeman.. *What is Morphology?* Sussex: Wiley-Blackwell. 2011
2. Bauer, Laurie. *Introducing Linguistic Morphology*. Edinburg: Edinburg University Press. 2003.
3. Carstairs-McCarthy, Andrew. *An Introduction to English Morphology: Words and Their Structure*. Edinburg: Edinburg University Press. 2002.
4. Lieber, Rochelle. *Introducing Morphology*. Cambridge: Cambridge University Press. 2009
5. Nida, Eugene A. *Morphology: The Descriptive Analysis of Words*. Ann Arbor: University of Michigan Press. 1949

## **Unit-5: Introduction to English Phonetics**

### **Structure**

#### **5.0 Introduction**

#### **5.1 Objectives**

#### **5.2 Introduction to English Phonetics**

##### **5.2.1 Definitions**

##### **5.2.2 Phonology**

##### **5.2.3 Different Branches in Phonetics**

##### **5.2.4 The Air-Stream Mechanism**

##### **5.2.5 Articulatory Phonetics**

###### **5.2.5.1 Organs of Speech**

###### **5.2.5.2 Description of Organs of Speech**

##### **5.2.6 Speech Mechanism**

###### **5.2.6.1 The Respiratory System**

###### **5.2.6.2 Functions of the Respiratory System**

###### **5.2.6.3 Parts of the Respiratory System**

#### **5.3 Learning Outcomes**

#### **5.4 Glossary**

#### **5.5 Sample Questions**

#### **5.6 Suggested Readings**

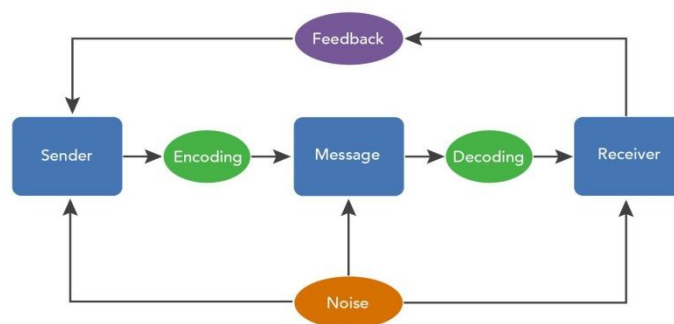
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### **5.0 Introduction**

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The basic function of speech is communication. It is a two-way process. Generally, communication occurs between two or more people. In verbal communication, the speaker is the source of information, whereas the listener is the receiver. They are also referred to as the addresser and addressee, respectively. By encrypting the message, the speaker conveys the message. The message has to be communicated in the form of information. He must encode his message, which entails converting his ideas about the information to be transmitted into a form

that can be sent as words. In addition a communication channel, or the means by which the message is sent, must also be chosen. Communication channels include speaking, writing, video transmission, audio transmission, and electronic transmission such as emails, text messages, and faxes. The speaker should also know who he is communicating with. The communication must be decoded by the receiver, which requires mental interpretation. If the listener is unable to decipher the message, it will lead to failure. Decoding failure often results from sending a message in a foreign language that the receiver doesn't understand. See the communication process in the following Figure 1.



(Figure 1: Communication process)

Communication can be verbal or non-verbal. The delivery of a message through spoken or written communication is known as verbal communication. Nonverbal communication [takes place through non-linguistics symbols] refers to the process of communicating a sort of information through non-linguistic symbols. We know that human language is made up of a set of symbols (also known as lexemes) and the grammar (rules) that govern how those symbols are used. The term "language" also refers to the features that all languages have in common. The best time to learn a language is when you are a child. There are dozens of human languages that use employ sound or gesture patterns as symbols to communicate with others. Languages, with a few exceptions, have a number of traits.

Language and communication are two separate things that depend on each other. People exchange information or messages via a variety of channels during communication. It could be done by verbal, nonverbal, graphic, and written representations such as maps, charts, drawings, and info graphics, as well as signs and signals. Language, on the other hand, is crucial to the

process of communication. Language and communication are intricately intertwined, as demonstrated by the fact that individuals interact in different languages around the world, due to which some people cannot distinguish between the two. Living creatures created their own means of communicating their feelings and thoughts to other beings. On the contrary, human beings are the only ones who can use language and words to convey specific meanings. In fact, this very characteristic distinguishes humans from other animals.

In essence, communication is a complex process that encompasses factors such as situations, genres, mediums, and delivery methods. Personal, cultural, institutional, and organizational goals, on the other hand, also influence language. For linguists, there's much to understand about how social environment influences language use, as well as how culturally varied people communicate. In order to describe differences between language and communication, a more complete description is required. Language is a tool that helps two people express and transmit their feelings and thoughts. Sounds, symbols, such as written or spoken words, posture, gesture, or signs can all be used to communicate feelings and thoughts, with the receiver interpreting a specific meaning. Language is the prime communication medium through which humans express or exchange feelings, opinions, viewpoints, and ideas. It provides structure, coherence and meaning to the abstract and difficult and thoughts. People from various communities or places communicate in different languages.

English language is spoken all over the world. In India, it is taught as a second language. Besides being the official language of the Union, English is also used as the language of government and higher education, as well as the language of people who don't speak native languages or who find English more acceptable for their needs. It has been used as an instructional medium in some schools and colleges since its inception. Some schools introduce English at a later stage. It is extensively used as the Lingua Franca among India's educated "Class". International communications are dominated by English]. English is an important part of the curriculum of India's schools and institutions. Students who are bilingual or trilingual **are** expected to participate in the classroom. However, in India, education will be monolingual in all aspects of receiving and generating information. In addition to its beauty and power, as well as the greatness of its literature, English has been acquired as a second language. Students



seeking employment after graduation usually find themselves unable to make an impact and thrive in times of intense competition due to lack of their communication skills.

Most of the languages in the world have [a] letter to sound co-ordination except English. In English spelling and pronunciation are two of the most challenging aspects. The contrast between written spelling and actual pronunciation will be explained in the introduction to English phonetics part. Most of the English letters produce more than one sound. Some words are not pronounced clearly in everyday speech. For instance, many speakers pronounce the words ‘button, different, probably, secretary, because’ as ‘butn, differ, porbly, secretary, becuz.’ This creates confusion for a listener cum [or] speaker to identify the correct articulation of [the] sound. Therefore, the necessity of phonetics is felt in learning English pronunciation.

The word ‘Phonetics’ is derived from the Greek word ‘phone’ which means ‘sound.’ Phonetics deals with the study of sounds. It is a branch of linguistics. It is a branch of linguistics that deals with two characteristics of human speech: production of human speech and perception of human speech. We know that every language has its own features. Some English sounds aren’t used in other languages. Some sounds from other languages aren’t available in English, so we won’t use them. Speaking and listening to speech is so natural. Have you ever considered the processes that go into this? This is precisely what Phonetics aspires to do. There are numerous reasons for studying phonetics, among which we can include the following:

1. To be able to recognize the correct meaning of words based on proper pronunciation
2. To comprehend the speech of other speakers and to be understood as well.
3. To produce a precise list of English terms in order to improve our English pronunciation, IPA (International Phonetic Alphabet) symbols can be understood. Phonetics, speech organs, and the respiratory system are discussed in this unit.

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## 5.1 Objectives

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The Unit has been designed to fulfill the following objectives:

- to enable students to understand phonetics
- to make students know the definitions of phonetics
- to help students to understand speech mechanism
- to make students know the organs of speech

- to enable students to understand the respiratory system

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## 5.2 Introduction to English Phonetics

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The spelling of English words has remained relatively unchanged over time and pronunciation becomes a serious issue for language learners. Good pronunciation, on the other hand, is more than just ‘how words and letters sound.’ Other considerations [**are**] intonation (means how the tone of voice varies up or down during speech), stress (words and syllables with ‘weight’ in speaking), and connected speech (sounding of words differently when joined together in natural speech). These characteristics help pronunciation, although they are not to be confused with an accent. It is necessary to understand phonetics in order to accurately pronounce words.

Many educated people are assumed to have fully assimilated the excellent traditions of English speaking, to be disciplined enough to avoid ambiguity, jargon, and clichés, and to have developed their personalities in such a way as to **utilise** language’s possibilities. **They will** naturally use the relatively uniform pronunciation which is becoming more popular as people’s ears get more sensitive, avoiding sounds and usages that are disagreeable or unpleasant **for** majority of people.

In terms of pronunciation, the term “Received Standard” relates to English-educated speech. Outside of England also, there are various types of good English; such as in Edinburgh, Scotland, or Pennsylvania or New York, USA. However, when it comes to written language, we find that the more educated English users are quite united. As a result, good English could be defined in terms of what educated speakers use, rather than what they should use according to grammatical or lexical rules.

Standard English is preferred by speakers all across the world. **Its** current place among the numerous types of English speech is the result of common sense rather than speech snobbery. The ‘Reviewed Standard,’ as the speech of the best-educated Englishmen, does have a social value that benefits the speaker financially. As a result, it is constantly reproduced and cultivated for the social status it bestows on those who speak it. So ‘Received Standard’ **is gaining advantage** at the expense of the Modified Standard, which **lacks** social prestige to confer and becomes neglected and degenerated.

Phonetics is a branch of linguistics that studies classification of speech sounds. It is the practical application of the science to language study. Phonetics is a pure science that examines speech processes, such as anatomy, neurology, and pathology of speech. It deals with articulation, description, classification, and perception of speech sounds.

### **5.2.1 Definitions:**

Phonetics is concerned with the quantifiable physical features of speech sounds, such as how the mouth makes certain sounds and the characteristics of the sound waves that arise. A few definitions are provided below to further the idea and examine the multifaceted features of phonetics:

Daniel Jones (2006) “The central concerns in phonetics are the discovery of how speech sounds are produced, how they are used in spoken language, how we can record speech sounds with written symbols and how we hear and recognize different sounds.”

Trask (1996) “The manner in which speech sounds; especially connected sequences are articulated by individual speakers or by speakers generally.”

Pennington & Richards (1986) “Pronunciation can be defined as “articulation of individual sounds and, to a lesser extent, with the stress and intonation patterns of the target language.”

Sweet (1964) “Without phonetics, we could neither observe nor record the simplest phenomena of language.”

Abdulghani A. Al-Hattami (2010) “Phonetics provides us with a tool, a set of descriptive terms, by which we can describe, as minutely as is necessary for the task in hand, a particular physical sound and the gestures that produced it. It is a tool that is particularly useful for the pronunciation of a given sound and to teach the student to correct his pronunciation in a controlled and explicit way.”

When it comes to teaching pronunciation, phonetics is a crucial instrument. For example, spoken sounds are divided into consonants and vowels in any description of the English sound system. According to Haycraft (1978), consonants are classified based on the movements of the speech organs during articulation (bilabial, dental, alveolar, palatal, velar), the type of the airstream, the location and movement of the tongue, and whether or not the vocal cords are employed (voiced, voiceless, plosive, affricate, fricative, nasal, lateral). Vowels, on the other hand, are mostly characterized in terms of tongue position and lip rounding. These comprehensive phonetic

descriptions are not chosen at random because they are crucial in the teaching of pronunciation. He further states: “Awareness of this is useful as many mistakes made by learners are due to slight differences in sound production.”

As a result, we can conclude that learning phonetics is a requirement in the society today. It can be considered as a recent trend also. For example, Arabic and Spanish have a coordinated spelling and pronunciation system. They speak as they write. Each letter represents a single sound that rarely varies. English is unique or different in this sense. It has many letters with two or more sounds, as well as a lot of silent letters. So, the trick while learning proper pronunciation may be to talk slowly and loudly. As a listener, one should focus on the physical aspects of pronunciation. Speaking every day can help the language learner to overcome pronunciation issues. To test the pronunciation skills, one should practice his voice and record it. He must make a recording of himself speaking to get a sense of how he sounds and to check for mistakes in his pronunciation.

Reading will improve pronunciation skills. One must read a page from a book or newspaper, or have a regular English chat with a friend or family member. The learner must spend some time for listening and make a habit of speaking regularly. He has to take a note of the speed, with which he speaks, as well as the intonation and general tone of his voice. The learner can improve good pronunciation skills by repeating and reading aloud. Singing English songs, for example, is not only calming and enjoyable, but it also aids in the recognition of English rhythm and stress patterns. When you learn phonetics, it helps you in recognizing both familiar and unfamiliar sounds, improves pronunciation skills, and develops autonomy in words and sound recognition.

***Check your progress***

1. Define the term ‘Communication’.

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2. What are the characteristics of human speech?

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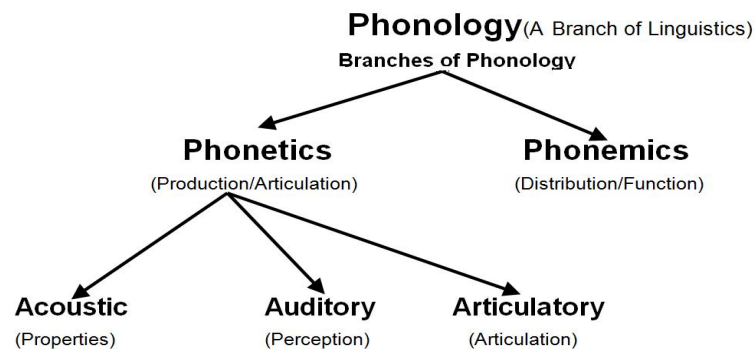
### 5.2.2 Phonology:

Phonology, a branch of linguistics, is concerned with the selection and organization of speech sounds in a language. Speech sounds are generally known as *phonemes* which are basic units of a language. A *phoneme* is a class of sounds realized in a different way in any given position, by its representative of the allophone. It is the smallest contrastive linguistic unit which brings about a change of meaning as in minimal pairs. It is minimal because it cannot be divided into any further segments. Adetugbo (1992) says: "Phonology takes phonetic facts...but goes further to study speech sounds as constituting a system in any language." Only a small percentage of the sounds that humans are capable of producing can be combined to produce meaningful utterances in a language. According to Atolagbe (2000), phonology is "the sound system of a language, the speech sounds that are combined into meaningful and acceptable patterns for communication purposes, in a specific language."

Diachronic (historical) phonology studies and develops theories about how speech sounds and sound systems have changed over time. It focuses on how the English words **like** "sea" and "see" used to be pronounced differently (as shown by the spelling), have developed to be pronounced similarly now. Synchronic (descriptive) phonology is the study of sounds at a certain time in the evolution of a language to see what sound patterns can arise. For example, the letters 'nt' and 'dm' may appear at the end of or within the words in English ("rent," "admit"). They do not appear at the start.

The far more fundamental action in phonology is 'phonemic analysis,' which seeks to figure out what the phonemes are and create a 'phonemic inventory.' A few phonologists agree that this is an appropriate study of a language's sound system; **[however, a ]** more research is required. Consider 'suprasegmental' phonology, which studies stress, rhythm, and intonation. Beyond the phoneme, one can examine each unit's precise qualities in terms of "distinctive features.' The study of 'phonotactics' and syllable structure examines how sounds might join in a language. For some phonologists, the most important problem is how the different phonemes interact—how they form groups, the nature of the contrasts between them, and how such oppositions can be neutralized. For others, the most important effort is to "express these rules as economically as possible" by discovering the rules that affect the phonemes of the language and

how they are created (Jones 2006). To understand the difference between phonetics and phonology, see the following figure 2.



(Figure 2: Phonology)

### 5.2.3 Different Branches of Phonetics:

We understand that vowels and consonants are used in sentences like “He is travelling to Delhi.” and “They are playing cricket.” But how do these sounds occur? What distinguishes the sounds from one another? How do they work in a language? Phonetics, which is the study of the production, transmission, and reception of sounds in human speech, provides answers to such issues. There are three branches in phonetics. They are:

**1. Articulatory Phonetics** is concerned with the description of speech organs as well as the production of sounds. It’s about how we produce sounds and prosodic phenomena, as well as our voice-producing system. Breathing, phonation (voice production), articulation, and the mental processes required in understanding the phonetic system are all studied in depth. The lungs, bronchi, and trachea are all involved in the production of articulated sound, as are phonation organs (larynx, vocal cords resonators) and articulation organs (lips, teeth, tongue, palate and glottis).

**2. Acoustic Phonetics** is concerned with the physical qualities of sounds produced and their propagation in the air, such as pitch, loudness, and frequency. A classification of sounds can be established depending on the description of the various organs involved in the phonation process.

- If the air does not face any impediments on its way out, it produces a vocal or non-vowel sound.

- If the air finds impediments on its way out, it makes a consonant or non-consonant sound.
- Dull sound, if the vocal cords do not vibrate.
- Nasal sound, if air exits through the nasal passage.
- If air escapes the mouth cavity, there will be an oral sound.
- Compact / spread sound
- Interrupt / nonstop sound
- Serious / acute sound

**3. Auditory phonetics** explores the perception of sounds, or how sounds are produced, while articulatory phonetics studies how speech sounds are created. The articulatory phonetics focuses on the speaker and auditory phonetics focuses on the listener, who is also an important participant in verbal communication. It is a branch of linguistic study that is highly reliant on biology, particularly anatomy and physiology. We are dealing with two distinct operations in auditory phonetics: firstly, there is proper audition, which is the perception of sounds by our auditory system, as well as the conversion of that information into a neural sign and transmission to the brain; on the contrary, there is computer analysis of that information. However, as a novice, getting a basic understanding of how our auditory system and the general hearing process work will suffice.

To put it another way, every sound that comes from any source, whether it's a door slamming or someone speaking to you, travels as a sound wave, causing the molecules along the route to gather together and move apart, or to vibrate. When these vibrating air molecules reach your ear, they make the eardrum in your middle ear to vibrate as well, and this vibration is then transmitted from the eardrum to the three small bones in your ear: **mallet, incus** and **stirrup**.

#### **5.2.4 The Air-stream Mechanism:**

There are three main types of air-stream mechanisms. They are used in human speech. Each mechanism has a different initiator. The airstream mechanism is the method that creates airflow in the vocal tract. It is one of two essential characteristics of sound creation, along with phonation; without them, no spoken sound can be produced.

**1. Pulmonic Airstream:** The pulmonic air-stream on its way into or out from the lungs must pass through the windpipe or trachea. The voice cords run from back to front inside the larynx. The vocal cords are two folds of ligament and elastic tissue which may be brought together or

parted. The glottis is the passageway between the voice chords, which can cause a variety of glottis states depending on how they are used. It is enough at this point to distinguish four states:

- a) Open glottis (breath / no voice state)
- b) Vibrations in glottis (voice state)
- c) Closed glottis (a glottal stop is created in this state)
- d) Narrowed glottis (state of whisper)

The respiratory muscles move the air in the lungs. A pulmonic airstream process is used to create the bulk of sounds. An egressive, or outward-moving, pulmonic airstream is used to make a halt. The plosive sounds are: /p/, /b/, /t/, /d/, /k/, /g/.

**2. Glottalic Airstream:** The air stream from the lungs is momentarily blocked in the glottis. The larynx itself is the initiator with the glottis firmly closed. A glottalic airstream technique is used to create ejectives and implosives.

**a) Ejective:** An egressive glottalic airstream is used to come to a complete stop. It is written as an apostrophe after a symbol, such as /k/. Ejectives come in a variety of shapes and sizes, and they can be found in American Indian languages, African languages, and Caucasian languages. MIT's linguistics website has a trick for making ejectives: "Start by holding your breath to learn how to make an ejective sound. Try to make a "k" sound while still holding your breath; make it as loud as you can so that someone sitting next to you can hear it. Relax and take a few more deep breaths now. Congratulations! You have just uttered an ejective "k."

**b) Implosive:** An ingressive glottalic airstream is used to make a stop. It's written as a little hook on top of a conventional sign, such as /b/. The down-moving larynx is frequently not entirely closed when producing implosives. Air continues to be pushed out of the lungs, and some of it passes between the vocal folds, keeping them moving and allowing the sound to be made. Implosives contrast with plosives in several languages, including an Indo-Aryan language Sindhi (spoken in India and Pakistan) and a number of African and other languages. Implosives are essentially varieties (allophones) of voiced plosives in some languages (for example, Vietnamese). Implosives, such as absolutely billions and billions, can emerge as allophones in emphatic articulations of bilabial stops in English.



**3. Velaric Airstream:** Its initiator is the back part of the tongue which can be lifted up so that it comes firmly into contact with the velum (soft palate). The velaric is an important air-stream mechanism for ‘smoking’ because it is used for extracting the smoke from the cigarette as ingressive and then for expelling it (as egressive). To make you understand the airstream mechanism, we have given a table for you. Observe the following figure.

<b>Name</b>	<b>Initiator</b>	<b>Egressive</b>	<b>Ingressive</b>
Pulmonic	Lungs	Most speech sounds	
Glottalic / Pharyngeal	Closed glottis	Ejectives	Voiceless implosives
Velaric / Oral	Velar closure		Clicks
Velaric + Pulmonic			Voiced clicks
Pulmonic + Glottalic			Voiced Implosives

(Figure 3: Air Stream Mechanism)

***Check your progress***

1. What is ‘Articulatory Phonetics?’

\_\_\_\_\_

\_\_\_\_\_

2. Define ‘Acoustic Phonetics.’

\_\_\_\_\_

\_\_\_\_\_

**5.2.5 Articulatory Phonetics:**

The structure of the vocal tract (pharyngeal, oral, and nasal cavities, larynx) as a result of the positioning of the vocal tract's mobile organs (such as tongue) in relation to other sections of the vocal tract that may be rigid (e.g., hard palate) is referred to as articulation. This arrangement alters an airstream to make speech sounds. The tongue, upper lip, lower lip, upper teeth, upper gum ridge (alveolar ridge), hard palate, velum (soft palate), uvula (free-hanging end of soft palate), pharyngeal wall, and glottis (gap between the voice cords) are the principal articulators. Articulatory phonetics deal with the organs of speech and how they are used by the speaker to

produce speech sounds. The following section gives you a detailed explanation of organs of speech. (Figure 4: Speech organs)

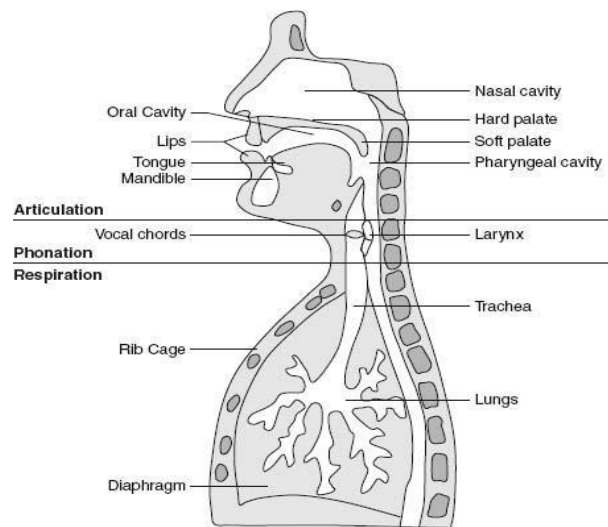


Figure 4: Speech Organs (Source: SAGE Reference, sagepub.com)

### 5.2.5.1 Organs of Speech:

The sounds of a language are produced by speech organs or articulators. Lips, teeth, alveolar ridge, hard palate, velum (soft palate), uvula, glottis, and numerous sections of the tongue are all used for speaking. Active articulators and passive articulators are the two types of articulators.

Active articulators are speech organs that move from their resting position to articulate against other speech organs that do not move. The tongue is the most essential active articulator and plays vital role in the production of a majority of sounds. The lower lip is another active articulator. The latter are called passive articulators. The tip and blade of the tongue, for example, move from their resting position to articulate against the teeth ridge when making the sounds **t**, **d**, **n**, and **s**. The upper lip, teeth, alveolar ridge, hard palate, soft palate, uvula, and pharyngeal wall are all passive articulators.

The lower lip is the active articulator in the production of the **f** sound, as in the English word '**fan**' while the upper teeth are the passive articulator. Because the lower jaw moves while the upper jaw does not, the active articulators are largely in the lower jaw and the passive articulators are in the upper jaw. The soft palate, on the other hand, is a unique articulator in that it is both active and passive. It's an active articulator since it may be elevated to close the nasal

passage of air, allowing oral sounds to be produced. In comparison to the back of the tongue (active articulator), which articulates against it to produce sounds like the initial consonants in English words come and depart, it is a passive articulator. It is an active articulator and a passive articulator at the same time in the creation of these oral sounds.

The descriptions and functions of the organ of speech that follow will assist you in correctly producing consonants and vowels.

### 5.5.2.2 Description of Organs of Speech:

#### 1. The Vocal Cords:

Two tiny bands of elastic tissues can be found in the larynx. The vocal cords are what they're called. The epiglottis is the aperture between the voice chords. The glottis is open as we breathe in or out. This is the position in which voiceless sounds are produced. The sounds /f/, /s/, and /h/, for example, are known as voiceless sounds. Voiced noises are the sounds made when the glottis joins together. As a result, the vocal chords' primary job is to create both voiced and silent sounds. See vocal cords in the following figure 5.

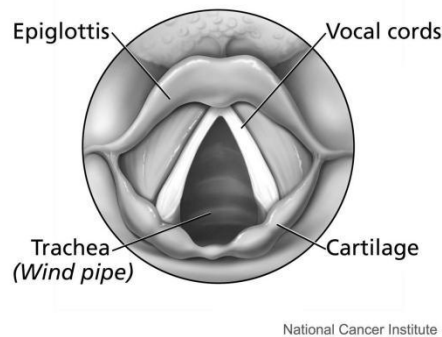
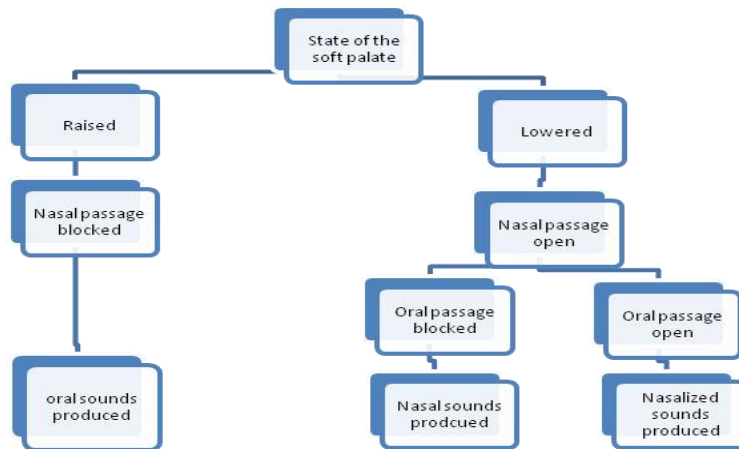


Figure 5: Vocal Cords. (Source: Wikimedia Commons)

#### 2. The Soft Palate:

Velum is the term for the soft palate. The roof of the mouth is what it is called. It separates the mouth cavity from the nasal cavity. The uvula is the last section of the soft palate. Nasal sounds are created when it is lowered. When it is lifted, air escapes via the mouth cavity, resulting in the production of oral sounds (/p, t, k, s).



(Figure 6: State of the soft palate)

### 3. The Hard Palate:

It is the front, bony part of the roof of the mouth. Observe the following figure ‘oral cavity’

### 4. The Tongue:

The tongue is the most flexible organ of speech. It has the ability to take on a variety of shapes and orientations, most of which are significant from the point of view of speech production. To describe these shapes and positions, it is customary to divide the tongue into different imaginary parts: the tip, the blade, the front and the back. The tongue aids in the production of vowel sounds. The tip of the tongue aids in the production of /t, d, z, and so on/. The tongue's blade aids in the production of /t/. The front of the tongue aids in the production of /j/ sounds, whereas the back of the tongue aids in the production of /k, g/ sounds.

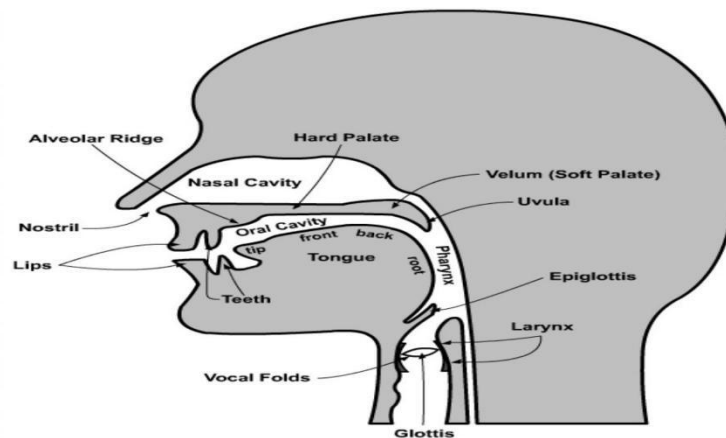


Figure 7: The tip, blade, front and back of the tongue (Source: madbeppo.com)

## **5. The Lips:**

The two lips—the upper lip and lower lip assist to produce bilabial sounds /p, b, m/. The lips are touched when the sounds /p/ and /b/ are produced. Two lip positions ‘rounded’ and ‘unrounded’ are important for description of vowel sounds.

## **6. The Teeth:**

Consonant sounds are produced with the help of the teeth. To make speech sounds, only the upper teeth are used. The lower teeth aren't engaged in sound generation. The sound produced by the upper teeth is referred to as dental sound.

## **7. The Alveolar Ridge:**

Between the top teeth and the hard palate lies the alveolar ridge. Alveolar sounds, such as /s/, /t/, /d/, and so on, are produced when the tongue touches the alveolar ridge. Producing different speech sounds depends on the movement of speech organs.

The airstream can be influenced and shaped in a variety of ways by the articulators in the articulatory system. The airstream, for example, can be entirely blocked, causing pressure to build up behind the blocking. This is what happens when two articulators, such as the tip of the tongue and the alveolar ridge, come into touch. The air burst out with a popping sound after the contact is released, which is why this type of sound is called a plosive. Turbulence is created when two articulators, such as the lower lip and upper teeth, are forced together but do not completely stop the airstream, resulting in a hissing sound. Fricatives are the sounds that are produced in this way. An affricate is the sound generated when two forms of articulation are merged, with a blocking phase followed by a friction phase. A trilled sound is produced when the tip of the tongue makes repeated and fast contact with the alveolar ridge. A tap is the sound made by the tip of the tongue contacting the alveolar ridge only once. The airstream is thus shaped by the articulatory system both before and after it passes through the open glottis, causing the vocal folds to vibrate. This shape is caused by the resonance formed by the cavities, as well as the location or movements of the articulators. The narrowing or constriction of the vocal tract caused by the movement of an active articulator towards a passive articulator is referred to as articulation. The articulators can restrict the airstream by making contact or create friction by driving the airstream through a small gap between them, among other things.

***Check your progress***

1. What are the ‘Active articulators’ and ‘passive articulators’?

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2. Explain the soft palate.

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**5.2.6 Speech Mechanism:**

The process of converting thoughts into speech is known as speech production. This comprises word selection, structuring of pertinent grammatical structures, and sound articulation. Speech production can be spontaneous, such as when a person generates dialogue words, reactive, such as when a person names an image or reads aloud a written word, or imitative, such as when a person repeats a phrase. Language may be formed mechanically using signs, whereas speech cannot.

The organs of speech, as well as their speech functions, can be divided into three categories. They are the respiratory, phonological, and articulatory systems. Let’s discuss these three systems here. (See figure 8)

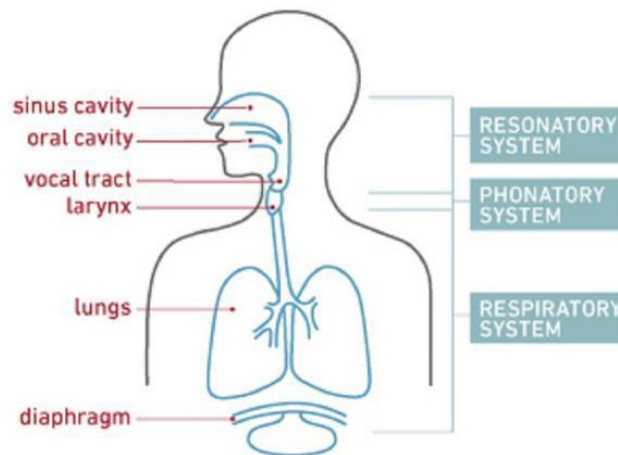


Figure 8: Speech mechanism (Source: templehealth.org)

### 5.2.6.1 The Respiratory System:

The respiratory system is made up of a complicated combination of organs and tissues that assist us in breathing. It includes the airways, lungs, and blood vessels. The muscles that propel our lungs are also part of the respiratory system. These parts work together to deliver oxygen throughout the body while also removing waste gases like carbon dioxide.

### 5.2.6.2 Functions of respiratory system:

The respiratory system performs a variety of tasks. In addition to assisting with intake (breathing in) and expiration (breathing out):

- It gives us the ability to communicate as well as smell.
- It warms and moisturizes the air to the appropriate humidity level of our bodies.
- It is responsible for delivering oxygen to our body's cells.
- When we exhale, waste gases such as carbon dioxide are removed from our body, and our lungs are protected from irritants and hazardous substances.

### 5.2.6.3 Parts of the respiratory system:

The respiratory system is made up of a number of different components that work together to allow humans to breathe. Each group of parts contains a large number of individual components. Air is delivered to our lungs through our airways. Our airways are a complicated system made up of the following elements:

- **Mouth and nose:** Air enters our respiratory system through these openings.
- **Sinuses:** Hollow areas in our head between the bones that help regulate the temperature and humidity of the air that we breathe.
- **Pharynx (throat):** A tube that connects our mouth and nose to our trachea (windpipe).
- **Trachea:** This is the tube that connects our throat to our lungs.
- **Bronchial tubes:** Tubes that link the bottom of our windpipe to each lung.
- **Lungs:** Lungs are two organs that extract oxygen from the air and transport it into our bloodstream.

These organs regulate the breathing system and help us in breathing and in producing different types of speech sounds.

***Check your progress***

1. What is the respiratory system?

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2. Write some parts of the respiratory system.

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### **5.3 Learning Outcomes**

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It will be extremely impossible to master phonology without first learning phonetics, as phonetics provides the basic raw materials or building blocks on which phonology is built. Humans create a wide range of sounds, including non-linguistic sounds (belching, grunting, and hissing) as well as linguistic sounds (consonants and vowels). Some of the sounds made aren't linguistically relevant. As a result, phonetics is concerned with the production of both important and irrelevant sounds in languages. These phonetic sounds are ubiquitous and do not belong to any single language. Phonetics is a branch of linguistics that deals with all of the sounds that humans make, both useful and useless. Humans have the ability to produce sounds that no one has ever heard or generated before. The basic material for phonology is made up of these phonetic and non-phonetic segments, which are universal sounds. It is expected that upon the completion of this Unit, you should be able to define the term "phonetics". You should be able to explain what phonetics is in detail and the speech process and body mechanisms involved in the production of speech.

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### **5.4 Glossary**

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**Alveolar ridge:** The bony ridge behind the upper teeth that helps with alveolar consonant articulation.

**Articulation:** The utilization of the supra laryngeal vocal tract's speech organs to make speech sounds.



**Acoustic:** Pertaining to sounds, especially speech sounds.

**Glottal:** Pertaining to the glottis.

**Larynx:** Voice box

**Palate:** The hard bony structure directly behind the alveolar ridge at the top of the roof of the mouth.

**Palatal:** Pertaining to the palate, articulated with some part of the tongue (usually the front) raised towards the palate

**Pharyngeal:** Pertaining to the pharynx.

**Pharynx:** The junction of the oral cavity, the nasal cavity, and the route above the larynx, located in the rear of the mouth.

**Trachea(windpipe):** The cartilaginous channel connecting the lungs to the larynx, through which air passes in breathing and speaking.

**Uvula:** The back of the velum has a little flap of muscle tissue dangling from it.

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## 5.5 Sample Questions

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### 5.5.1 Objective Questions:

**A. Read the sentence and choose an appropriate option:**

1. Phonetics deals with \_\_\_\_\_.
  - (a) Letters
  - (b) Sounds
  - (c) Letters and sounds
  - (d) None of them
2. \_\_\_\_\_ is the basic unit of a language
  - (a) Phonetics
  - (b) Articulatory phonetics
  - (c) Phoneme
  - (d) None of the above
3. Physical qualities of sounds produced and their propagation in the air, such as pitch, loudness, and frequency is called \_\_\_\_\_.
  - (a) Acoustic Phonetics

- (b) Articulatory Phonetics
  - (c) auditory phonetics
  - (d) None of them
4. Which of the following uses the lungs and the respiratory muscles?
- (a) Glottalic
  - (b) Velaric
  - (c) Pulmonic
  - (d) None of the above
5. The opening between the vocal cords is called \_\_\_\_\_.
- (a) Glottis
  - (b) Prime glottis
  - (c) Post glottis
  - (d) Epiglottis

**B. Read the following statements. State if they are True or False:**

1. The glottis is open as we breathe in or out. This is the position in which voiceless sounds are produced.
- (a) True
  - (b) False
2. It is the front, bony part of the roof of the mouth is called soft palate.
- (a) True
  - (b) False
3. The alveolar ridge is the part between the upper teeth and the hard palate.
- (a) True
  - (b) False
4. Trachea is the tube that connects our throat to our lungs.
- (a) True
  - (b) False
5. The main function of the vocal cords is to produce voiced sounds only.
- (a) True
  - (b) False

### **5.5.2 Short Answer Questions:**

1. How are sounds produced?
2. What is the state of the glottis in the production of voiced sounds?
3. Explain the glottis in vibration.
4. What are the vocal cords?
5. Name the air-stream mechanism used for producing English sounds.

### **5.5.3 Long Answer Questions:**

1. Describe the organs responsible for speech.
2. Write a note on Speech Mechanism.
3. Discuss air-stream mechanism.

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## **5.6 Suggested Readings**

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1. Abdulghani A. Al-Hattami, "A Phonetic and Phonological Study of the Consonants of English and Arabic." *Language in India*, 10.5 (2010): 1-125.
2. Balasubramanian, T. *A Textbook of English Phonetics for Indian Students*. Delhi: Macmillan Limited, 1981.
3. Bansal, R.K. *Spoken English: A Manual of Speech and Phonetics*. Hyderabad: Orient Blackswan, 2013.

## **Unit-6: Description of Speech Sounds**

### **Structure**

#### **6.0 Introduction**

#### **6.1 Objectives**

#### **6.2 IPA Symbols**

##### **6.2.1 Description of Vowels**

##### **6.2.2 Pure Vowels**

##### **6.2.3 Diphthongs**

##### **6.2.4 Triphthongs**

##### **6.2.5 Consonants**

##### **6.2.6 Place of Articulation**

##### **6.2.7 Manner of Articulation**

##### **6.2.8 Voicing**

##### **6.2.9 Description of Consonant Sounds**

###### **6.2.9.1 English Plosives**

###### **6.2.9.2 Affricates**

###### **6.2.9.3 Fricatives**

###### **6.2.9.4 Nasals and other Consonants**

###### **6.2.9.5 Three Term Label of Consonants**

#### **6.3 Learning Outcomes**

#### **6.4 Glossary**

#### **6.5 Sample Questions**

#### **6.6 Suggested Readings**

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### **6.0 Introduction**

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Speech sounds are produced to be transmitted as well as perceived. An ideal description of speech sounds would include details on their production, transmission, and reception (hearing). Speech can be described and classified in three ways: articulatory, acoustic, and auditory. Phonetics, known as the study of speech sounds, is concerned with the analysis and description of speech sounds. We know that speech sounds are called phonemes. A phoneme is the smallest unit of speech that has a distinct meaning. A phoneme differs from a letter. English is not a

phonic language. It means that nobody knows exactly how to pronounce a word by spelling. Since English is a language with multiple sources, there is no co-relation between sound and letter, and hence all English letters don't produce sound. Some letters are silent, while others have several sounds. Different letters produce same sound. For instance, the letters 'c' and 'k' produce the sound /k/ such as in 'car' and 'kettle' and there are some letters that produce different sounds, for example, the letter 'c' produces different sounds as in 'car, church, and cell,' as /k/, /tʃ/ and /s/, respectively.

Speech sounds are broadly divided into two categories: vowels and consonants. The English word "bee" is made up of two sounds, one represented by the letter "b" and the other by the letters "ee." When we articulate the sound 'b,' the lips are touched. When the mouth opens, air escapes and sound comes outside freely. Thus the sound that is represented by the letter 'b' in the word 'bee' is a consonant sound and the sound represented by the letters 'ee' in the word 'bee' is a vowel sound. This unit deals with the classification of vowel sounds and consonant sounds.

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## 6.1 Objectives

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The Unit has been designed to fulfil the following objectives:

- to help you to understand IPA Symbols.
- to enable you to understand the difference between vowels and consonants.
- to make you know the classification of vowel sounds.
- to help you to understand diphthongs.
- to make you know about consonants.

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## 6.2 IPA Symbols

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The phonetic transcription is a useful device for indicating how words of a language are spoken. As a single symbol symbolizes a single sound only, the letters 'ch' in words like *church*, *character*, *school*, and *machine* will all have various symbols because the letter "ch" is pronounced in a different way in each of the terms mentioned. Consider the words *cell* and *car*,

both of which begin with the letter *c*. Similarly, the pronunciation for the letter “*c*” is different in each of the two words, as you can see from the transliteration. Furthermore, if the same sound is represented by distinct phonetic symbols in different words, the sound will be denoted by the identical phonetic symbol in its phonetic transcription. This feature of phonetic transcription, namely, “one sound, one symbol,” allows us to convey “the pronunciation of words unambiguously in writing”, allowing pronunciation to be provided in dictionaries. In this unit, we will go through the symbols that are used to transcribe English. We will use the symbols of the International Phonetic Association, where various notations are available. These symbols are known as the International Phonetic Alphabet (IPA), an alphabetic phonetic notation system based primarily on Latin letters. The IPA symbols can be used to transcribe the sounds of any language. This helps in improving English pronunciation and gaining confidence when speaking the language.

### **6.2.1 Description of Vowels:**

All English learners will need to know how to pronounce English vowels and consonants. Strong phonics skills enhance reading and writing abilities. This chapter has been prepared to help you in mastering vowels and consonants by providing step-by-step instructions. You may learn how to pronounce a word by looking at the vowels and its position in the word. When two vowels are combined in English, the first vowel is usually spoken the most. For example, the word ‘real’ has a long ‘*e*’ sound, but ‘gain’ is pronounced with the ‘*a*’ making the most sound. Many years ago most of the students used to learn to read by “sight reading”. Because they had not mastered the sounds of the consonants and vowels, the students were typically poor spellers. Let’s see the detailed explanation of vowels and consonants.

A vowel is a sound produced by a letter that is not a consonant. The vowel letters are ‘a, e, i, o, u’ while the consonant letters are twenty-one. Although vowels are extremely important in English, we make several typical and unnoticeable mistakes in our daily lives, such as when we speak in workplaces or meetings. This is because, while speaking, we are often unaware of the pronunciation, and we focus more on the spelling. As a result, some words beginning with the vowel letters ‘a, e, i, o, u’ are not followed by ‘an,’ and some words that do not begin with vowels have vowel sounds so they are followed by ‘an’. Consonant and vowel sounds are distinct from each other. The word “potato,” for example, has three consonant and three vowel

sounds. Similarly, vowel and consonant sounds are found in all of the words. You can find vowel sounds in each of the following words: pencil, college, university, father, and examination.

Vowel sounds are typically voiced. Air flows freely through the vocal tract during the production of vowel sounds. According to Daniel Jones, a vowel: “is a voiced sound in forming which the air issues in a continuous stream through the pharynx and mouth, there being no obstruction and no narrowing such as would cause audible friction.” The lips, tongue and jaw are used to form the air as it leaves the mouth. It is critical for learners to recognize the various positions and sounds. Many students import vowels from their native tongues, resulting in three to four words sounding same in English. Mastering vowels involve many factors such as correct positioning of the mouth, sound selection and use of stress. In the production of vowels, the lips can be rounded or unrounded. The pure vowels and symbols are explained in detail.

### 6.2.2 Pure Vowels:

There are twelve pure vowel sounds in English. They are called monophthongs. A dictionary definition of a pure vowel is, "a vowel uttered with more or less uniform quality and without any glide."

Sl. No	Vowel Phonemes	Initial	Medial	Final
1	/i:/	eager	read	see
2	/ɪ/	is	live	many
3	/e/	end	red	- It does not occur in final position.
4	/æ/	as	mat	- It does not occur in final position.
5	/ɑ:/	arm	part	car
6	/ɒ/	on	pot	- It does not occur in final position.
7	/ɔ:/	all	call	draw
8	/ʊ/	Urdu	good	to
9	/u:/	ooze	cool	zoo
10	/ʌ/	up	cut	- It does not occur in final position.
11	/ɜ:/	earn	world	myrrh
12	/ə/	ago	forget	letter

(Figure 1: Vowel Phonemes or Symbols)

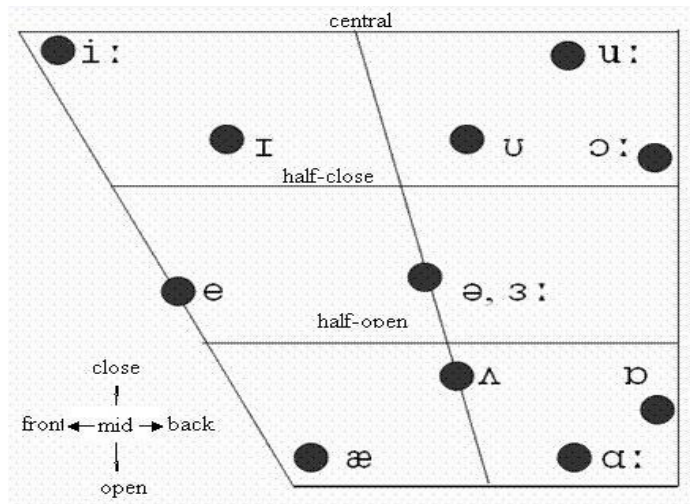
Monophthongs can be divided into two classes:

1. Long vowels
2. Short vowels

There are five long vowels: /i:/, /u:/, /ɑ:/, /ɔ:/, /ɜ:/

There are seven short vowels: /ɪ/, /e/, /æ/, /ʊ/, /ʌ/, /ʊ/, /ə/

The complete diagram of English vowels is given below:



(Figure 2: Vowel Diagram)

Among the twelve pure vowels, there are 4 front vowels (/i:/, /ɪ/, /e/, /æ/); 5 back vowels (/ɑ:/, /ɒ/, /ɔ:/, /ʊ/, /u:/); and 3 central vowels (/ʌ/, /ɜ:/, /ə/). These are given below:

**Front vowels** (/i:/, /ɪ/, /e/, /æ/) are those in which the front of the tongue is raised toward the hard palate during production. E.g. The vowels in the words are: *meat, sit, net* and *fat*.

**Back vowels** (/ɑ:/, /ɒ/, /ɔ:/, /ʊ/, /u:/) are those in which the back of the tongue is raised toward the soft palate during production. For instance, the words are: *full, fool, god, caught,* and *art*.

**Central vowels** (/ʌ/, /ɜ:/, /ə/): During the articulation of central vowels, the tongue's centre is lifted in the direction of the meeting point of the hard and soft palates. For example, the vowels in the terms: *aloud* (initial syllable), *bird,* and *money* (first syllable). Consequently, we may divide vowels into three groups based on the region of the tongue that is lifted. (Figure 2: Vowel Diagram)



### **Height of the tongue:**

Vowel classification based on the part of the tongue lifted is insufficient. We need to categorise vowels even further. Only a little portion of the tongue can be elevated to produce vowels. The gap between the roof of the mouth and the tongue is too tiny beyond that point for air to escape without friction. As a result, the vowels will be classified based on the height of the tongue while articulating them:

**1. Close Vowels:** These are the vowels in which production a part of the tongue raised remains close to the roof of the mouth.

**2. Open Vowels:** These are the vowels in which the tongue is far from the roof of the mouth.

Taking the height of the tongue into account, we can divide vowels into four categories:

**(a) Front close vowel:** The front of the tongue is raised and **stays** close to the hard palate.

**(b) Front open vowel:** The front of the tongue is raised and is far away from the roof of the mouth.

**(c) Half close vowel:** The tongue is halfway between close and open, but closer to close.

**(d) Half open:** The tongue is halfway open, but it is closer to open than close.

### **Position of lips:**

The position of the lips is a third requirement for vowel categorization. To articulate a vowel, the lips can be rounded or unrounded/spread. As a result, a vowel is described as follows:

a) Raised part of the tongue (i.e. front, back and centre)

b) The length of time the tongue is lifted (open, close, half open, half close)

b) Lips in a certain position

### **Front Vowels:**

#### **1. /i:/ as in ‘neat’ /ni:t/**

It is a front close long unrounded vowel. While producing the sound, lips are spread. The tongue is tense. The front of the tongue is lifted in the direction of the hard palate. This vowel may come at initial, medial and final positions in terms such as ‘eat’ /i:t/, ‘peak’ /pi:k/, ‘see’ /si:/ respectively. It is spelt: ‘ee’ as in **feel**, **seat**; ‘ea’ as in **dream**, **each**, **lead**; ‘ie’ as in **chief**, **field**, **piece**; ‘ei’ as in **deceive**, **receive**, **seize**.

## 2. /ɪ/ or /i/ as in ‘silk’ /sɪlk/

It is a front just above the half-close short unrounded vowel. It is [a] very common vowel. Lips are spread while articulating this sound. The tongue’s front is lifted in the direction of the hard palate. The tongue is comparatively lax. This vowel may occur initially, medially and finally in words like ‘it’ /ɪt/, ‘sit’ /sɪt/, ‘city’ /sɪti/ respectively. This sound is spelt: ‘i’ as in **bit**, **cliff**, **rich**, **thick**; ‘e’ as in **begin**, **biggest**, **careless**; ‘y’ as in **syntax**, **mystery**, **system**.

## 3. /e/ as in ‘Pen’ /pen/

It is a front vowel which occurs between half-open and half-close. The vowel is short and unrounded. Observe its pronunciation. While producing this sound, lips are loosely spread. The front of the tongue is lifted to a height between half-close and half-open in the direction of the hard palate. The vowel may come in initial and medial positions in words like ‘any’ /eni/ and ‘bed’ /bed/. It usually may not come in the final position. The vowel is spelt: ‘e’ as in **bed**, **left**, **nest**, **rest**; ‘ea’ as in **dead**, **head**, **measure**, **ready**; ‘a’ as in **any**, **many**.

## 4. /æ/ as in ‘fan’ /fæn/

It is a front vowel which is unrounded and short. It occurs between open and half open positions. While articulating this sound, the lips are neutral. Front of the tongue is slightly below the half open position. This vowel may come at initial and medial positions in the words: ‘act’ /ækt/ and ‘rat’ /ræt/. It does not occur finally. It is spelt: ‘a’ as in **hat**, **mat**, **rat**, **tax**.

## Back Vowels:

In English, there are **five** back vowel phonemes.

### 1. /ɑ:/ as in ‘last’ /lɑ:st/

It is a back long open unrounded vowel. While articulating this sound, the lips are neutral. It is produced with mouth wide open. /ɑ:/ may come at initial, medial and final positions in words as in ‘art’ /ɑ:t/, ‘dart’ /dɑ:t/ and ‘car’ /kɑ:ɹ/ respectively. It is generally spelt by the letter ‘a’ after that a silent ‘r’ in syllable as in **bar**, **card**, **farm**, **hard**, **large**, **part**; It is often followed by a silent letter ‘l’ in words as in **calm**, **palm**, **balm**; at times ‘f’ or ‘ff’ can succeed: **staff**, **after**; Sometimes ‘ss’ can follow: **pass**, **class**.

## **2. /ɒ/ or /o/ as in ‘hot’ /hɒt/**

It is a back vowel which is rounded and short. It occurs just above the open position. While articulating this sound, the lips are slightly rounded. The tongue’s back is just above the fully open position. /ɒ/ may come at initial and medial positions in words as in ‘ox’ /ɒks/ and ‘box’ /bɒks/. The vowel is spelt ‘o’ as in **odd, bottle, dog, fond, hot, not**; ‘ou’ as in **cough**.

## **3. /ɔ:/ as in ‘fall’ /fɔ:l/**

It is a back vowel which is rounded and long. It occurs between half open and half close position while lips are rounded during its articulation. In the direction of the soft palate, the back of the tongue is lifted. It possible that /ɔ:/ may come at initial, medial or final position in words as in ‘ought’ /ɔ:t/, ‘bought’ /bɔ:t/ and ‘law’ /lɔ:/ respectively. It is generally spelt “au” or “aw”: **taught, drawn, draught**.

## **4. /ʊ/ as in ‘book’ /bʊk/**

It is a back vowel which is rounded and short. It occurs just above half close position. While pronouncing it, lips are rounded, the tongue is lax. In the direction of the soft palate, the back of the tongue is lifted. /ʊ/ may not come at initial position in a word but may come at medial and final position in words as in ‘put’ /pʊt/ and ‘to’ /tʊ/. The sound is spelt: ‘u’ as in **push cushion, pull, put**; ‘oo’ as in **look, book, foot, soot, wood, stood, wool, room**.

## **5. /u:/ as in ‘tube’ /tju:b/**

It is a back vowel which is rounded and long. It occurs at the close position. While pronouncing the sound, the tongue is tensed, In the direction of the soft palate, the back of the tongue is lifted. /u:/ may come at initial, medial and final position in words as in ‘ooze’ /u:z/, ‘root’ /ru:t/ and ‘zoo’ /zu:/ respectively. The sound is usually spelt: “u” or “oo” as in **rule, root and taboo**. The letter ‘o’ is as in **route, through, routine, soup**. The palatal /j/ is frequently preceded by the sound, which is optionally included in terms like **suit, fruit, music, mutiny, duty, pupil, rude, union**.

### **Central Vowels:**

In English, there are three **central vowel** phonemes. They are:

#### **1. /ʌ/ as in ‘bus’ /bʌs/**

It is a central unrounded short vowel. It occurs just above the open position. When pronouncing this sound, the centre of the tongue is elevated between hard palate and soft palate. /ʌ/ can occur initially and medially in words such as ‘up’ /ʌp/ and ‘cut’ /kʌt/. It may not come at final position in a word. It is usually spelt: “u” as in **but**, **under**; “o” as in **front**, **come**, and **honey**. ‘ou’ and ‘oo’ are as in **courage**, **southern**, **rough**, **tough**, **blood**, **flood**.

## **2. /ɜ:/ as in ‘earn’ /ɜ:n/**

It is a central vowel which is unrounded and long. It occurs between half close and half open, and only in accented syllables. While articulating the sound, lips are neutral. The tongue is tensed, and the centre of the tongue is lifted towards between hard palate and soft palate. /ɜ:/ may come in initial, medial and final positions in words as in ‘earn’ /ɜ:n/, ‘learn’ /lɜ:n/ and ‘fur’ /fɜ:/ respectively. The letters ‘it’ ‘ur’ ‘er’ ‘ar’ ‘yr’ **are** succeeded by a consonant sound as in **burn**, **bird**, **fern**, **learn**, **myrtle**, **early**, **journal**, **journey**.

## **3. /ə/ as in ‘aside’ /ə'saɪd/**

It is a central vowel which is unrounded and short. It is the most frequent vowel in English. It occurs between half close and half open position. While producing this sound, the tongue’s centre is lifted towards between hard palate and soft palate. /ə/ may come at initial, medial and final positions in words as in ‘alas’ /ə'læs/, ‘forgive’ /fə'gɪv/ and ‘master’ /mɑ:stə/ respectively. For instance, the letters ‘a’ and ‘e’ as in **aside**, **collide**, **rather**.

Language students are perplexed by vowel symbols. Symbols and spellings are not interchangeable. It appears to be fairly difficult to learn English vowels because Indian languages don’t have some of these sounds. However, one should try to practise phonetic symbols twice on paper and remember the following three terms for vowel labels.

### Three Term Label of Vowels:

1. /i:/ - It is a front close long unrounded vowel.
2. /ɪ/ or /ɪ/ - It is a front just above the half-close short unrounded vowel.
3. /e/ - It is a front between half-close and half-open short unrounded vowel.
4. /æ/ - It is a front unrounded short vowel and occurs between open and half open positions.
5. /ɑ:/ - It is a back long open unrounded vowel.
6. /ɒ/ or /ɔ/ - It is a back rounded short vowel.
7. /ɔ:/ - It is a back rounded long vowel.
8. /ɔ/ - It is a back rounded short vowel.
9. /u:/ - It is a back rounded long vowel.
10. /ʌ/ - It is a central unrounded short vowel.
11. /ɜ:/ - It is a central unrounded long vowel.
12. /ə/ - It is a central unrounded short vowel.

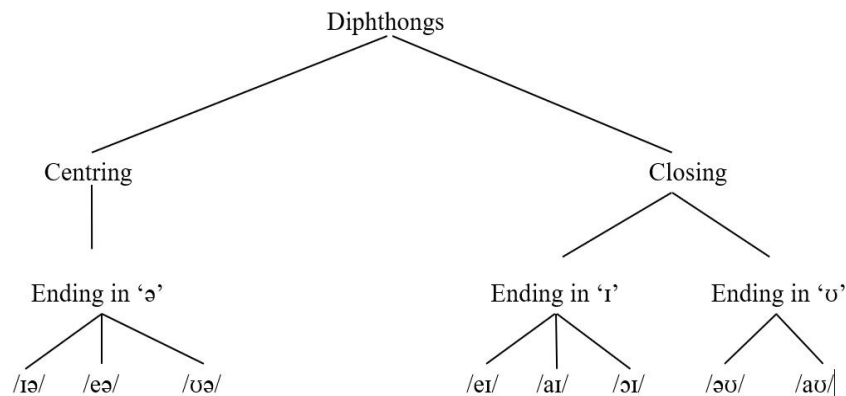
### 6.2.3 Diphthongs:

Diphthongs are vowel sounds that are made up of two separate vowel sounds. When we say them out loud, we can hear how one vowel sound transforms into another. The two vowel sounds of the diphthongs can be heard if we say the words slowly. For instance, the word ‘eye’ has a diphthong /əɪ/ and /i/. It's important to remember that the first half of every diphthong is much longer and stronger than the second. The sounds of a diphthong change from beginning to end, they are transcribed in IPA.

Sl No	Vowel Phonemes	Words
1	/eɪ/	pay, case, game, face, may, day,
2	/aɪ/	right, fight, cry, lie, dry, might, high
3	/ɔɪ/	boil, joy, choice, boil, toil, coin, point
4	/əʊ/	gold, road, show, cold, go, no
5	/aʊ/	allow, mouth, town, brown, allow
6	/ɪə/	idea, fear, near, dear, tear, ear
7	/eə/	dare, scare, chair, fair
8	/ʊə/	cure, tour, poor, jury, sure

(Figure 3: Diphthongs Symbols)

Diphthongs can be divided into two types. We have given a simple diphthongs diagram below: Observe the following diagram. You can understand the classification of diphthongs.



(Figure 4: Diphthongs Classification)

Diphthongs are two types. They are: centring diphthongs and closing diphthongs.

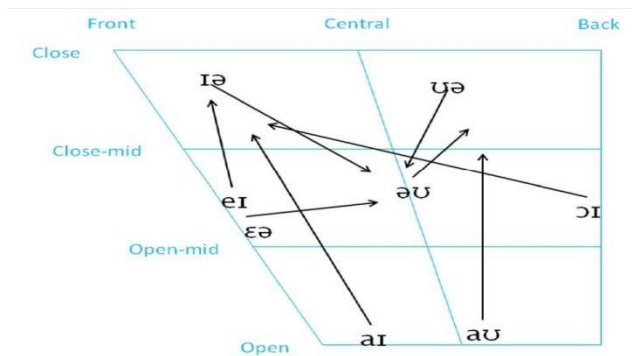
Centring diphthongs end in ‘ə’ -/ɪə/, /eə/, and /ʊə/

Closing diphthongs are two types. They end in ‘ɪ’ and ‘ʊ’.

Diphthongs that end in ‘ɪ’ -/eɪ/, /aɪ/, and /ɔɪ/

Diphthongs that end in ‘ʊ’ -/əʊ/, and /aʊ/

The given diagram indicates diphthongs in RP sound. The depicted arrows show the direction of the glide between two vowels.

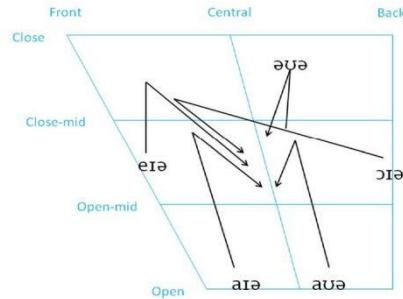


(Figure 5: Diphthongs)

### 6.2.4 Triphthongs:

Triphthongs are the most complicated vowel sounds in English. They can be difficult to pronounce and even harder to recognise. Three vowels (sometimes letters or sounds) uttered in a

single syllable (as in ‘vowel’/vəʊəl/). Triphthongs /aʊə/ is represented by the letters ‘ow.’ A triphthong, often known as /a-ʊ-ə/, is a transition from one vowel to the next and then to the third. The given diagram indicates the diphthongs in RP sound. The depicted arrows show the direction of the glide between three vowels.



(Figure 6: Triphthongs with glides)

Look at the words given below. There are five diphthongs at the end of the word, with the sound ‘ə’ coming as an ending sound.

Triphthongs				
eɪ + ə = eɪə	aɪ + ə = aɪə	ɔɪ + ə = ɔɪə	əʊ + ə = əʊə	aʊ + ə = aʊə
layer	Lire	employer	Lower	power
player	Fire	Royal	slower	hour

(Figure 7: Triphthongs)

The fact that the vowel movement is so little is the main source of difficulties for Indian students. The fact that the extent of vowel movement in modern English is so small is the main source of difficulties for Indian learners. As a result, the middle of the triphthong’s three vowel characteristics is hardly audible, and the ensuing sound is hard to differentiate from long vowels and diphthongs. If we observe the middle /i/ and /u/ in /aɪə, aʊə/ are rather weak. E.g.:

Word	Transcription	Word	Transcription
Tyre	/taɪə/	Tower	/tauə/
Trial	/traɪəl/	Tired	/taɪəd/
quiet	/kwaɪət/	Bower	/bauə/
buyer	/baɪə/	Powerful	/pauəfl/

flyer	/flaiə/	Flower	/flauə/
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(Figure 8: Triphthongs and Words)

The lesser popular sequences are /eiə, əuə, oiə/. These sequences must be pronounced with the regular diphthong effortlessly succeeded by /ə/. But here /i/ and /u/ are not faded. A few examples are given below:

Word	Transcription	Word	Transcription
greyer	/greiə/	Employer	/implɔiə/
grower	/greuə/	Thrower	/rəuə/
player	/pleiə/	Betrayal	/bitreiəl/
royal	/rɔiəl/	Lawyers	/lɔiəz/

(Figure 9: Triphthongs and Transcription)

***Check your progress***

1. What are diphthongs?

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2. Explain diphthongs ending in ‘ə’.

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**6.2.5 Consonants:**

A consonant is a speech sound produced by closing the vocal tract completely or partially. There are twenty-one consonant letters in English but the sounds are twenty-four in number. The consonant symbols are given here:

Sl. No	Vowel Phonemes	Words
1	/p/	pair, cup, pen,
2	/b/	bad, crab, ribbon
3	/t/	tall, hit, table, batter



4	/d/	day, dog, mad, filled
5	/k/	key, clock, school, kite, cat
6	/g/	god, ghost, gun, guest
7	/tʃ/	match, church, nature
8	/dʒ /	marriage, judge, jump
9	/f/	fat, coffee, fun
10	/v/	van, view, move
11	/θ/	thing, author, path
12	/ð/	thus, other, these
13	/s/	soon, sun, sister
14	/z/	zero, music, buzz
15	/ʃ/	sure, ship, nation
16	/ʒ/	pleasure, vision, leisure
17	/h/	hot, house, hotel, high
18	/m/	mat, more, money, mango
19	/n/	nap, nice, know, night
20	/ŋ/	ring, sing, think, king
21	/l/	feel, light, lamp, lean
22	/r/	run, right, sorry, right
23	/j/	use, yet, few
24	/w/	wet, when, queen

(Figure 10: Consonant Symbols)

The twenty-four consonant sounds in English are described by three major parameters. They are the place of articulation, the manner of articulation, and voicing.

### 6.2.6 Place of Articulation:

Consonant sounds are produced when the vocal tract (pharynx, mouth cavity, and nasal cavities) is constricted. The place of articulation is the location of the constriction. There are numerous other points of articulation; we will list them.

Firstly, the airflow is altered by a constriction generated between the upper lips and lower lips in bilabial sounds. The first sound in the words ‘**p**en, **b**all, **t**ell, **d**og, **k**ite, **g**un’ are some of the examples.

Secondly, labio-dental sounds relate to sounds that have a constriction between the upper teeth and lower lip. The first of the words ‘*f*an and *v*an’ are some of the good examples.

Thirdly, dental noises are sounds that have a constriction between the tip of the tongue and the upper teeth. The first sound in thin is an example. We need to distinguish between different parts of the tongue i.e. tip, blade, front, and back for the understanding places of articulation correctly. Let’s look at the numerous points along the upper part of the mouth as well: the hard palate i.e. bony part of the roof, the palato-alveolar a.k.a post-alveolar i.e. the region between the hard palate and alveolar ridge, and the velum a.k.a soft palate i.e. soft part at the back of the roof. **Alveolar sounds** are those that have a constriction between the alveolar ridge and the tongue’s tip. An example is the first sound in *sin*.

**Palato-alveolar** sounds are those that have a constriction between the palato-alveolar region and the tongue’s tip. The first sound in *ship* is one of the example.

**Palatal** sounds are those that have a constriction between the front of the tongue and the hard palate. The first sound in “yes” is an example.

**Velar sounds** are those with a constriction between the back of the tongue and the velum. An example is the first sound in *cool*.

Look at the following table and observe the classification of consonant sounds.

Classification	Articulators	Examples
<b>Bilabial</b>	Upper lip and lower lip	/p/, /b/, /m/, /w/
<b>Labio-dental</b>	Lower lip and upper teeth	/f/, /v/
<b>Dental</b>	Teeth and tip of tongue	/θ/, /ð/
<b>Alveolar</b>	alveolar (teeth) ridge and tip and blade of tongue	/t/, /d/, /s/, /z/, /n/, /l/
<b>Post-alveolar</b>	Hard palate and tip of tongue	/r/
<b>Palato-alveolar</b>	Hard palate—alveolar and tip, blade and front of tongue	/tʃ/, /dʒ/, /ʃ/, /ʒ/
<b>Palatal</b>	Hard palate and front of tongue	/j/
<b>Velar</b>	Soft palate and back of tongue	/k/, /g/, /ŋ/
<b>Glottal</b>	Glottis (vocal cords)	/h/

(Figure 11: Place of Articulation)

### 6.2.7 Manner of Articulation:

Different degrees of constriction in the vocal tract produce consonant sounds. The **manner of articulation** describes the different degrees of constriction.

Classification	Manner of articulation	Examples
<b>Plosive</b>	complete closure	/p/, /b/, /t/, /d/, /k/, /g/
<b>Affricate</b>	complete closure and slow release	/tʃ/, /dʒ/
<b>Fricative</b>	close approximation	/f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, /h/
<b>Nasal</b>	complete oral closure	/m/, /n/, /ŋ/
<b>Lateral</b>	complete closure in the centre of the vocal tract and the air passes along the side(s) of the tongue	/l/
<b>Frictionless continuant</b>	open approximation	/w/, /r/, /j/

(Figure 12: Manner of Articulation)

### 6.2.8 Voicing:

In order to pronounce a voiced sound, the throat needs to vibrate, otherwise a voiceless sound is produced. Voicing is very important in pronouncing different words. For instance, the pronunciation of words ‘bet’ and ‘pet’ look same. The close observation gives us an idea that in pronouncing ‘bet’ (/bet/) we could feel that the /b/ sound is voiced. Similarly, in ‘pet’ (/pet/) the /p/ sound is voiceless. Look at the following sounds to understand the voiceless and voiced sounds.

- The voiceless consonant sounds:

/p/, /t/, /k/, /f/, /s/, /θ/, /ʃ/, /tʃ/, /h/

- The voiced consonant sounds:

/b/, /d/, /g/, /v/, /z/, /ð/, /ʒ/, /dʒ/, /n/, /m/, /ŋ/, /l/, /w/, /r/, /j/

### 6.2.9 Description of Consonant Sounds:

In this section, we shall discuss different consonant sounds such as plosives, fricatives, nasals, laterals, etc.

#### 6.2.9.1 English Plosives

- In English, there are six plosive consonants:

/p/, /t/, /k/, /b/, /d/, /g/

- English consonants are unvoiced and voiced. Examples of voiceless sounds are /p/, /t/ and /k/ whereas /b/, /d/ and /g/ are voiced sounds.
- /p/ and /b/ are bilabial sounds. The lips are pressed together.
- /t/ and /d/ are alveolar sounds. The tongue is pressed against the alveolar ridge.
- /k/ and /g/ are velars. The back of the tongue is pressed against an intermediate area between the soft and the hard palate.

Place of articulation			
	bilabial	alveolar	Velar
Voiceless	/p/	/t/	/k/
Voiced	/b/	/d/	/g/

(Figure 13: Place of Articulation: Plosives)

### 6.2.9.2 Affricates:

Affricate is a consonant sound that starts with a stop (full obstruction of the breath stream) and ends with a fricative (sound with incomplete closure and a sound of friction). Affricates are called semi-plosives. /tʃ/ and /dʒ/ are the affricates. /tʃ/ is a voiceless sound. /dʒ/ is a voiced sound.

### 6.2.9.3 Fricatives:

Fricatives give a “hissing” sound when we pronounce them. There are nine fricatives. They are:

/f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, /h/

They are produced by the air escaping through a small passage in the mouth. The first sound in *fan* is produced by bringing the lower lip close to the upper teeth in a close approximation constriction. A voiceless labio-dental fricative (transcribed as /f/). The consonant in *van* is the voiced counterpart (the voiced labiodentals fricative, written as /v/). The first sound in *theatre* is produced by putting the tongue’s tip into close contact with the upper teeth. It is a voiceless dental fricative, which is represented by the letters /θ/. The voiced dental fricative (/ð/) is the initial sound in the word for some speakers.

The initial sound in *sea* is made by pressing the tongue’s tip against the alveolar ridge. This /s/ sound is a voiceless alveolar fricative. The consonant in *zoo* is the voiced alveolar fricative (/z/). The first sound in the word *shine* is made by moving the tongue blade into close proximity to the palato-alveolar area. This /ʃ/ is a voiceless palato-alveolar fricative. The word *pleasure* has the voiced sound /ʒ/. The glottal fricative /h/, like in the first sound in *height*, is a third option. The sound is generated by drawing the vocal cords together in a constriction of close approximation, causing friction. We will assume this is a voiceless sound because the vocal cords are not vibrating.

Place of articulation					
	Labio-dental	Dental	alveolar	Palato-alveolar	Glottal
Voiceless	f	θ	s	ʃ	-
Voiced	v	ð	z	ʒ	h

(Figure 14: Place of Articulation: Fricatives)

#### 6.2.9.4 Nasals and other Consonants:

**Nasals:** In phonetics, a nasal speaking sound occurs when the velum at the rear of the mouth is lowered, allowing air to enter into the nose. The mouth is occluded at some point by the lips or tongue in the case of nasal consonants. For example, English *m*, *n*, and *ng* /ŋ/ (the final sound in "sing"). In producing these sounds, the airstream is totally discharged through the nose. Nasalized sounds are those that are partially released through the nose and partially through the mouth. Nasalized vowels are frequent in French, Portuguese, and a variety of other languages (e.g., vin “wine,” bien “good,” and enfant “child”).

**Lateral:** A lateral consonant sound is produced by lifting the tongue’s tip against the roof of the mouth, allowing air to flow past one or both sides of the tongue. Laterals are the /l/ sounds in English, and other languages.

#### Approximants (Frictionless Continuant):

The first sound in *yes* is an approximant. The tongue’s front is brought near to the hard palate to generate it. Despite the fact that the sides of the tongue are completely closed against the upper gums, air escapes through a central groove where the tongue’s front is not close enough to the hard palate to cause friction. This is a voiced palatal approximant, which is written as /j/. We won’t address any voiceless analogues for these sounds because approximants are usually voiced.

The initial sound in many English speakers’ pronunciation of *rope*, *rip*, *rat*, among many other examples is an approximant. The tongue blade is constricted into an open approximation with the alveolar ridge to form it. An alveolar approximant is transcribed as /r/. For the moment, let’s focus on a different type of sound: the sound at the beginning of *weather*. The lips form an open approximation constriction to make this sound: no friction is produced. However, it is more

difficult to articulate than /j/, the palatal approximant, because it also demands extra articulation between the velum and the tongue's rear. As a result, we will call it a voiced labial-velar approximant, and it is written /w/. Consonants are easy to say and remember, whereas vowels require more concentration because the same letter might have multiple pronunciations. If you want to excel at English consonants, it's a good idea to see which consonant sounds in your native tongue are equivalent. This will give confidence to you while also saving your time. The last thing is to practice the sounds regularly.

### 6.2.9.5 Three Term Label of Consonants:

- |   |   |
|---|---|
| 1. /p/ - voiceless bilabial plosive           | 14. /ʒ/ - voiced palato-alveolar fricative              |
| 2. /b/ - voiced bilabial plosive              | 15. /h/ - voiceless glottal fricative                   |
| 3. /t/ - voiceless alveolar plosive           | 16. /tʃ/ - voiceless palato -alveolar affricate         |
| 4. /d/ - voiced alveolar plosive              | 17. /dʒ/ - voiced palato -alveolar affricate            |
| 5. /k/ - voiceless velar plosive              | 18. /m/ - voiced bi-labial nasal                        |
| 6. /g/ - voiced velar plosive                 | 19. /n/ - voiced alveolar nasal                         |
| 7. /f/ - voiceless labio-dental fricative     | 20. /ŋ/ - voiced velar nasal                            |
| 8. /v/ - voiced labio-dental fricative        | 21. /j/ - voiced palatal semi-vowel                     |
| 9. /θ/ - voiceless dental fricative           | 22. /w/ - voiced bi-labial semi-vowel                   |
| 10. /ð/ - voiced dental fricative             | 23. /r / - voiced post-alveolar frictionless continuant |
| 11. /s/ - voiceless alveolar fricative        | 24. /l/ -voiced alveolar lateral                        |
| 12. /z/ voiced alveolar fricative             |   |
| 13. /ʃ/ - voiceless palate-alveolar fricative |   |

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## 6.3 Learning Outcomes

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In this Unit, we drew your attention towards English speech sounds. Spelling and pronunciation do not have a one-to-one correlation. The pronunciation of the same letters of the alphabet might vary. As a result, we need a method for transcribing English sounds where each sound is represented by a single symbol. For such transcription, the IPA system is commonly used. Some popular dictionaries have additionally included the various transcription schemes that they used. We recommend sticking to one set of symbols and practicing transcribing English words and sentences because dictionaries differ in their use of specific symbols.

You may have observed that the five long vowels differ not only in length but also in quality from the seven short vowels. When we compare short and long vowel pairs that are similar such

as /u/ with /u:/ and /i/ with /i:/, we can discern clearly see the variances in quality due to differences in shape as well as the position of the tongue, and position and length of the lip. As a result, all long vowels have distinct symbols from short vowels. There are 20 vowels in the RP of the English language. There are 12 monophthongs (pure vowels) and eight diphthongs among them. There are 4 front vowels, 5 back vowels, and 3 central vowels. There are eight diphthongs, of which three glide towards /i:/ /ei, ai, i/, three towards /i, e, u/ and two towards /u:/ /au, u/. Thus it is expected that upon the completion of this Unit, you should be able to define the speech sounds. You should be able to explain the difference between vowel sounds and consonant sounds. You were given three labels of vowels and consonants in this unit. The learning outcome of this Unit is that is also that you should be able to explain pure vowels, diphthongs, triphthongs, consonant sounds and its place and the manner of articulation in detail.

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## 6.4 Glossary

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**Alveolar ridge:** The bony ridge behind the upper teeth, important in the articulation of alveolar consonants.

**Bilabial:** Articulated with both lips.

**Dental:** Pertaining to the teeth.

**Glottal:** Pertaining to the glottis.

**Labiodentals:** The major stricture involving the lower lip and upper teeth.

**Larynx:** Voice box

**Nasal cavity:** The broad cavity that connects the nostrils to the pharynx and is located above the oral cavity.

**Oral cavity:** The portion of the vocal tract between the pharynx and the lips that contains the tongue and teeth and is bounded on top by the alveolar ridge, palate, and velum.

**Palatal:** Pertaining to the palate.

**Pharyngeal:** Pertaining to the pharynx.

**Pharynx:** The gap between the oral cavity, the nasal cavity, and the route above the larynx at the rear of the mouth.

**Syllable:** A unit of pronunciation having one vowel sound



**Vocal Cords:** The vocal ligaments and the vocal muscle, with a mucous membrane covering, form a symmetrical pair of tissues in the larynx.

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## 6.5 Sample Questions

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### 6.5.1 Objective Questions:

#### A. Read the sentence and choose an appropriate option:

1. How many diphthongs are there in English?
  - (a) 12
  - (b) 20
  - (c) 08
  - (d) 24
2. Identify the word among the following which has the sound/**ɑ:**/
  - (a) get
  - (b) come
  - (c) ask
  - (d) clock
3. Find out the front unrounded short vowel.
  - (a) /ɒ/
  - (b) /ʌ/
  - (c) /ʊ/
  - (d) /æ/
4. Observe the following and find the back rounded short vowel.
  - (a) /u:/
  - (b) /ɑ:/
  - (c) /ɒ/
  - (d) /ʌ/
5. \_\_\_\_\_ is voiceless consonant sound.
  - (a) /r/
  - (b) /j/
  - (c) /ŋ/

(d) /dʒ/

**B. Read the following statements. State if they are True or False:**

1. The word 'rat' has the sound /æ/
  - (a) True
  - (b) False
2. /ʃ/ voiced alveolar fricative
  - (a) True
  - (b) False
3. /d/ - voiced alveolar plosive
  - (a) True
  - (b) False
4. /i:/ is a back long open unrounded vowel.
  - (a) True
  - (b) False
5. /ɔ:/ is a central unrounded short vowel.
  - (a) True
  - (b) False

**6.5.2 Short Answer Questions:**

1. How are the vowels in English classified?
2. Discuss front vowels in detail.
3. Give the phonetic descriptions for the sounds /p/ /b/, /t/ /d/, /k/ and /g/?
4. What are the fricatives? Discuss.
5. Distinguish between Laterals and fricatives.

**6.5.3 Long Answer Questions:**

1. Distinguish between voiceless consonants and voiced consonants.
2. Write a note on diphthongs. Give examples from English.
3. How many back vowels are there in English? Indicate their tongue positions.

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## 6.6 Suggested Readings

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1. Balasubramanian, T. *A Textbook of English Phonetics for Indian Students*. Delhi: Macmillan Limited, 1981.
2. Bansal, R.K. *Spoken English: A Manual of Speech and Phonetics*. Hyderabad: Orient Blackswan, 2013.
3. Carr, Philip. *English Phonetics and Phonology*. Oxford: Basil Blackwell, 1999.
4. Catford, J.C. *A Practical Introduction to Phonetics*. Oxford: OUP, 2001.

## **Unit 7: Phonemes, Phones, Allophones, and Minimal Pairs**

### **Structure**

#### **7.0 Introduction**

#### **7.1 Objectives**

#### **7.2 Phoneme**

##### **7.2.1 English Phoneme Inventory: Consonants**

##### **7.2.2 English Phoneme Inventory: Vowels**

##### **7.2.3 Minimal Pairs**

##### **7.2.4 Allophones**

##### **7.2.5 Complementary Distribution**

##### **7.2.6 Phonetic Similarity**

##### **7.2.7 Phonological Rules**

##### **7.2.8 Phone**

##### **7.2.9 Phonemicization**

#### **7.3 Learning Outcomes**

#### **7.4 Glossary**

#### **7.5 Sample Questions**

#### **7.6 Suggested Reading**

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### **7.0 Introduction**

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The linguistic study of any language often starts with the analysis of speech sounds that are present in the language. Out of all speech sounds human beings can produce, languages make a selection of sounds called phonemes that are distinct in terms of articulation. These sound differences serve to distinguish between words. Apart from phonemes, speakers of a language also produce certain sounds that are phonetically different from the phonemes. They are called allophones, and they occur in limited positions in a word. In this chapter, we shall learn how these two types of sounds are different. In addition to learning the phonemes present in the English language, we shall also discuss how to identify allophonic variations by looking at their

distribution. Later in the chapter, we shall look into the techniques that linguists use to establish phoneme inventories of languages.

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## 7.1 Objectives

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The learning objectives of this Unit are to:

- understand the concepts of phonemes, allophones, phones, and minimal pairs.
- explore the phoneme inventory of the English language.
- be able to explore the concepts of phonemes and allophones and draw distinctions between these two categories.
- get acquainted with the techniques through which the *phoneme inventories* of languages are examined and established.

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## 7.2 Phonemes

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Human languages consist of speech sounds that are produced using different parts of our vocal apparatus in different manners. These speech sounds differ in terms of several criteria. At this point, we understand that different vowel sounds result from tongue-height, lip-rounding, and backness differences involving the body of the tongue. For consonants, differences in voicing ( $\pm$  voice), the place of articulation, and the manner of articulation lead to the production and distinctions of various consonants. Thus a language can have a wide range of different sounds. Please note that the human vocal tract is capable of producing an infinite number of audibly distinct sounds. Out of all the sounds that a human being can produce (for example, the sounds present in the IPA), a particular language comprises only a subset that constitutes the sound system or the phoneme inventory of that language.

These sounds serve as units that form words with varying meanings. The purpose of sound segments in any human language is to build different words that encode meanings. Therefore, phonological studies of a language often start with identifying these basic units of sounds present in the language. These minimal distinctive units of speech sounds are called **phonemes**. For example, the sounds /b/ , /l/ , /t/ are combined together to form the word [bit]. If one replaces just one sound of this word, for instance, from /b/ to /p/, the resulting word [pit] will have a different meaning.

Similarly, changing only the vowel from /ɪ / to /ɛ/ will give us two words with two completely different meanings, [bit] and [bet]. Please bear in mind that any pair of phonemes, as in /b/ and /p/ as shown above, are contrastive- their primary function is to separate entities. Thus, two phonemically distinct words are different, as in [bit] and [pit].

Phonemes, therefore, are the **units** of sound since they are discrete in nature. We cannot use just one part of a phoneme in any word. It always appears as a whole unit. Phonemes are **distinctive** or **contrastive**, as the replacement of one phoneme by another leads to a change in meaning. They are considered to be the fundamental phonological categories in the linguistic knowledge shared by a speech community. To be qualified as a phoneme, a speech sound has to cause a '*change of meaning*' of the words **of which** it is a part of. While transcribing, phonemes are written in between two slashes.

Languages around the world have a different number of phonemes in their phonemic inventories. So far the lowest number of phonemes **have** been recorded in the East Papuan language *Rotokas*. They only have 11 phonemes. On the other hand, the *Khosian* language of Namibia named *!Xóǀ* has the highest number of phonemes-160.

English (the Received Pronunciation variety) has a total of forty-four phonemes in its inventory. These include twenty-four consonants, twelve pure vowels, and eight diphthongs.

At this point, we must examine and explore how the distribution of phones is used to establish the phonemic contrast and form the phoneme inventory of a language. In this regard, we shall now examine the phoneme inventory of English (language).

### **7.2.1 English Phoneme Inventory: Consonants:**

Production of **consonants** involves some **sort of constrictions** in the vocal tract. Constrictions here refer to the restrictions of the air stream, either partially or entirely, at some point in the space between the larynx and the lips during the production of a consonant sound. They are usually quieter than vowels, and consonants can be both voiced and voiceless. You have already learned that the distinct quality of a consonant is the result of a number of factors- 1. The state of the vocal folds determines whether the consonant is voiced or voiceless, 2. Involvement of different places of articulation leads to the production of different consonants, and 3. How the active articulator comes into contact with the passive articulator also plays a role in the phonetic identity of the consonant. Like any other language, English too hosts several

consonants that can be distinguished in terms of voicing (state of the glottis), place of articulation, and manner of articulation features. In total, there are 24 consonants in English.

The English consonant inventory includes six plosives, three of which are voiced and three voiceless; two affricates (one voiced, one voiceless), three nasals (all voiced), nine fricatives (out of the nine, five are voiceless and four are voiced), one lateral approximant (voiced), and three central approximants (all voiced). If you observe the table given below, you will notice that not all of the places of articulation are utilized. While fricatives involve more places of articulation, giving us more number of fricative phonemes, only palate-alveolar affricates are present in the language. This shows that English has a limited set as its phoneme inventory out of all the sounds that human beings, in general, are capable of producing. This holds true for any other human language as well.

The following table (Table 7.1) shows the articulatory features of all the consonant phonemes present in English. An example word is cited along with each consonant. The target consonant sound in the example word is marked for readers' understanding.

		<b>Bilabial</b>	<b>Labio dental</b>	<b>Dental</b>	<b>Alveolar</b>	<b>Palatoalveolar</b>	<b>Palatal</b>	<b>Velar</b>	<b>Glottal</b>
Stops	voiceless	/p/ <b>p</b> in			/t/ <b>t</b> in			/k/ <b>k</b> in	
	voiced	/b/ <b>b</b> in			/d/ <b>d</b> in			/g/ <b>g</b> un	
Affricates	voiceless					/tʃ/ <b>ch</b> in			
	voiced					/dʒ/ <b>g</b> in			
Fricatives	voiceless		/f/ <b>f</b> in	/θ/ <b>th</b> in	/s/ <b>s</b> in	/ʃ/ <b>sh</b> in			/h/ <b>h</b> ymn
	voiced		/v/ <b>v</b> in	/ð/ <b>th</b> is	/z/ <b>z</b> ip	/ʒ/ <b>g</b> in			
Nasals		/m/ <b>m</b> itt			/n/ <b>n</b> ip			/ŋ/ <b>ng</b>	
Approximants	lateral				/l/ <b>L</b> ynn				
	central	/w/ <b>w</b> in			/r/ <b>r</b> im			/j/ <b>y</b> in	

Table 7.1: Consonant inventory of English. Source: *Introductory phonology* (1<sup>st</sup> ed., p.21), by B. Hayes, Blackwell Publishing.

As mentioned previously, the most efficient way of identifying sounds as phonemes is by examining whether they form minimal pairs or not. A minimal pair can be defined as two expressions (words or morphemes) of a particular language with distinct meanings that are distinguished by only one phoneme ([**p**ɪn] vs. [**b**ɪn]). In other words, two words that differ in meaning when only one sound is changed are referred to as '*minimal set*' or '*minimal pair*.' The following charts show that all the phonemes present in table 7.1 can form minimal word pairs. Pair of sounds here replace one another, giving us words with entirely unrelated or different meanings. Thus, all of these sounds qualify to be a phoneme in the English language. They are discrete units of sounds that are distinct from one another.

<u>Plosives</u>	voiceless	voiced	Word-initial	Word-final
Bilabial	/p/	/b/	pin [ <b>p</b> ɪn] - bin [ <b>b</b> ɪn]	cap [kæ <b>p</b> ] - cab [kæ <b>b</b> ]
Alveolar	/t/	/d/	tin [ <b>t</b> ɪn] - din [ <b>d</b> ɪn]	cat [kæt] - cad [kæ <b>d</b> ]
Velar	/k/	/g/	calorie [kælə <b>r</b> i]- gallery [gælə <b>r</b> i]	back[bæk] - bag[bæg]

Table 7.2: There are six plosives in English- two bilabials [±voice], two alveolars [±voice], and two velars [±voice]. The examples cited in this table display the contrastive distributions of all the plosives present in English.

<u>Fricative</u>	Voiceless	Voiced	Word-initial	Word-final
Labio-dental	/f/	/v/	fan [ <b>f</b> æn] - van [væn]	safe[sæ <b>f</b> ]- save[sæ <b>v</b> ]
Dental	/θ/	/ð/	thigh [ <b>θ</b> aɪ] – thy [ðaɪ]	sooth [su: <b>θ</b> ] - soothe [su: <b>ð</b> ]
Alveolar	/s/	/z/	sip [sɪ <b>p</b> ] – zip [zɪ <b>p</b> ]	face [fæ <b>s</b> ]- phase [fæ <b>z</b> ]
Palato-alveolar	/ʃ/	/ʒ/	shell [ʃe <b>l</b> ]- gel [ʒe <b>l</b> ]	bush [bu <b>ʃ</b> ]- booze[bu <b>ʒ</b> ]

Table 7.3: English hosts eight fricatives- two labio-dentals [±voice], two dentals [±voice], two alveolars [±voice], and two palate-alveolars [±voice]. The examples cited in this table display the contrastive distributions of all the fricatives present in English.



<u>Affricates</u>	Voiceless	Voiced	Word -initial	Word-final
Palato-alveolar	/tʃ/	/dʒ/	chin [tʃɪn]- gin [dʒɪn]	etch [ɛtʃ] - edge [ɛdʒ]

Table 7.4: There are two palate-alveolar affricates [ $\pm$ voice] observed in English. The examples cited in this table display the contrastive distributions of both the affricates present in English.

<u>Nasals</u>	Bilabial	Alveolar	Velar	Word-initial	Word-final
(voiced)	/m/	/n/	/ŋ/	meat [mit] – neat [nit] (/ŋ/ does not occur word initially in English)	sim [sɪm] - sin [sɪn] - sing [sɪŋ]

Table 7.5: There are three nasal consonants (all voiced) in English - one bilabial, one alveolar, and one velar. The examples cited in this table display the contrastive distributions of all the nasals present in English.

Approximants	Lateral	Central	Word Initial	Word- Final
Bilabial	/l/	/w/	lit [lɪt] – wit [wɪt]	ball [bɔl]- bow [bɔw]
Alveolar		/ɹ/	lot [lɒt] – rot [rɒt]	real [riəl] – rear [riə]
Velar		/j/	let [let] – yet [yet]	

Table 7.6: There are three approximants (all voiced) - one bilabial, one alveolar, and one velar. English also hosts one alveolar lateral (voice) in its phoneme inventory. The examples cited in this table display the contrastive distributions of all the approximants and the only lateral present in English.

### 7.2.2. English Phoneme Inventory-Vowels:

As we have learned in the previous units, speech sounds can be divided into two primary categories - consonant and vowel. A **vowel** is a highly **sonorous** sound that generally requires an **open-air passage** in the mouth. The air passage is modified by manipulating the shape of the

mouth (widening (= low) or closing (= high), leading to different heights), varying the positions of the tongue (tip = front, blade = central and back = back vowels), and lips positions (rounded or unrounded). Vowels are usually voiced; i.e., the vocal cords continue to vibrate during the production of a vowel sound. Vowels are the nucleus of a syllable; i.e., you cannot form a syllable without a vowel. In that sense, every language must have (at least a) vowel sound to be able to distinguish lexical (word) meaning. English too hosts a number of vowel phonemes that are different from one another in terms of the (tongue) height, the location of the tongue, and the shape of the lips.

In English, there are twenty vowel sounds - twelve monophthongs and eight diphthongs. Diphthongs are produced by combining two monophthongs. These vowels are produced using different vocal tract modifications, with differences in *openness*, *tongue positions*, and *lip rounding*. It also shows the diphthongs present in the language. Following O'Connor (first edition 1973), we have listed the vowels in English (Table 7.7).

	<i>Front Unrounded</i>	<i>Central Unrounded</i>	<i>Back</i>		<i>Diphthongs</i>
			<i>Unrounded</i>	<i>Rounded</i>	
<i>Upper High</i>	/i:/ <b>beat</b> ,			/u:/ <b>boot</b>	/aɪ/, /aʊ/, /ɔɪ/ <b>bite, bout, boy</b>
<i>Lower High</i>	/ɪ/ <b>bit</b>			/ʊ/ <b>foot</b>	/eɪ/, /ʊə/, <b>bait, pure</b>
<i>Upper Mid</i>	/e/ <b>set</b>	/ə/ <b>alone</b>			/ɛə/, /əʊ/, /ɪə/ <b>fair, go, here</b>
		ɜ: <b>beard</b>			
<i>Lower mid</i>	/æ/ <b>bat, pat</b>		/ʌ/ <b>but</b>	/ɔ:/ <b>bought</b>	
<i>Low</i>			/ɑ:/ <b>father</b>	/ɒ/ <b>not</b>	

Table 7.6: Vowel inventory of English. Source: *Introductory phonology* (1<sup>st</sup> ed., p.22), by B. Hayes, Blackwell Publishing.

Now, let us look at how these vowel phonemes participate in the formation of minimal pairs. Just like the consonants, some examples of minimal pairs for several English vowels are shown in the tables given below:

<b>Front vowels</b>	Upper High	Lower High	Word initial	Word-medial
	/i:/	/ɪ/	eat [i:t] - it [ɪt]	seat [si:t] – sit [sɪt]
	Lower mid	Low		
	/ɛ/	/æ/	at [ɛt] – ate [æt]	bet [bɛt] – bat [bæt]

Table 7.7: There are four front vowels in English that are distinguishable in terms of their height variations. The examples cited in this table show the contrastive distribution of the front vowels of English.

<b>Back Vowels</b>	Upper High	Lower High	Word-Medial
	/u/	/ʊ/	pool [pʊl] – pull [pʊl]
	Lower mid	Low	Word-Medial
	/ʌ/	/ɑ:/	fur [fʌr] – far [fɑ:r]
	/ɔ:/	/ɒ/	balks [bɔ:ks] - box [bɒks]

Table 7.8: There are six back vowels in English that are distinguishable in terms of their height variations and lip-rounding. The examples cited in this table show the contrastive distribution of the back vowels of English.

<b>Central Vowels</b>	Upper Mid	Lower Mid	Word-Medial
	/ə/	/ɜ:/	cos [kəz] – curs [kɜ:z] forward ['fɔ: .wəd] – foreword ['fɔ: .wɜ:d]

Table 7.9: There are two central vowels in English that are distinguishable in terms of their height variations. The examples cited in this table show the contrastive distribution of the back vowels of English.

		Word initial	Word medial	Word final
Diphthongs	/eɪ/-/aɪ/ -/ɔɪ/	ail [eɪl] – isle [aɪl]- oil [ɔɪl]	tail [teɪl] - tile [taɪl]- toil [tɔɪl]	Bay [beɪ] – bye [baɪ]- boi [boɪ]
	/ʊə/ - /ɛə/ - /ɪə/	you're [ʊəɾ] - air [ɛəɾ] ear [ɪəɾ]	boor [buəɾ] – bear [beəɾ] – beer [biəɾ]	--
	/aʊ/-/əʊ/	oat [aʊt] – out [əʊt]	bout [baʊt] - boat [bəʊt]	now [naʊ] - know[nəʊ]

Table 7.10: There are eight diphthongs in English. The examples cited in this table show the contrastive distribution of the diphthongs present in English.

***Check your Progress***

1. Phonemes are \_\_\_\_\_ of sound because they are \_\_\_\_\_ in nature.
2. English has \_\_\_\_\_ phonemes, \_\_\_\_\_ of those are consonants and \_\_\_\_\_ are pure vowels.
3. The lowest number of phonemes recorded in the language called \_\_\_\_\_.

**7.2.3 Minimal Pairs:**

Consider the following two words [bit] and [pit] carefully. You will notice that they differ only in terms of the initial segment /b/ and /p/. Apart from that, the two words are almost identical. Yet, the differences in their meaning identify /b/ and /p/ as contrastive phonemes. A pair of words that differ in terms of sounds in only one location effectively shows that two sounds are distinctive phonemes. These pairs are called **minimal pairs**.

Examples:

big [bɪg]      pig [pɪg]  
meat [mi:t]    neat [ni:t]  
but [bʌt]      bud [bʌd]  
bag [bæg]      big [bɪg]  
geese [gi:z]    goose [gu:z]

The presence of minimal pairs shows that phonemes are always in contrastive distribution. They can appear in identical environments, while they posit a contrast by replacement of one by another.

Bin      [bɪn]  
Din      [dɪn]  
Gin      [zɪn]  
Chin     [tʃɪn]  
Fin      [fɪn]  
Thin     [θɪn]  
Sin      [sɪn]  
Win      [wɪn]

As shown above, for many phonemes, the notion of minimal pairs can further be expanded. There can be larger minimal sets ranging from minimal triplets (ex: 'time' [taɪm], 'dime' [daɪm], and 'lime' [laɪm]), quadruplets to 13-tuplets.

***Check your Progress***

1. Define minimal pairs with examples.

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**7.2.4 Allophones:**

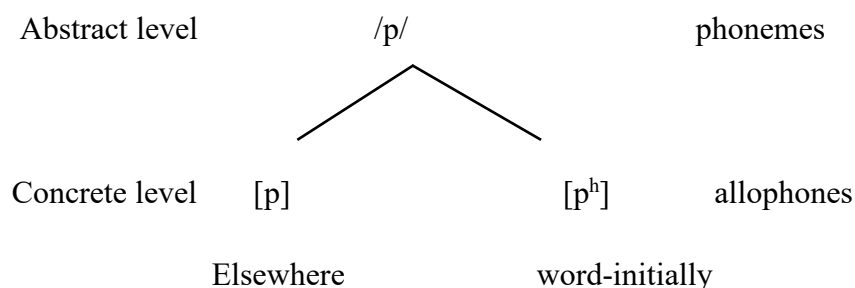
If two sounds differ (from one another) in terms of their pronunciation, but one never replaces the other, they are called allophones. For example, in English, the voiceless bilabial

plosive sound [p] becomes aspirated [p<sup>h</sup>] when it occurs at the beginning of a word. Consider the following instances, police [p<sup>h</sup>ulis], pin [p<sup>h</sup>in], picture [p<sup>h</sup>iktʃər], etc. However, it is unaspirated when it occurs in other positions, e.g., help [hælp], laptop [lɛptɒp], etc. It shows that the presence of the two sounds is conditioned by their positions in words. In such a case, [p] and [p<sup>h</sup>] will be considered to be **allophones of the same phoneme [p]**.

### 7.2.5 Complementary Distribution:

The most striking characteristic of allophones is that their distribution is predictable. They always occur only in specific positions within a word. Here, voiceless the [aspirated bilabial plosive [p] occurs only in word-initial positions, while its unaspirated counterpart occurs in any other position in a word. They cannot replace one another because the context or environment dictates which one should occur. Another way to put this is that both sounds are in **complementary distribution**; one occurs in positions where the other cannot occur. Differences in their pronunciations are the results of their positioning. These differences do not involve any change in meanings. Therefore these two are just two variants of the same phoneme.

The phonemic pattern of the two allophonic variations will be:



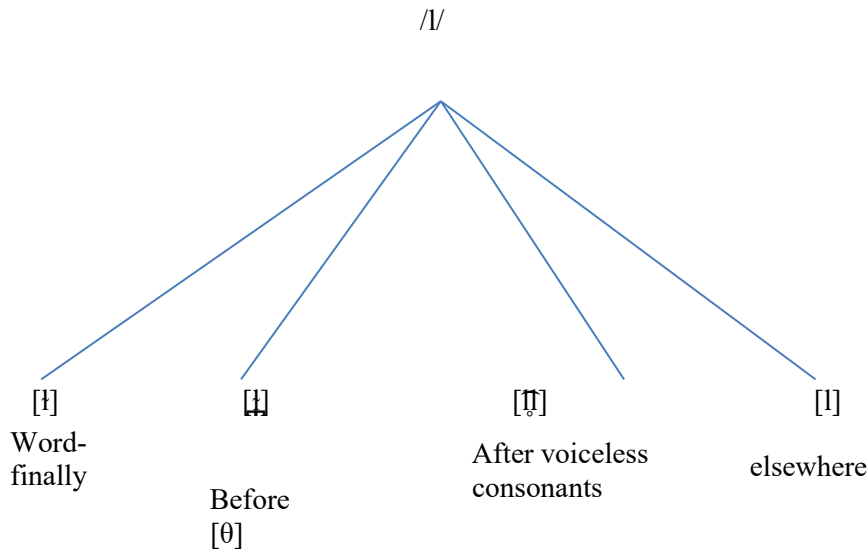
As suggested by this diagram, phoneme categories are abstractions. They represent the knowledge speakers have about how to pronounce a sound. Allophones, on the other hand, are the concrete forms of sounds, the form they take when they are physically pronounced by means of movements of speech organs. Most of the time, speakers do not intentionally produce these allophones. Thus, allophones with occurrences in limited environments are by-products of the articulatory process.

The lateral approximant [l] phoneme has four allophonic variations that occur in four different phonetic environments in English. These allophones are- velarized [ɫ], which is

pronounced with a raised tongue towards the back of the mouth, dental velarized [ɮ] where the place of articulation is the upper front teeth, and [l̥] which starts as voiceless but ends as voiced throughout its utterance.

[ɮ]	[l̥]	[ɮ]	[l]
Tile [tʌɮ]	plight [pl̥aɪt]	health [heɮθ]	lesson [lɛsən]
cool[kuɮ]	slight [sl̥aɪt]	wealth [weɮθ]	lot [lɒt]
Feel [fiɮ]	complete [kəmpl̥iɪt]	filthy [fɪɮθi]	below [biɒləw]
All [ɔɮ]	cling [kl̥ɪŋ]	tilth[tɪɮθ]	blend [blend]

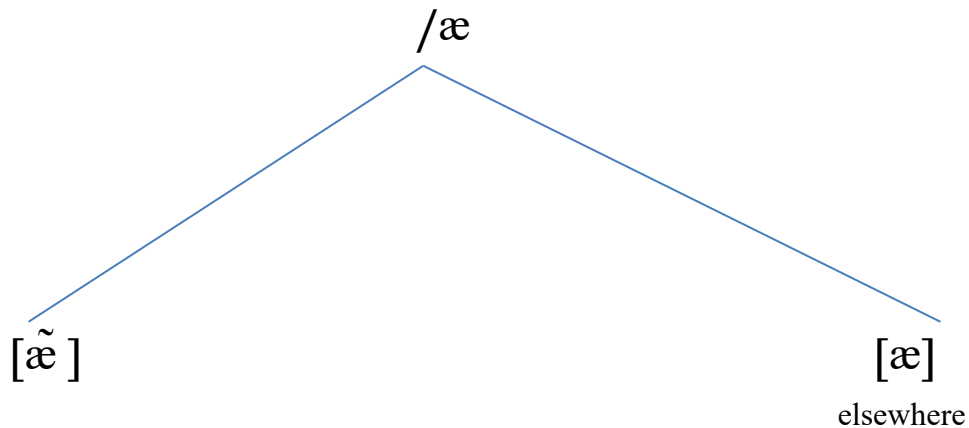
The pattern of distribution of these four allophones are:



Another example of allophones in English involves nasalized vowels. Vowels are nasalized when they occur before nasal consonant sounds.

æ	ã	
cat [kæt]	can [kãt]	
ant [ænt]	sang [sãŋ]	
sad [sæd]	camera [kãmərə]	

The phonemic pattern of the two sounds are:



Before nasal  
consonants

### 7.2.6 Phonetic Similarity:

To be considered allophones, sounds that exist in complementary distribution have to be phonetically similar to be considered allophones. They share certain phonetic features rather than being totally dissimilar in terms of their articulation. It's highly unlikely that sounds that exist further apart from one another in the IPA chart are allophones. Therefore, even if two sounds like /p/ and /k/ are in complementary distribution, they cannot be called allophones of the same phoneme. Let's look at all the examples presented in the chapter. We will see that allophones of a particular phoneme share considerable phonetic features while being different in terms of minor differences in articulation. For instance, [p] and [p<sup>h</sup>] are different only in terms of aspiration; the allophones of /l/ are all lateral sounds.

From a cognitive point of view, speakers of a language consider all allophonic variations of a phoneme to be parts of one single category. This is the reason why native speakers may not be aware of the different pronunciations they are making. They intuitively recognize both [p] and [p<sup>h</sup>] as the same sound.

It is possible to have allophones of one language as phonemes in another language. In Arabic, the voiceless bilabial plosive [p] and its voiced counterpart [b] are in complementary





This part of phonological rules characterizes allophones as different versions of one abstract phoneme. The abstract phoneme is sometimes referred to as **underlying representation** or **base form**. When pronounced in different contexts, this abstract form changes into different physical forms called allophones. In the context of rules, they are called **derivations**. This change is shown using the notation /x/ → [y]/a\_\_\_\_\_b

Taking the previous example, we will have a rule as following

/l/ dentalization

/l/ → [ɫ]/\_\_\_\_\_θ

### 7.2.8 Phones:

Phone refers to any concrete sound produced using some articulatory gestures regardless of their identity as phoneme or allophone in the phonology of the language. Phones are never abstract. In that sense, phones are the **smallest** unit of speech sound. They always have physical forms that result from the different configurations of our speech organs. It is essential to comprehend that a sound (phone) can essentially be a *phoneme* only when it is produced and perceived within the context of a particular language. To make it clear, one must understand that not all the sounds produced by a native speaker of a given language can be considered a phoneme.

On the contrary, all the phonemes are definitely part of the *phoneme inventory* of that particular language. Moreover, one must also remember that a particular phoneme of a given language may or may not be considered a phoneme in another language. It means that every individual language hosts its exclusive phoneme inventory that is different from other languages. Regardless of whether they are in contrastive or complementary distribution, as long as sounds have concrete forms with phonetic features, they are considered phones. Therefore, all the allophones we have discussed can be identified as phones. David Crystal defines phones as the smallest perceptible discrete segment of sound in a stream of speech. From a segmental phonological perspective, phones are the concrete realization of phonemes. Therefore all the phonic varieties of a single phoneme are referred to as allophones.

### 7.2.9 Phonemicization:

As we have learned at the beginning of this chapter, the linguistic study of any language often starts with identifying and organizing sounds present in the language. The process of establishing sounds as phonemes in any language is called *phonemization*. Linguists use several standard techniques to determine whether a sound is a distinct *phoneme* or an *allophonic variation*. It is one of the tasks in a linguistic study that potentially take up a lot of time because it requires the linguist to have excellent experience recognizing minute differences in the articulation of sounds. Moreover, not all phonemes in a language are equally productive. Some of them may appear in a minimal number of words discovered only when one has access to an extensive vocabulary. In this regard, the linguists, by and large, rely on the 'minimal pair' test or at least the 'near minimal pair' test to establish the phoneme inventory of a particular language.

#### *Minimal pair test:*

As the starting point for the phonological description of a language, linguists often look for minimal pairs or sets containing the sounds in question. Sets of words that are different in terms of sounds present in that word in only one position serve as the most reliable way of establishing sounds as phonemes. The words 'bin' [bɪn], 'din' [dɪn], 'gin' [zɪn], chin [tʃɪn] constitute such a set which gives out the information that /b/, /d/, /z/, /tʃ/ are four different phonemes [ɪn] English [language]. However, it is possible for some sounds not to have such minimal pairs or sets. This does not immediately imply that such sounds are not phonemes. To confirm whether they are phonemes or not, a linguist will resort to other techniques.

#### *Near minimal pair test:*

A linguist looks for near minimal pairs if a minimal pair cannot be found for a pair of sounds. When a language has a large number of phonemes and/or longer words, it is not always possible to encounter minimal pairs for all the phonemes. Yet, a lack of minimal pairs cannot prove an allophone sound if its distribution shows no consistent patterns. In such cases, near minimal pairs are put to use. In these pairs, the sounds that occur immediately before and after the concerned sounds are identical. The other sounds of the words can be different. The following data shows near minimal pairs for /ð/ and /ʒ/,

Tether	[tɛðə]	measure	[mɛʒə]
Neither	[niðə]	seizure	[siʒə]
Leather	[læðə]	azure	[æʒə]

Since the local environment shows no consistent, contextual requirement pattern, these two are not allophones but are distinct phonemes.

Looking for complementary distribution:

To examine if two phonetically similar sounds are allophones of the same phoneme, linguists take a set of vocabulary and look at the local environments in which the sounds occur. If they happen to be in complementary distribution, they are marked as allophones. The following data is from Italian with words containing the sounds /n/ and /ŋ/:

[tinta] 'dye'	[tɛŋgo] 'I keep'
[tiŋgo] 'I dye'	[nero] 'black'
[dʒɛnte] 'people'	[funʒo] 'mushroom'
[aŋke] 'also'	[bjaŋka] 'white'
[sapone] 'soap'	[tɛnda] 'tent'
[dansa] 'dance'	[faŋgo] 'mud'

Let us look at the local environments of /n/ and /ŋ/ in all the words:

/n/	/ŋ/
i_t	i_g
ɛ_t	a_k
o_e	ɛ_g

a\_s

u\_g

#\_e

a\_k

ε\_d

a\_g

The sound [ŋ] always occurs before velar plosives, while [n] occurs elsewhere. Both are thus in complementary distribution. Therefore, they are two different allophones of the same phoneme.

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### 7.3 Learning Outcomes

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Upon the completion of this Unit, you are expected to know the concepts of phonemes, allophones, phones, and minimal pairs. By analyzing their distribution, you should be able to identify which sounds are phonemes and which sounds are allophones. You should also be able to express the patterns of allophonic variations of any phoneme in terms of phonological rules using the formal notations. Students will further be acquainted with the process of establishing phoneme inventory through standard techniques often adopted by linguists.

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### 7.4 Glossary

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**Allophone:** A phonetic variant of the same phoneme, their occurrence being conditioned by their environment. For example, the voiceless plosive in English has two allophones - aspirated voiceless plosive and unaspirated voiceless plosive; the former occurs in word-initial positions, the latter elsewhere.

**Complementary distribution:** Complementary distribution is a condition in which a pair of sound occurs in mutually exclusive environments; one sound cannot replace the other since its occurrence depends on their context

**Contrastive distribution:** Contrastive distribution refers to a relationship between two sounds that can occur in identical environments by one replacing the other. When this replacement happens we get words with a different meaning. For instance, the words 'bit' and 'pit' are different from each other in terms of the initial consonants [b] and [p], respectively. If we change the initial consonant /b/ to /p/, the resulting word [pit] will have a different meaning.

**Derivation:** When pronounced in different contexts, the abstract form changes into different physical forms called allophones. In the context of rules, they are called derivations.

**Environment:** Environment refers to the sounds surrounding the concerned sound which plays a role in determining its phonetic qualities. For example, the allophone dental velarized lateral occurs before the dental fricative.

**Minimal Pair:** Minimal pair refers to a standard technique adopted by linguists to determine whether two sounds are distinct phonemes or allophones. It involves a pair of words that are different only in terms of a single sound. Example: [bit] and [bet].

**Near Minimal Pair:** Word pairs in which the sounds that occur immediately before and after the concerned sounds are identical. The other sounds of the words can be different.

**Phone:** Any concrete sound produced using some articulatory gestures regardless of their identity as phoneme or allophone in the phonology of the language.

**Phoneme Inventory:** The list of phonemes a language uses to form different words

**Phoneme:** Minimal meaningful unit of sound

**Phonemicization:** The process of establishing sounds as phonemes in any language is called phonemization. Linguists use several standard techniques to determine whether a sound is a distinct phoneme or an allophonic variation.

**Underlying Representation:** The notion of a phoneme is abstract in nature; it refers to the information about a sound possessed by the speakers. When physically pronounced it may change in terms of its phonetic features, giving rise to multiple allophones. This abstract phoneme is termed as underlying. Representation in the context of phonological rules.

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## 7.5 Sample Questions

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### 7.5.1. Objective Questions:

#### A. Fill in the blanks:

1. Phonemes are \_\_\_\_\_ or \_\_\_\_\_, as replacement of one phoneme by another leads to change in meaning.
2. If two sounds differ from one another in terms of their pronunciation, but one never replaces the other, they are called \_\_\_\_\_

3. The abstract phoneme is sometimes referred to as \_\_\_\_\_ or \_\_\_\_\_.
4. Cognitively, speakers of a language consider all allophonic variations of a phoneme to be \_\_\_\_\_.
5. Allophones with occurrences in limited environments are by-products of the \_\_\_\_\_.

**B. State *true* or *false***

1. Abstract phonemes are considered to be **phones**.
2. Phoneme inventory is the list of phonemes a language uses to form different words.
3. Two phonetically very dissimilar sounds can be allophones of a single phoneme.
4. Phoneme is Minimal meaningful unit of sound.
5. Allophone is phonetic variant of the same phoneme.

**7.5.2 Short Answer Questions:**

1. What is complementary distribution?
2. What are the two parts of a phonological rule?
3. Discuss the concept of minimal pair.
4. How is phonetic similarity relevant to the identification of allophones?
5. What are the allophonic variations of the lateral approximant sound [l]. Discuss their environments.

**7.5.3 Long Answer Questions:**

1. Discuss the standard techniques used by linguists to identify phonemes and allophones in a language.
2. What are phonological rules? What is the formal notation used for phonological rules? Illustrate with examples.
3. Consider the following English words containing the phoneme /g/.

[lə<sup>w</sup>un]      [g<sup>w</sup>out]      [glou]      [g<sup>w</sup>us]

[bræg]      [gæf]      [gis]      [geɪt]

[igər]      [fræg]      [æŋgər]      [gʌrər]

[gʌn]      [gʌʊn]      [g<sup>w</sup>ɔɪrər]      [greɪd]

- a. List the allophones of /g/.
- b. State in words the environment in which each allophone is found.
- c. Write a phonemic rule for /g/, listing one allophone as "elsewhere."

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## 7.6 Suggested Readings

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1. Ashby, M & Maidment, J. *Introducing Phonetic Science*. Cambridge: Cambridge University Press.
2. Balasubramanian, T. *A Textbook of English Phonetics for Indian Students*. New Delhi: Trinity Press
3. Hayes, B. *Introductory Phonology*. West Sussex: Blackwell Publishing.



## Unit 8: Stress, Rhythm, and Intonation

### Structure

#### 8.0 Introduction

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##### 8.2.1 Syllable weight

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### 8.0 Introduction

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The study of phonology is not limited to descriptions of sound segments alone. Larger units of speech-like syllables, words, phrases, and clauses have certain crucial features in any human language. Such features are called **suprasegmental** or **prosodic features**. This chapter will discuss three major suprasegmental features- stress, rhythm, and intonation. We will look into how they are organized and their roles in human languages, particularly in English.

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### 8.1 Objectives

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In this Unit, you will learn about:

- stress in speech, its types, and the various degrees of stress
- division of languages into 'stress-timed and 'syllable-timed based on their rhythmic qualities
- the nature of rhythm in English
- the forms and functions of intonation

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## 8.2 Stress

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When speakers of a language produce utterances, they put different degrees of emphasis on different words or syllables. Words in English may have one or multiple syllables. When producing words with more than one syllable, speakers make certain syllables more prominent than others. For example, the word /prɒfɪt/ has two syllables, /prɒ/ and /fɪt/, and when being pronounced, the first syllable is made more prominent than the second syllable. In the polysyllabic word /vɒkæbulæri/, the second syllable /kæ/ is more prominent than the rest. Such syllables with relatively more prominence are called stressed syllables. Thus, stress is a suprasegmental property, i.e., it is a feature associated with speech units that are larger than a single phoneme, namely the syllable. Stress can involve changes in pitch, duration, and loudness or a combination thereof. This means stressed syllables may have a higher pitch, longer duration, or higher intensity.

Pitch is an auditory correlate of the acoustic feature known as fundamental frequency ( $f_0$ ). It is the rate at which the speaker's vocal folds vibrate in a given amount of time. The more times they vibrate, the higher the  $f_0$  will be. Duration is the total amount of time taken to produce a particular unit of speech like a phoneme, syllable, or phoneme. The acoustic correlate of loudness is intensity, which is the amount of energy used to produce a sound or a larger unit. Experiments show that pitch plays the most efficacious role in lending prominence to syllables in English, while loudness is least associated with stress among the three.

### 8.2.1. Syllable Weight:

In many languages, the assignment of stress depends on a criterion called syllable weight. Based on their internal structures, syllables can be classified as **heavy-syllable** or **light-syllable**. Heavy syllables are the ones that have -

i. Either one or more consonants on coda position

/blast/, /ɛdɒpt/, 'glimpst/, /læps/, /wəɪld/ etc.

ii. or have a diphthong or a long vowel.

/baund/, /krai/, /bɔɪ/, /fi:d/, /ru:t/, /si:/ etc.

**Light syllables** end with a short vowel and are open syllables without a coda. Based on their inherent property of having longer vowels, diphthongs, and/or coda consonant(s), heavy syllables are more likely to be stressed when compared to light syllables.

### 8.2.2. Word stress:

In several languages, stress is consistently located on syllables in particular positions. It is therefore called **fixed stress** or **predictable stress**. In such languages, stress is easily predictable, and it performs a delimitative function. The Stress helps in segmenting the stretch of speech into regular units. Spanish, Polish, and Welsh always put stress on the penultimate syllables in words. In Hungarian, Czech and Finnish, stress is located on the initial syllable. Some languages put stress on the final syllable including Turkish and French.

Unlike languages with predictable stress placement, many languages, including English, are not found to have stress with a delimitative function. They are called languages with **free stress**. Here, the location of the stress is not straightforward; instead it is decided through the application of a number of rules. Stress in these languages mark lexical meaning or grammatical class of the words. Ex:

Insight /'ɪnsaɪt/ vs. Incite /ɪn'saɪt/

Absent (Adj.) /'æbsent/ vs. Absent (V) /æb'sent/

Extract (N) /'æks'trekt/ vs. Extract (V) /æks'trekt/

Object (N) /'ɒbzekt/ vs. Object (V) /ɒb'zekt/

Increase (N) /'ɪnkrɪz/ vs. Increase (V) /ɪn'krɪz/

Attribute (N) /'ætrɪbjut/ vs. attribute (V) /æ'trɪbjut/

Note: The diacritic ' indicates primary stress.

### Rules for word-stress in English:

A set of stress placement rules determines the location of stress to a certain extent. However, there are words in the language that stand as an exception to these rules.

Stress placement rules for **stems**-

#### 1. Verbs and adjectives

- If the final syllable of a word is an open syllable with a short vowel or has only one consonant as the coda, stress will be placed on the penultimate syllable

Examples: 'polish, ex'plicit, 'rainy, i'conic, 'graphic, 'rigid, 'purple, as'tonish,

- In other cases, the final syllable will always be stressed

Examples: de'cide, re'lax, di'rect, main'tain, de'fend, se'vere

#### 2. Nouns

- If the last syllable of the word has a short vowel, the penultimate syllable will be stressed

Examples: nu'trition, hyper'tension, reve'lation, 'elephant, tele'vision, 'moment

- Stress will be on the final syllables when they have long vowels

Examples: dis'pute, dis'tance, po'lice, ba'loon, i'dea, can'teen, ma'chine

#### 3. For words that have more than two syllables and a long vowel on the final syllable, the antepenultimate syllable will be stressed

Examples: 'bachelor, 'afterwards, ac'celerate, cal'culation, 'organize, com'parative

When it comes to suffixes, they fall under three groups:

- Suffixes that do not affect the stress placement of the stem will have stress based on the rules mentioned above. Some of such suffixes are:

-ment:

ful'fil/ful'filment, 'govern/'government, a'ppoint/ a'ppointment

-er:

'speak/'speaker, co'mmand/ co'mmander,

-or :

di'rect/di'rector, 'act/'actor, in'vent/ in'ventor

-able :

re'ly/re'liable, 'comfort/'comfortable, 'laugh/'laughable

-ance:

dis'turb/dis'turbance, per'form/per'formance

-ly:

'happy/'happily, 'mother/'motherly, 'clever/'cleverly

The inflectional suffixes in English typically fall under this category. Past tense and past perfect aspect marker suffix –ed, progressive aspect marking suffix –ing, and plural marker –s do not affect the stress pattern of the stems.

-ed:

'polish/ 'polished

de'cide/ de'cided

main'tain/main'tained

-ing:

'polish/'polishing

de'fend/de'fending

re'lax/re'laxing

-s:

'elephant/'elephants

can'teen/can'teens

ma'chine/ma'chines

- Suffixes that attract stress, these suffixes carry the stressed syllables in the word

-ese:

'China/ Chi'nese

'Burma/ Bur'mese

'Assam/ Assa'mese

-esque:

'picture/pictur'esque

-ee:

em'ploy/employ'ee

'Address/Address'ee

- Suffixes that induce shift on the location of stress on the stem. Even though they are not stressed themselves, their addition causes stress to move within the stem

-ity:

com'patible/compati'bility

'moral/mo'rality

o'iginal/origi'nality

-ion:

i'magine/imagi'nation

'exam/exami'nation

'oppose/oppo'sition

-ian:

'physics/phy'sician

'magic/ma'gician

'library/li'brarian

-ic:

'icon/i'conic

a'cademy/aca'demic

-cal:

'technique/tech'nical

'grammar/gra'mmatical

Apart from these, there are many words made up of more than one stem morpheme. In such compound words, the first element is typically stressed.

Examples: 'football, 'breakfast, 'seafood, 'matchbox

### 8.2.3. Degrees of Stress:

In words with more than two syllables, all the syllables have varying degrees of stress. The rules stated above determine only the primary stress. Among syllables without primary stress, some will still be more stressed than others. For instance, in words like *exa<sub>ˈ</sub>mi<sub>ˈ</sub>nation*, and *res<sub>ˌ</sub>ponsi<sub>ˈ</sub>bility* - the syllables marked by the diacritic [ˈ] indicates the most prominent or stressed syllable, while the lowercase diacritic [ˌ] marks a prominence that is lesser than the main stressed syllable, yet greater than others.

The degree of stress is examined in terms of pitch rate, intensity, duration, and vowel quality. Primary stress is deemed to be distinctly louder and longer. It carries the highest pitch, and the nucleus of the syllable has full vowel quality. Primary stress is marked with a vertical line [ˈ] placed right before the syllable above the line.

Secondary stress is weaker than primary stress, mainly in terms of pitch. It is a heavy syllable with full vowel quality but is perceived to be weaker than the primary stress. It is marked with a vertical line on the bottom, [ˌ] right before the syllable.

E.g.- *ˌ*phone<sup>ˈ</sup>tician, *ˌ*sympa<sup>ˈ</sup>thetic, exa<sup>ˈ</sup>mi<sup>ˈ</sup>nation

Tertiary stress is located on syllables that are less prominent than primary and secondary stressed syllables, yet more stressed than unstressed syllables. They are not indicated by any mark. Unstressed syllables, on the other hand, have the lowest pitch, intensity, and duration. They are weak syllables and often have reduced vowel quality. They, too, are left unmarked.

Varying degrees of stress are more evident when we consider stretches of speech that are longer than words. When produced in isolation, words have their own stress pattern, each carrying a primary stressed syllable. When they are combined to form phrases or sentences, not all of them will be produced with the original word-level stress. Only some of the words will carry stressed syllables to maintain the rhythmic pattern. Such stressed syllables are referred to as sentence stress. Again, among these syllables, only one will carry the primary stress. Such **sentence stress** is usually located on words that contain most of the semantic content. This is why grammatical words like articles and determiners are usually unstressed. Similarly, personal pronouns, conjunctions, and auxiliary verbs do not carry stressed syllables. The stress syllables are located primarily on content words like nouns, main verbs, adjectives, and adverbs

### ***Check Your Progress***

1. Based on their internal structures, syllables can be classified as \_\_\_\_\_ or \_\_\_\_\_.
2. Sentence stress is usually located on words that contain \_\_\_\_\_.

#### **8.2.4 Rhythm:**

Just like walking and breathing, speaking is also rhythmic in nature. Speech in all languages seems to be regularly aligned to some kind of beat. This beat or rhythm, however, differs from language to language. Rhythm in language thus involves the occurrence of a particular feature at regular intervals.

According to Pike, languages of the world fall into two categories based on their rhythmic qualities- (i) **syllable-timed languages** and (ii) **Stress-timed languages**. In syllable-timed languages, syllables occur at regular intervals, which entails that all the syllables are equal in terms of duration. A few languages like French, Spanish, Turkish, Italian, Yoruba, and Korean fall under this class. On the other hand, stress-timed languages have stressed syllables occurring at regular intervals, i.e., there is always the same amount of time from one stressed syllable to the one that follows. The number and length of syllables that occur between stresses may vary.

Ex: *I 'need you to 'stay with me on 'Monday'.*

Thus, English is one of the stress-timed languages that have *iso-chrony* based on stress.

We already know that grammatical words in English are unstressed by default. Moreover, in polysyllabic words, there are a number of syllables without stress. These often undergo vowel reduction to maintain the exact timing between two stressed syllables. This further leads to complex syllable structure with consonant clusters on onset and coda positions.

#### **8.2.5 Foot and Rhythm:**

Rhythm in English is organized by means of a prosodic constituent called the **foot**. Prototypically, a foot is a unit consisting of one stressed syllable (Strong, S) and an unstressed syllable (Weak, W). Feet in which the stressed syllable occurs on the right are called **iambic** feet (W-S.) **Trochaic** feet are the ones with stressed syllables on the left (S-W.) Each foot comprises



one stressed syllable and all the unstressed syllables that fall between the previous and following stressed syllables. English utterances follow the rhythm of a foot. This can be represented using slashes as follows:

*I /'need you to /'stay with me on/ 'Monday. ' /*

Like all syllables being of equal length in syllable-timed languages, all feet ideally have equal duration in English. We may, therefore, say feet in English are isochronous. Even when feet carry a different number of syllables, their duration remains the same. This entails that if a foot has three syllables and another has one, the speaker will stretch the latter to maintain the exact timing. This is evident in feet with several unstressed syllables produced with reduced duration, resulting in a few phonological processes like *vowel reduction*, *assimilation*, and/or *deletion*.

Example:

a. */'Mike/ 'sleeps/*

b. */'Mike would have/' slept/*

Here, both (a) and (b) have two feet, despite having a varying number of syllables in the first feet. Since (b) has more syllables in its first foot, the stressed 'mike' will be made shorter to make time for the unstressed 'would' and 'have,' which are again pronounced with reduced vowels.

It is important to note that natural speech does not always strictly follow these regular patterns of rhythm. Pre-planned and organized speech tends to be more isochronous than spontaneous conversations. This is the reason why reading is more rhythmic than natural conversations that may be filled with hesitations, repetitions, speech errors, or false starts. Within literary texts, poetry is more rhythmic in comparison to writings in prose.

### **8.2.6 Rhythmic Alteration:**

In addition to stress timing and iso-chrony, rhythm in English is governed by another principle called rhythmic alteration. It is the appearance of stressed and unstressed syllables in alternating order.

However, it is quite clear that most of the time, utterances do not regularly carry alternating stressed and unstressed words. We may encounter several content words occurring together which originally carry stressed syllables. Similarly, a string of originally unstressed words may

also be present in utterances. In these cases, where rhythmic alteration is violated, specific rhythm rules are applied to ensure such ideal alteration of stressed and unstressed syllables.

1. When a sequence of content words occurs together, the stress of these words is dropped, making them unstressed.

Example:

In a sentence like - *'Jim's 'mother 'wants to 'visit 'Mike 'before 'Sunday*, where each word has word stress by being content words, some of the stresses are removed to have a more rhythmic utterance with alternating stressed and unstressed syllables. Therefore, the final production of this sentence will be- *'Jim's mother 'wants to visit 'Mike before 'Sunday*.

2. If a series of function words appear together, some of them are assigned stress to attain a regular rhythm.

Example:

*She would have been of 'great 'help*- this sentence has many function words in quick succession. These words originally do not have any word stress. However, stress is added in specific locations to achieve a natural rhythm in the speech. The sentence, therefore, will be produced with the following stress pattern; *'She would have 'been of great 'help*.

3. When two stressed syllables occur next to one another, the first one is moved to the preceding syllable from its original location to avoid a clash of stressed syllables.

Example:

The phrase *after'noon 'tea* becomes *'afternoon 'tea* to avoid clashing of stress. The same happens with, *Canto'nese 'student*- > *'Cantonese 'student*

### ***Check Your Progress***

#### **True or False.**

1. English is one of the stress-timed languages that have iso-chrony based on stress.
2. **Trochaic** feet are the ones with stressed syllables on the right.

### **8.2.6 Intonation:**

One of the significant supra-segmental properties of speech in most of the world's languages is intonation. When a person speaks, prosodic features like pitch, duration, and

intensity do not remain the same throughout the utterances. Due to the changes in these properties, the melodies in different sentences tend to be different. For instance, the tune one uses while asking questions is often different from that of a simple statement. Intonation refers to such melodies that stretch over utterances. It involves changes in supra-segmental features and accommodation of pauses within utterances. These supra-segmental variations are important because they may indicate sentence types or speech acts. This means we can identify whether an utterance is a question, a request, or an order. Which part of an utterance carries more prominent information can also be figured out from intonational properties. Intonation also gives out paralinguistic information like the attitude and emotion of the speaker. The meanings that are encoded in intonation are thus post-lexical, i.e., they are about the entire utterance rather than single words. Intonation can be defined in two ways: the broader definitions consider features like duration and intensity along with changes in pitch.

In contrast, narrow definitions of the term generally refer to pitch variations only. Languages that make use of pitch variations to encode linguistic meanings at the utterance level are called **Intonation Languages**. While there are languages where pitch changes may change the meanings of words, these are called **Tone Languages**. English falls under the former category of languages.

### **8.2.7. Forms of Intonation:**

Ladd (1996) defines intonation as the "use of supra-segmental phonetic features to convey post-lexical pragmatic meanings in a **linguistically structured** way." This suggests that intonation, like any other linguistic property, consists of categorical units. The phonological study of intonation thus involves identifying what constitutes these units and how they are combined to convey different meanings. For example, a question sentence in English is made up of a nuclear accent on the pre-final syllable and a rising tone at the right boundary of the sentence.

The idea that there are intonational units present in speeches has been pervasive throughout various phonological studies on intonation. The pauses that divide longer utterances often support this assumption. When speakers produce continuous utterances, they tend to divide the streams of speech into chunks. These chunks often correspond with syntactic phrases and can be consistently marked with certain phonetic cues within the language. These are called

**intonation groups, tone groups, or breath groups.** Cruttendan (1986) divides these criteria for identifying tone groups into two types: **External criteria**, cues present at boundaries of tone groups, and **Internal Criteria**, cues that are internal to the group.

**External criteria:** The most apparent external marker of a tone group is **pause** or **junction**. Instead of producing an entire stretch of speech in a single breath, speakers put varying degrees of pauses within tone groups. Pauses can be of two kinds-**unfilled pauses**, i.e., silence with no sound produced; and **filled pauses**. A filled pause in English generally involves the production of the sounds [ə] and [m]. Speakers tend to make these sounds in between pieces of speech. Such pauses can occur before words that have high semantic or lexical content. Speakers may also pause after producing the first word in an intonation group. However, junctures that are considered to be indications of an intonation group are the ones that occur at major constituent boundaries (like noun phrases or verb phrases)

The President of India/ is visiting Canada tomorrow.

Last time I came to London/and met my friends/ in our favorite restaurant.

Not all pauses hint at the presence of intonation groups. Pauses may also indicate hesitation or repetition, which makes it a less reliable cue. This makes it necessary to consider additional markers. **Anacrusis** and **final syllable lengthening** are two other external markers.

English speakers tend to produce unstressed syllables occurring at the beginning of an intonation group with a faster speed than other unstressed syllables. Such syllables are what we call 'anacrusis.'

*There's a 'protest going on in our university.*

Here, *there's*, and *a* are unstressed and are occurring at the beginning of the utterance. Hence they can be reduced to the extent that they become one syllable, and the vowel of the first syllable may be dropped as well:[ðzə]. The presence of anacrusis can be taken as cues for intonation groups.

*I met 'Ron yesterday/ and he was 'just having 'lunch.*

In the second intonation group, the first stress falls on *just*, and the previous syllables are produced with accelerated speed. Such enhanced speed from *and* will identify them as anacrustic and further mark the beginning of a new intonation group.

The final syllable of an intonation group is sometimes lengthened. Functional explanations of such lengthening include revising the already produced intonation group and planning motor movements for the next. Lengthening may also be a by-product of the final pitch movement carried by the last syllable.

**Internal Criteria:** The two internal criteria that need to be fulfilled for an utterance piece to be considered an intonation group are- the presence of at least one stressed syllable in it and pitch movement taking place at least on one of the stressed syllables in the group.

Stressed syllables on which the pitch changes its level (for example, from high to low) or direction (for example: falling or rising) are called **pitch accents**. When combined, all the pitch accents present in a tone group constitute its **whole tune**. The most prominent pitch accent within a tone group is called the **nucleus**, the one carrying the primary stress. In the majority of the cases, **the last pitch accent in a tone group is the nucleus in English**.

*He should have asked 'him first.*



Here, the large dots indicate all the stressed syllables in the sentence. Only the syllable /him/ qualifies to be a pitch accent since it involves a falling movement of the pitch.

However, **when** a word is supposed to be made prominent because it contains an answer to a question asked or introduces new information, or contradicts previously stated utterance, it will carry the nucleus even if it is not sentence-final.

In most languages, including English, the most important part of the post-lexical meaning is carried by the nucleus and the pitch accents that follow. Together they constitute what is called the **nuclear tone**. This part of the melody is grammaticalized, i.e., a particular nuclear tone is consistently produced by the speakers to convey a particular meaning.

### **8.2.9 Functions of intonation:**

**Grammatical Functions:** In English, intonation plays a significant role in offering pragmatic information about utterances made by its speakers. Pitch contours, in particular, can convey important pragmatic information. The rising contour occurring at the sentence-final

position is primarily interpreted as a marker of openness or non-finality, wherein falling contours encode certainty or closure. The recurrent pattern of falling contours at the boundary of statement utterances further justifies such interpretations. Consider the following examples:

*I have an exam next month.*

*She said she could not come.*

Similarly, interrogatives in English have a rising contour at the sentence's final positions.

*Are you going away?*

*What have you eaten?*

Properties of intonation may also provide cues for phrase structure. Intonation groups frequently correspond to syntactic constituent units like clause, Verb phrase, Noun Phrase, etc. Most commonly, intonation groups align to clauses which can be either simple statements or parts of complex sentences. Consider the following examples-

*/I'm very hungry./*

*In winters/ when the weather is gloomy/ people sit in the sun together/*

By looking at criteria like pauses, presence of pitch accents, and boundary tones, one can identify the intonation groups and syntactic phrases or clauses subsequently.

Apart from that, the intonation group may also align to syntactic units that are smaller than a clause. These can be long noun phrases or topicalized constituents.

Information structure: Speakers use various morphological, syntactic, or intonational strategies to package information in the utterances they are producing. The speaker may try attracting listeners' attention to a particular part of the utterance by making it prosodically more prominent. Similarly, whether the information present in the sentences is novel or they are already introduced in the discourse can be identified through intonational cues. Such focusing through intonation involves the placement of the nucleus on the part that is meant to be in focus. When no part of an intonation group is notably more prominent, it is said to be in **broad focus**. In this case, the nucleus falls on the last content word of the intonation group.

*Roy went all the way to the 'station.*

*The dance was really 'fascinating.*

*I will wait for the girl to 'come.*

On the other hand, utterances can contain parts with a **narrow focus**, which need to be more prominent than the other parts due to the nature of the information it carries. For example, when a person answers a content (wh) question, the answer involves new information to the discourse. In that case, the part in the answer that corresponds to the question word will be in focus. It will therefore carry the nucleus, the most prominent pitch accent in the sentence.

*A.: What have you eaten?*

*: I have eaten an 'apple.*

*B.: When is she coming?*

*: She is coming 'tomorrow.*

*C: Why did they go?*

*: They had to go because their 'boss was also coming.*

If the focused constituent is a phrase rather than a single word, the stress falls on the stressed syllable of the last lexical word.

*: What did the girl buy in our shop?*

*: She bought an expensive 'sweater.*

Likewise, when a speaker is offering information that stands in contrast to something previously stated in the conversation, they will make it more prominent than the rest of the utterance. This is called the **contrastive focus**.

*: I thought Bill got the job.*

*: Bill did horribly in the interview, so they gave it to 'John.*

The contrast encoded by the focused element can be an implied one as well.

*She 'said she would do it herself. (but she did not)*

*Mom will go by 'train to Mumbai. (not bus or flight)*

Attitudinal Meanings: Intonation serves as a clue to the speakers' emotions, moods, and attitudes. The intonation of utterances informs the listeners whether the speaker is angry, sad, or happy. Moreover, information about attitude is also carried by intonation; for example, whether the speaker is sarcastic, condescending, or welcoming can be understood through the intonational patterns present in their speech.

*a. The girl is pretty.*

*b. the girl is pretty*

When produced with a falling intonation (a), the same sentence indicates a mere statement of a fact. But, when it is produced with a falling, rising contour, it implies that the speaker has some kind of reservation in his/her opinion. The girl is pretty, but she has other qualities that the speaker does not entirely entertain.

*Are you going a<sup>^</sup>way?*

*Are you going a<sup>~</sup>way?*

Here, the one with a falling tone has serious or more business-like overtones, while the rising one suggests a more casual or friendly disposition on the part of the speaker.

However, unlike grammatical meanings of intonation, identification attitudinal information in the intonation of speeches is not highly reliable. The rate of diversity in intonation patterns for different emotions and attitudes across speakers is very high.

Local meanings of intonation contours: Nuclear tones can be made up of different types of pitch movements. Certain interpretations are often associated with these pitch contours. Some of the intonational meanings of these pitch movements are as follows:

- Falls [<sup>^</sup>]:

Low fall involves a step down of pitch from the pre-nuclear stressed syllable. A step up takes place right before the nuclear syllable for a high fall to be realized on the nucleus. The fall then is initiated on the nucleus, resulting in a steeper falling contour.



*She waited here for two ^hours*



*She waited here for two ^hours*



Both kinds of falls are associated with senses like 'finality, 'completeness,' and definiteness. This is why they are more recurring in the boundaries of the sentence-final intonation group than non-final ones (where rises are more common.)

*The doctor visits the clinic on ^Mondays.*

*I will do it for ^you.*

However, high falls indicate more interest, enthusiasm, and excitement on the part of the speaker.

Another pitch movement that belongs to the falling group is 'rising-falling.' A rising pitch movement takes place in the pre-nuclear space for this kind of fall to arise. Two meanings are mostly related to rising-falling nuclear tones. One is 'impressed,' another being a gossip.

*(He got a job) ^Did he! / A month after ^graduation! (impressed)*

*Have you heard about Joy and ^Elle? /They are ^engaged. (gossip)*

- Rises:

Just like falls, rising pitch movements too fall into three types- low-rise, high rise, and falling-rising. As mentioned earlier, non-final intonation groups usually have rising boundary tones. Therefore, Noun-phrases in subject positions, coordinating and subordinating clauses, and adverbial phrases will have rising contours on their right boundaries.

*The big black ^cat /suddenly went ^missing.*

*^Usually, / the doctor visits on ^Mondays.*

*I am feeling a little ^sad / because I did not get to ^see her.*

Low rises in the non-final tone group indicate greater oratory quality, suggesting reading in a formal manner. While high-rises are found in more casual and spontaneous utterances:

Rises are typically associated with interrogative utterances.

*Can you ˈhelp me?*

*Are you visiting the ˈchurch tomorrow?*

*She's ˈcoming, ˈisn't she?*

*Do you like ˈtea or ˈcoffee?*

Low-rise almost always occurs in echo questions. These are also called 'pardon questions' as well.

*(When are you going to call him?) When am I going to call ˈhim?*

*(Please try to reach my office by eleven) By ˈeleven?*

*(I am cooking pasta for dinner) cooking ˈwhat?*

*ˈhuh?*

*ˈpardon?*

High rises, on the other hand, communicate two kinds of meanings. One is contradiction or reservation:

*She ˌsaid she would do it ˈherself. (but she did not)*

The other one is self-justification and warning.

*I ˌthought he was ˈmarried. (and he was)*

*Be ˌcareful you may ˈfall.*

**Check your Progress**

1. When no part of an intonation group is notably more prominent, it is said to be in \_\_\_\_\_.
2. The most apparent external marker of a tone group is \_\_\_\_\_.

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### 8.3 Learning Outcomes

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After completion of this Unit, you should be able to determine which syllables in a word should be stressed. You should be able to know how to apply the rules of rhythm to the utterances they produce. You should also know the formal organization of intonational properties and should be familiar with the different interpretations associated with different intonation patterns in English

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### 8.4 Glossary

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**Anacrusis:** Unstressed syllables occurring at the beginning of an intonation group that are produced with a faster speed than other unstressed syllables. Ex: *There's a 'protest going on in our university.*

**Foot:** A foot is a prosodic constituent that allows a rhythmic organization of speech units. Prototypically, a foot is a unit consisting of one stressed syllable (Strong, S) and an unstressed syllable (Weak, W). Each foot comprises one stressed syllable and all the unstressed syllables that fall between the previous and following stressed syllables.

**Fundamental frequency:** A term frequently used in Acoustic Phonetics. It refers to the rate at which the vocal fold vibrates in a given amount of time. It is measured in Hertz (Hz.). Also written as  $f_0$ .  $F_0$  depends on several criteria, such as breath force and the size of the vocal folds.

**Iambic Feet:** Feet in which the stressed syllable occurs on the right are called **iambic feet**

**Pitch Accent:** Stressed syllables on which the pitch changes its level (for example, from high to low) or direction (for example: falling or rising) are called **pitch accents**.

**Stress timed language:** languages that have stressed syllables occurring at regular intervals, i.e., there is always the same amount of time from one stressed syllable to the one that follows

**Stress:** Stress refers to the relative prominence of syllables. In other words, some syllables are more prominent than others. These are called stressed syllables. This superior prominence can result from the higher pitch, longer duration, increased loudness, or a combination thereof.

**Supra-segmentals:** Refers to phonetic features that extend over speech units larger than sound segments. These include features like pitch, stress, and junctures that are relevant to units like syllables, words, phrases, and utterances.

**Syllable timed language:** Languages in which syllables occur at regular intervals. In such languages, all the syllables are equal in terms of duration. Ex: French, Spanish, Turkish, Italian, Yoruba, and Korean

**Trochaic:** Trochaic feet are the ones with stressed syllables on the left (S-W.)

**Whole Tune:** A combination of all the pitch accents present in a tone group

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## 8.5 Sample Questions

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### 8.5.1. Objective Questions:

#### (A) Fill in the blanks

1. Stress can involve changes in \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ or a combination thereof
2. Pitch is the auditory correlate of the acoustic feature called \_\_\_\_\_
3. Feet in which the stressed syllable occurs on the right are called \_\_\_\_\_ feet
4. In majority of the cases, the \_\_\_\_\_ is the nucleus in English.
5. The rising final contour is mostly interpreted as a marker of \_\_\_\_\_, wherein falling contours encode \_\_\_\_\_.

#### State whether the following statements are true or false.

1. In stress-timed languages, syllables occur at regular intervals, which entails that all the syllables are equal in terms of duration.
2. **Trochaic** feet are the ones with stressed syllables on the left.
3. Intonation groups frequently correspond to syntactic constituent units like clause, Verb phrase, Noun Phrase, etc.
4. Anacrusis is an internal marker of intonation.
5. French is a syllable-timed language.

### 8.5.2. Short Answer Questions:

1. Distinguish between fixed stress and free stress. Cite examples to justify your answer.
2. What is syllable weight? How is it determined?
3. Define broad focus and narrow focus.

4. What is syllable lengthening?
5. Define *rhythm*. How is *rhythm* different from *stress*?

### **8.5.3. Long Answer Questions:**

1. List the rules for word stress observed in the English language.
2. What are the rhythm rules in English that are applied to ensure rhythmic alteration in speech? Illustrate with examples.
3. Discuss in detail the functions of intonation. Cite examples.

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## **8.6 Suggested Readings**

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1. Ashby, M & Maidment, J. *Introducing Phonetic Science*. Cambridge: Cambridge University Press. 2005.
2. Cruttenden, Alan. *Intonation*. 2nd edition. Cambridge: Cambridge University Press. 1997.
3. Crystal, D. *Prosodic Systems and Intonation in English*. Cambridge: Cambridge University Press. 1969
4. Grice, M. & Baumann S. An introduction to intonation function and models. In J. Trouvain, & G. Ulrike (Eds). *Non-Native Prosody: Phonetic Description and Teaching Practice*. 2007. (pp 25-52)

## **Unit-9: Word-Formation, Morphemes and Allomorphs**

### **Structure**

#### **9.0 Introduction**

#### **9.1 Objectives**

#### **9.2 Words, Word forms and Word formation**

##### **9.2.1 Word-formation through inflection**

##### **9.2.2 Word-formation through derivation**

##### **9.2.3 Word-formation through compounding**

##### **9.2.4 Word-formation through lexical constructions**

##### **9.2.5 Word-formation and semantic change**

##### **9.2.6 Morphemes and word parts**

##### **9.2.7 Allomorphs**

#### **9.3 Learning Outcomes**

#### **9.4 Glossary**

#### **9.5 Sample Questions**

#### **9.6 Suggested Readings**

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### **9.0 Introduction**

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‘Words’ are familiar and fascinating constituents of a language. Words adopt different forms when humans string them in sentences. The proficient users of a language are not only aware of words and their meanings but also the forms that words can adopt in different contexts. The forms that words adopt to meet the textual and contextual requirements are products of an interesting process called ‘word-formation’. This process involves the creation of new words through inflections and derivations as well as other strategies available in the languages. This Unit introduces ‘word-formation’ as a set of lexical and morphological processes and offers illustrations from modern English. At first, it discusses the concept of ‘word’ from different perspectives that make it a topic of academic relevance. Next, this unit offers an understanding

of word-formation including a set of lexical and morphological processes that are discussed with examples from English. Various other processes including lexical process and compounding have been discussed under word-formation. The discussion on morphological processes under word-formation includes inflectional and derivational processes. Further, it discusses the concepts of morphemes and allomorphs from the standpoint of word-formation.

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## 9.1 Objectives

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- to introduce you to the concepts of word-formation, word forms and word parts.
  - to enable you to understand word-formation and its sub-types with illustrations from English.
  - to explain various word-formation processes and distinguish between seemingly identical ones through English examples.
  - to acquaint you with the concept of morphemes and allomorphs using illustrations from English.
  - to make you aware of the sources and mechanisms of new words and help them to classify new words under different categories of word-formation.
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## 9.2 Words, Word forms and Word-formation

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Languages are all about words. Proficiency in a language cannot be imagined without the knowledge of words and word forms and the processes by which new words and word forms are created. The words and word forms are created through a diverse process called the word-formation process. However, it is important to know what words are before understanding where they come from.

### **Words and Word Forms:**

Words are wonderful objects of study. Scholars interested in languages have always been fascinated by words. Language scholars, linguists, grammarians and lexicographers have treated words as an important topic for study. A reason that makes words interesting and relevant for the study is that they are recognizable as constituents of a language. The study of morphology in

recent decades has also moved from morpheme-based analysis and lexeme-based analysis to word-based analysis. The findings of language scholars, linguists and lexicographers have unravelled some universal properties of words and gave new dimensions to the understanding of words. Since the word-formation process involves operations on words and results in new words, so it is important to understand the concept of ‘word’ from different perspectives.

**Words are conventional and combinatorial:** Words are not mere strings of sounds and letters. The sounds/letters that combine to form a word follow the phonological rules of the concerned language. Words also combine with other words to express the meaning.

**Words are familiar and isolatable entities:** Words occur so frequently in language use that the speakers do not bother knowing them through definitions and theories. The native speakers of a language can easily identify words belonging to their language. They can identify the existing, and possible candidates from a set of words and also isolate the impossible candidates from the set of words and non-words.

**Words are meaningful and contextual:** Words carry meaning and content that can be referred to. Some words do not have an apparent meaning but they contribute to the meaning of an expression by performing grammatical roles. It is important to note that words without contexts are lexemes. The addition of inflectional affixes, derivational morphemes and other compounding lexemes result in a lexeme becoming a word.

**Words are classifiable and uncountable:** Words can be classified through various criteria such as grammatical category, number of morphemes, meaning, referent, function etc. Numerous classifications exist for words. Words can be simple or complex. A simple word or a simplex is a word that has only one lexeme. In contrast, a complex word is a combination of a simplex and one or more affixes. It is possible to count the total number of words in a written or oral text. Further, it is also possible to make a list of existing words in a language. However, considering the creation of new words through derivation and compounding, it is not possible to know how many words a language can have. The word-formation process renders a language the provision to have an infinite number of words. Therefore, words are treated as uncountable entities.



**Words have recognizable and predictable patterns:** Words permit inflection, derivation and compounding according to the existing rules of the language. The use of words in a sentence or context also follows the grammatical rules of the language. When words occur in contexts, it is possible to guess the other accompanying words. It can be said that words show valence and expectancy for other words that can combine them. For instance, consider the words, *sleep*, *eat*, and *request* in the following sentences. (i) We sleep at 8 PM. (ii) We eat chocolates. (iii) We request pens from teachers. In sentence (i) the word ‘sleep’ is intransitive and it does not need any other word. In sentence (ii) the word ‘eat’ is transitive and it needs another word (here *chocolates*). In sentence (iii), the word ‘request’ is ditransitive and requires two other words (here *pens* and *teachers*). Based on transitivity, the language users can predict words that are likely to follow in a situation.

**Identifying words and word forms:**

Words are building blocks of language that convey shared meanings or perform grammatical functions. Though words are highly familiar, it is not always easy to define them or even recognize or isolate them in spoken communications. In written texts, words are usually separated by white spaces and punctuation marks. Spaces and punctuation may help to identify words in languages like Urdu, Arabic and Persian but for languages such as English, French and Spanish that use the Roman script white spaces and punctuation are helpful in identifying words. On the contrary, the words are difficult to identify in spoken conversation as the boundaries are unclear. When the sound at the boundary of a word is influenced by the sound at the boundary of a neighbouring word, it becomes difficult to identify the intended words. In such a conversation, the hearer can identify the intended word by matching the context and by comparing it with the other known words. The patterns of stress, intonation and pause may be helpful in identifying spoken words.

**Lexemes and word forms:**

The term ‘lexeme’ refers to the most fundamental shape of a word from which new forms emerge through inflectional and derivational processes. Conventionally, lexemes are expressed through capital letters. The term ‘word form’ refers to a particular shape a lexeme or word acquires when it is used in a context. Word forms are physical realizations of a lexeme as they have phonological and orthographic shapes. For example, READ is a lexeme that can have the

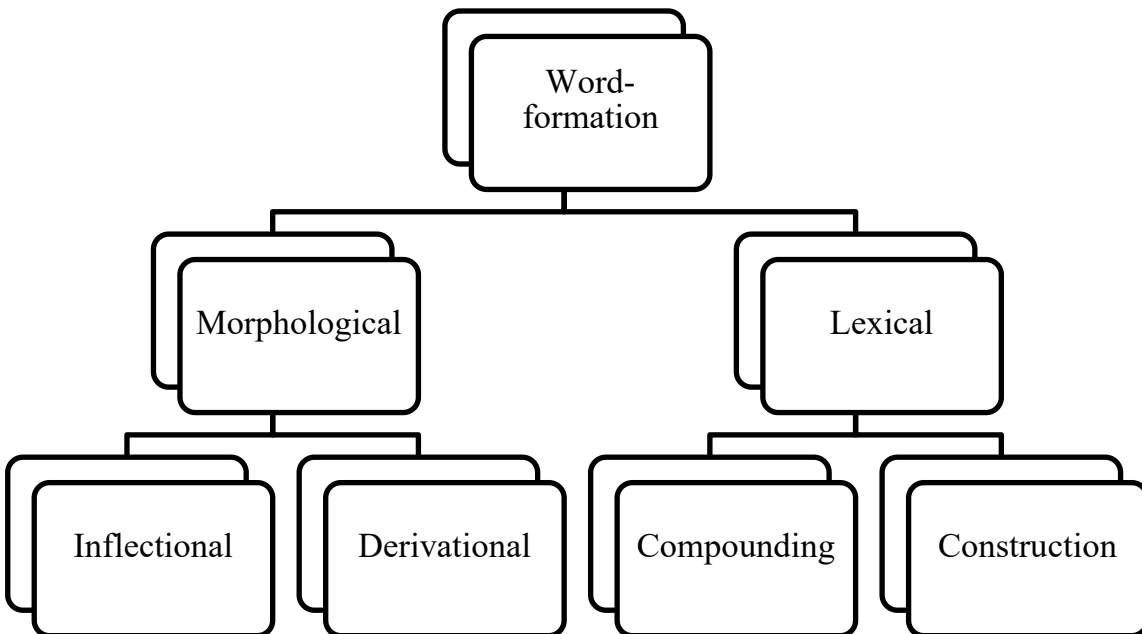
following word forms: *read* (verb present), *read* (verb past), *read* (verb past participle), *reads*, *reader*, *reading*, *readings*, *readership* etc. The lexeme is an abstract notion that helps us know the set of related word forms which are physically manifested. A manifestation of this set is a word form identical to the lexeme and this word form is called a citation form. If word forms such as *read*, *reads*, *reading*, *reader*, *readership*, etc. constitute a paradigm, the lexeme is the form *read* that is used for citation. The lexeme may be understood as a headword in a dictionary entry. For discussion and analysis, it is written in capital letters.

All words and word forms of a language put together constitute the **lexis** of the language. Lexis is an abstract set of all words of a language. **Lexicon** is also an abstract concept that describes a manner in which humans use words. An average proficient speaker of a language is believed to possess about fifty thousand words. The knowledge of these words and their usages is stored in the mind. This mental store is known as the mental lexicon or simply the lexicon. Occasionally, dictionaries, especially the electronically available ones are also called lexicons. However, dictionaries are no match to the mental lexicon. The term **lexicalization** refers to the process by which words express different concepts that evolve in a language. The pattern in which this process works is known as the **lexicalization pattern**. As a result, English has lexical items for the concept of brother but not for elder brother. In Hindi-Urdu, the word *bhaai* refers to brother and the word *bhaiyaa* or *bhaiijaan* refers to elder brother. Similarly, English has lexical terms for the concept of sister but not for elder sister. In Hindi-Urdu, the word *bahin* refers to sister and the word *didi* or *baaji* or *aapi* refers to elder sister. Evidently, English has lexicalised the concepts of brother and sister but not elder brother and elder sister. It is important to note here that the concept may exist even without being lexicalised. Concepts that are not lexicalised are expressed using compound words or multi-word expressions.

### **Word-formation:**

Words exhibit a host of interesting patterns that can be studied systematically. The students of language and linguistics would be naturally inclined to explore how words behave. Words are familiar entities, though they may require expert classification. Words and word forms are products of an interesting intellectual process that comes naturally to proficient language users. This process is called the word-formation process. Thus the term 'word-formation' refers to the creation/development of new words. It is an interesting process that

shows recognizable patterns and follows linguistic rules. This process utilizes the existing word forms and morphological rules. Broadly, the word-formation process can be classified as morphological word-formation and non-morphological (lexical) word-formation. Technically, word-formation can refer to either creation of new words/lexemes or the creation of derivatives of existing words/lexemes. Based on this, all morphological processes including inflection and derivation would qualify as word-formation processes. Besides lexical processes such as compounding and construction are recognized processes of word-formation. The list of the processes remains non-exhaustive. Therefore, classifying them into logical sets is helpful in understanding. Illustration-1: Classification of word-formation processes



Considering word-formation several processes exist in natural languages, some of these processes are universal while others are exclusive to some languages. The word-formations are of the following types: Word-formation through inflections, word-formation through derivation, word-formation through compounding, word-formation through processes such as coining, blending, acronyms, abbreviation, back-formation, conversion etc. Let us examine some commonly prevalent word-formation processes.

### 9.2.1 Word-formation through inflection:

Word-formation through inflections is a very common process. This process is applied when a lexeme is used in sentential context and becomes a word. In the process, the lexeme also acquires different permissible word forms that have the status of words. Accordingly, a host of words and word forms are possible through the inflectional process in a single lexeme. For example, consider the lexeme SERVE. This lexeme can produce the following words through inflection: *serve*, *serves*, *serving* and *served*. Though the words produced are related, they would be treated as words/word forms as they contain information and contribute to the understanding of the meaning of an expression. Word formation through inflection would use a base form that can occur freely and a bound morpheme that expresses information relevant to tense, aspect, gender, number, mood etc.

### 9.2.2 Word-formation through derivation:

The derivation is a productive word-formation process that involves the addition of derivational morphemes or affixes to a base form to produce a new word. When derivational morphemes or affixes are added to a base, a new word is created whose meaning and function may be different from the base. For example, consider the following sets:

Set-1: New words derived by adding *able*

Prefer	-able	Preferable
Wash	-able	Washable
Eat	-able	Eatable
Love	-able	Lovable
Fashion	-able	Fashionable

Set-2: New words derived by adding *ment*

Develop	-ment	Development
Encourage	-ment	Encouragement
Excite	-ment	Excitement
Catch	-ment	Catchment
Refine	-ment	Refinement

Set-3: Similarly new words can be derived by adding *-ive, -ion, -ance, -ster and -ful*

Act	-ive	Active
Confuse	-ion	Confusion
Resist	-ance	Resistance
Young	-ster	Youngster
Fear	-ful	Fearful

Set-4: Similarly new words can be derived by adding *Be-, En-, Em-, A- and Dis-* to existing lexemes/words

Be-	Friend	Befriend
En-	Dear	Endear
Em-	Power	Empower
A-	Sleep	Asleep
Dis-	Appear	Disappear

The above sets of English words demonstrate how derivational morphemes as affixes provide new words.

### 9.2.3 Word-formation through compounding:

Compounding is a word-formation process that involves combining two words/lexemes and producing new words/lexemes called compounds. The result of this process is a new word that has one accepted meaning. For example, consider the following words: *handshake*, *long-term* and *solar light*. Orthographically, compound words can appear in the following three forms:

- As single words: For example, keyboard, playground, classroom, football and railroad are compounds that are written as single words.
- As hyphenated words: For example, day-to-day, in-laws, check-in, short-term, and part-time are compounds written with a hyphen.
- As multiple words: room boy, science fiction, star wars, school teacher and shopping mall are compounds written with space between the combining words/lexemes.

Based on the orthographic criteria, compounds can be classified as closed compounds, hyphenated compounds and open compounds. Closed compounds are written as single words, hyphenated compounds use a hyphen between the joining lexemes and open compounds have space between the joining parts. The conventions for writing compounds as closed, hyphenated and open forms are tricky. Knowing the orthographical convention for compounds can help in preventing ambiguities and misinterpretations in written texts. Still, some compounds are written in two ways and both may be correct. As a historical process, compounds are first written as open compounds. With the passage of time, they are written as hyphenated compounds. Finally, they start appearing as closed compounds or single words.

The preceding paragraphs explained ‘compounds’ as words that are products of two or more words/lexemes coming together and forming new words. The compounds created may or may not be related to the combining lexemes/words. Compounds allow inflexions and show headedness. This means compounds allow agreement on number and gender and also allow the addition of lexemes/words. Though compounds have two or more lexemes, one of the lexemes is the head. In English, the head of the compound is usually the lexeme on the right-hand side. For example, the word ‘email id’ is a compound whose head is *id*, ‘social media profile’ is a compound whose head is the word *profile*, and ‘luxury car designer association’ is a compound

whose head is the word *association*. Let us understand this development of a compound through the following example:

{Electronic}+{mail}= Email. The word email is a compound that is used as a singular noun. It can become plural by adding a bound morpheme {s}. Accordingly, {email}+{s} = emails. Similarly, the compound email is used as a verb and allows various declensions by adding bound morphemes such as {s}, {ing} and {ed} to produce words like emails, emailing and emailed. Now, the words 'email' and 'tracking' can combine to produce the compound email tracking. Similarly, {email}+{tracking}+{service} would produce the compound email tracking service.

Compounding is a productive type of word-formation process that has diverse manifestations. Classifying them in different groups helps in understanding their vast occurrences. One way to classify compounds is by examining the head of the compound which can be either within the compound or outside it. Based on the semantic head or headedness, compounds can be endocentric or exocentric or copulative. When the semantic head is inside the compound, it is known as an **endocentric compound**. Further, an endocentric compound has one headword and other dependent words. The endocentric compounds behave according to the headwords inside them. For example, *handbag*, *classroom*, *textbook*, *elder sister* and *pillow cover* are endocentric compounds. When the semantic head of a compound is outside the compound, it is known as an **exocentric compound**. Exocentric compounds are also known as headless compounds. The semantic and grammatical behaviour of exocentric compounds does not correlate with their parts. For example, *breakfast*, *pickpocket*, *flyover*, *spoilsport* and *makeover* are exocentric compounds. When the headedness of a compound is not obvious and equally divided between two or more words, it is said to be a **copulative compound**. The copulative compounds can be represented through hyphenated forms (also known as appositional compounds) or coordinated copulative forms (also known as coordinative compounds). For example, *sex ratios*, *sleepwalk*, and *bittersweet* are examples of copulative compounds that are appositional. However, *actor-producer*, *producer-director* and *Marxist-Leninist* are examples of copulative compounds of coordinative nature.

Compounding and derivation are two very productive word-formation processes that produce new lexemes. The nature of compounding is lexical as it involves coming together of

two lexemes to produce a new lexeme. The nature of derivation is morphological as it involves combining a lexeme and an affix to produce a new lexeme. Compounding produces a compound lexeme which can be split into two stems/roots while derivation can occur even within compounds. The new lexeme produced through compounding and derivation may belong to the grammatical category of the combining stems or may belong to a different grammatical category.

#### **9.2.4 Word-formation through lexical constructions:**

The most recognized process for word-formation is lexical construction which refers to the creation of new words through a host of processes such as conversions, abbreviations, acronyms, clipping, blends, borrowing etc. Let us examine some of the common ones.

**Abbreviation:** A type of word-formation that involves taking a letter from several base forms. The outcome of this process is spelt out letter-by-letter. The term ‘abbreviation’ refers to the shortened form of a word or expression. For example, the abbreviation WHO stands for the World Health Organization. Abbreviations are also known as Alphabetism and Initialism.

**Acronyms:** A type of word-formation in which the letters of independent words/lexemes are put together like a word of the concerned language. Acronyms are new words and the process resembles abbreviations. However, in abbreviation, the letters are spelt out individually whereas in acronyms they are spelt collectively as words. For example, LASER, UNICEF and SAARC are acronyms. The acronym LASER stands for *Light Amplification by Stimulated Emission of Radiation*. Similarly, the acronym UNICEF stands for *United Nations International Children’s Emergency Funds*. And, the acronym SAARC stands for *South Asian Association for Regional Cooperation*. Evidently, LASER, UNICEF and SAARC have letters of the alphabet that can be read as words.

**Back-formation:** A type of word-formation that involves the removal of a bound morpheme (suffix or prefix) from an existing word. For example, the word ‘act’ is formed from the word actor, ‘edit’ is formed from the word *editor*, ‘abduct’ is formed from the word *abduction*, ‘advisor’ is formed from the word *advisory* and ‘televise’ is formed from the word *television*.

**Blends:** A type of word-formation that involves parts of two or more words coming together and creating a new word. For example, consider the following: ‘smog’ is a combination of parts of *smoke* and *fog*, ‘brunch’ is a combination of parts of *breakfast* and *lunch*, and ‘infotainment’ is a



combination of parts of *information* and *entertainment*. Blends resemble the process of compounds to some extent. The difference between blends and compounds is that blends are single lexemes produced from parts of two words/lexemes whereas compounds are new lexemes created from the combination of two words/lexemes.

**Borrowing:** A type of word-formation that involves loaning or adoption of words from other languages. When a word is borrowed from one language to another it is called a loanword and the language which it adopts is called the host language. Technological developments, cultural artefacts and knowledge systems are exchanged when contact between people speaking different languages happens. English has benefitted a lot from this process as it has borrowed words from several languages of the world. For example, consider the following: the word ‘algebra’ is an Arabic borrowing, the word ‘junta’ is a Dutch borrowing, the word ‘debut’ is a French borrowing, the word ‘mafia’ is an Italian borrowing and the word ‘banana’ is a Spanish borrowing.

**Clipping:** A type of word-formation process that involves truncation, shortening or cutting off a part of an existing word. Clipping is also known as truncation. For example, consider the following: ‘demo’ is a truncated form of *demonstration*, ‘lab’ is a shortened form for *laboratory* and ‘Joe’ for *Joseph*.

**Coining:** A type of word-formation process that involves the creation or invention of new words. Such words never existed before. As a process, coining adds new words to the lexicon. The act of coining is known as coinage and it depends on various socio-cultural and linguistic factors. Sometimes, creative writers and literary scholars invent and introduce new words that become part of the lexicon.

**Conversion:** The term conversion refers to a word-formation process that involves the change of grammatical category of an existing word. This process causes an existing word to change its class. For example, consider the following sentences in set 1 & set 2:

Set-1

- i. Let us *walk* slowly.
- ii. Let us go for a *walk*.

In set-1, the word walk serves as a verb in the sentence (i) and as a noun in the sentence (ii).

Set-2

- i. I want to *download* a song.
- ii. Please inform me when your *download* is over.

In set-2, the word download serves as a verb in sentence (i) and as a noun in sentence (ii). Verbs becoming nouns and vice versa are instances of conversion. Conversion is a common word-formation process and is also known as zero-suffixation and transposition.

**Eponyms:** Eponyms are words whose etymology is linked to the name of a famous person or place. Eponymy is the creation or derivation of names and words from real or fictitious persons and famous personalities. It is a word-formation process that involves the creation of words from proper names. Often brand names and technological components acquire the form and behaviour of regular words. Eponyms function as conceptual words and have generic descriptions. For example, consider the following: the word ‘watt’ referring to a unit of power and is derived from James Watt, the place name ‘Washington DC’ is derived from George Washington, the word ‘Disneyland’ is derived from Walt Disney, the name ‘Eiffel Tower’ is named after Gustave Eiffel and the word ‘diesel’ is named after Rudolph Diesel.

### 9.2.5 Word-formation and semantic change:

Words can have multiple meanings and usages. Also, the shades of meaning or variations in usage of words can change with time. Sometimes words acquire new meanings and features. Sometimes words lose a shade of their meaning or features. As a result, the phonological form including spelling and pronunciation remains intact but the semantic value or function changes. Besides, addition or deletion of a shade, the change in the meaning of words can be ameliorative or pejorative. **Amelioration** refers to a historical process by which the existing meaning of a word undergoes a positive change. For example, consider the word ‘nice.’ Initially the word ‘nice’ referred to foolish, simple, ignorant and absurd persons. As a result of amelioration (also known as melioration or elevation), the word ‘nice’ underwent a positive change and started to mean kind and friendly persons. Amelioration causes elevation and positive change in the

meaning of words. In contrast, **pejoration** refers to a historical process in which the existing meaning of a word undergoes a negative change. For example, consider the word 'silly.' In past, the word 'silly' referred to a happy and lucky thing or person. As a result of pejoration, now the word 'silly' refers to foolish person. Besides amelioration and pejoration, semantic change can also occur in the form of metaphorisation, metonymisation and generalisation. Metaphorisation refers to the creation of such words whose first occurrence is metaphoric in nature and due to repeated usage, the metaphor becomes a word in the language. Similarly, metonymisation is a process by which words are created due to reoccurring use of a metonym. Generalisation also refers to such instances when part or member or aspect or a feature of an entity or phenomenon is used to refer to the entire object or phenomenon. The regular use of language involves figures of speech including similes, metaphors and metonymies. However, when such instances of regular language use become highly prevalent and canonised words undergo semantic change, new words are created. Accordingly, metonymisation is a semantic change that makes part of an object or an aspect of a thing suitable for referring to the whole object or thing. A point to note here is that metonymisation as a process of semantic change uses the part-whole relationship of words.

When words undergo semantic changes and the phonological forms remain intact, it becomes difficult to decide whether new words are created or old words have acquired new meanings. Accordingly, it becomes difficult to choose whether semantic change is also a type of word-formation.

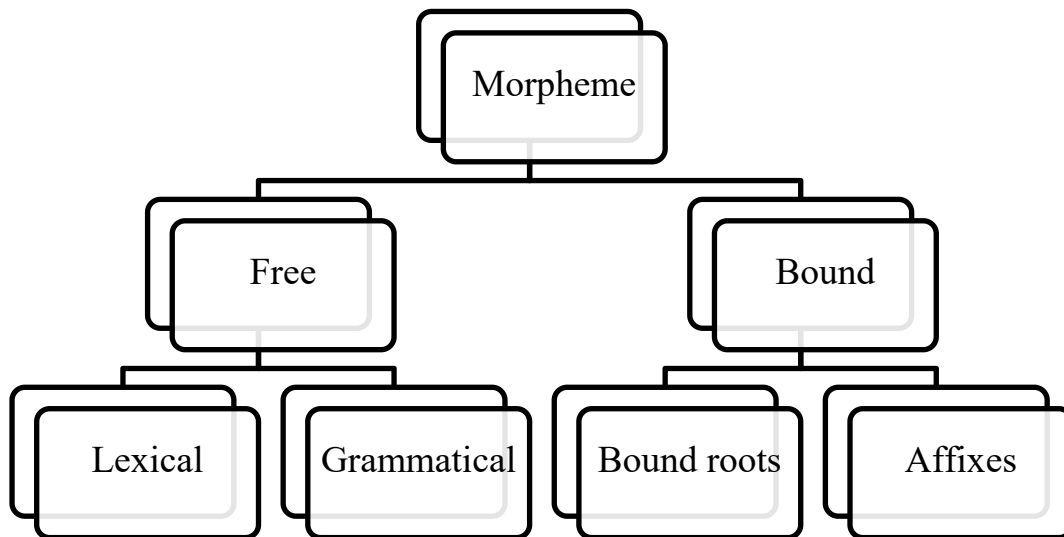
The academic interest in words is not new. Scholars have taken interest in words for as long as they have taken interest in language. The evidence of scholarly interest in words dates far back. Panini's monumental works provide word-formation rules for Sanskrit and feature among the oldest discussions on word-formation.

Though word-formation refers to a process by which new words are created. The list of processes usually referred to as word-formation processes may not exhaustively cover all processes by which words are created. Some processes producing words may still remain outside the corpus of recognized word-formation processes.

### 9.2.6 Morphemes and word parts:

Morphemes are abstract units that are considered indivisible and isolatable. Morphemes carry semantic meanings or perform grammatical functions. Morphemes may also be perceived as words or word parts that are represented through curly brackets. A morpheme is also represented through a hyphen placed on its boundary. The placement of a hyphen on the left side or right side or both sides indicates the likeliness of addition on that side or both sides. A word form such as indivisibility has the following morphemes: {in} {divide} {sible} {ity}. The morphemes of this word form can also be represented as in-, -divide-, -sible, and -ity. The hyphen in these morphemes indicates the side on which the addition of morphemes is possible. The morpheme-based analysis of languages is an age-old technique that offers insights into the structure of words and word-formation processes. Morphemes are isolatable and classifiable on the basis of the structure they have in the word, the meaning they add, and the grammatical function they perform. Based on the role, morphemes are classified as free morphemes and bound morphemes.

Illustration 2: Classification of morphemes



**Free morphemes:** are morphemes that can occur independently as word forms whereas bound morphemes are morphemes that cannot occur freely as word forms. For example, consider the word ‘reappearances’ as a combination of several morphemes. Reappearances can be analyzed as

a combination of {re}+{appear}+{ance}+{s} where {appear} is a free morpheme and the other three are bound morphemes. The free morphemes can occur as words whereas bound morphemes can occur as affixes and word parts. Based on content and function, the free morphemes can be further classified as lexical morphemes and grammatical morphemes. The bound morphemes can occur in combination with free morphemes as affixes. Based on shape and function, the bound morphemes can be further classified into bound roots and affixes. Free morphemes can stand alone as words, whereas bound morphemes can occur as word parts only. Free morphemes can occur independently as meaningful or grammatical words. For example, consider the following: *go, call, she, in, read* and *good*. Free morphemes are of two types : lexical morphemes and grammatical morphemes.

**Lexical morphemes:** are free morphemes that carry semantic contents or meanings. All monomorphemic nouns, verbs adverbs and adjectives would qualify as free lexical morphemes. The set of lexical morphemes is an open and ever-growing set that comprises all content words. For example, *call, write, bell, night, good, and heavy*.

**Grammatical morphemes:** are free morphemes that may not have semantic contents but contribute to meaning and perform grammatical functions. All monomorphemic words including pronouns, prepositions, determiners, etc. would qualify as free grammatical morphemes. The set of grammatical morphemes is a closed and finite set. For example, *you, we, in, for, the, and an*.

**Bound morphemes:** are morphemes that cannot occur independently. Bound morphemes always occur as word parts because they are attached to free morphemes. For example, consider the comparative degree marker {er} in the following adjectives: *higher, tighter, bigger, heavier* and *lower*. Bound morphemes are of two types: bound roots and affixes.

**Bound roots:** are morphemes that are dependent on free morphemes to become relevant and meaningful. Bound roots can precede or follow other morphemes/affixes. For example, consider the morpheme {en} in the words such as *enable, encourage, endangered, enslave* and *enlist*. The instances of bound roots are not so common except in loanwords from Latin and Greek, however, they are highly productive in the word-formation process. For example, {socio} in the words like *sociology, sociolinguistics, socio-economic*, etc is a bound root. The term **affixes** refers to a set

of bound morphemes that occur as prefixes, suffixes, infixes and circumfixes. Prefixes are added before words or roots to produce new words. For example, {in} in the word *inconsistent*, {dis} in the word *disappear*, {un} in the word *unfortunate*, {de} in the word *derecognise*, and {re} in the word *resurface* are prefixes. In contrast, suffixes are added after the word or roots to produce new words. For example, {less} in the word *fearless*, {full} in the word *beautiful*, {ity} in the word *severity*, {ly} in the word *simply* and {ise} in the word *privatise* are suffixes. Infixes are bound morphemes that are inserted within the words/roots whereas circumfixes are affixes that appear on either side of words/roots. It is observed that the instances of prefixes and suffixes are common in English morphology whereas the instances of infixes and circumfixes are rare. The process of adding an affix to an existing word or root for creating new words is called **affixation**.

### 9.2.7 Allomorphs:

Morphemes are the smallest units of a morphological analysis. These units are conditioned by phonological, semantic and grammatical factors. Morphemes are abstract in nature and their physical realisations are known as morphs. Sometimes a morpheme can have two or more physical realisations known as allomorphs. For example, consider the plural marker in the following word forms: *tests*, *walls*, and *benches*. In these word forms, the plural markers –s and –es in these word forms represent the plural morphs {s}, {z} and {iz} respectively. These morphs are different phonological and orthographical realisations of a single morpheme. They have different shapes, but an identical semantic value or grammatical function. Therefore, these forms are called allomorphs. The term **Allomorphy** refers to the phenomenon or condition when a morpheme has two or more phonetic realizations. Again, consider the past tense markers in the following word forms: *asked*, *bowled*, and *bolted*. In these word forms, the past tense marker –ed represents the morphs {t}, {d} and {tid} that have different shapes but an identical semantic value or grammatical function. Again, these morphs are different phonological and orthographical realisations of a single morpheme. The phonetic realizations in such conditions are called allomorphs and the phenomenon is called a Zero of Allomorph. In morphemic analysis, a zero allomorph or null allomorph refers to a morphological condition when the phonetic realization of a morpheme is null in its place and is conditioned by some rules.

***Check your progress***

1. Consider the definite article 'the' and the indefinite articles 'a' and 'an' of English. The articles have an identical function but different phonological realizations. Therefore, the articles 'a', 'an' and 'the' of English are

- (a) Morphs   (b) Morphemes   (c) Allomorph   (d) Words

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### **9.3 Learning Outcomes**

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This Unit introduced you to word-formation, morphemes and allomorphs, three very important topics of morphology. At the end of this Unit, you should have got acquainted with the concept of words and word-formation from different standpoints. Following the discussion on words and word-formation processes, the unit discussed the concept of morphemes and allomorphs with suitable illustrations from English. After completing this Unit, you should have understood where words come from. You should have also understood the concept of words and word forms as well as the different types of word-formation processes including inflection, derivation, compounding and other lexical processes.

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### **9.4 Glossary**

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**Affixes:** Bound morphemes that are added to free stems for the creation of new words.

**Allomorphs:** Allomorphs are two or more phonetic realizations of a morpheme. Variants or different phonological realizations of a morph are called allomorphs. For instance, the morph -ed indicating a past tense marker has two allomorphs /d/ and /t/ in words like bowled and asked respectively.

**Allomorphy:** A phenomenon in which two or more phonetic realizations are available for a given morpheme.

**Compounding:** A word-formation process that involves the combination of two or more simple words/lexemes.

**Derivation:** A morphological process in which free morphemes combine with bound morphemes and produce new words.

**Inflection:** Also known as inflection, flection and accidence, inflection is a morphological process that involves the combination of a free morpheme with bound morphemes resulting in the production of grammatically related word forms.

**Lexicon:** An average speaker knows about 50 thousand words. The knowledge of words and their usages is stored in the mind. This storage is known as the (mental) lexicon.

**Morpheme:** A minimum unit of meaning or grammar that can be isolated and analyzed.

**Morphology:** It refers to the scientific analysis of the internal structure of words and word parts.

**Word:** The term word refers to a string of letters or sounds that can occur freely and convey meaning or perform a grammatical function in a sentence.

**Word-formation process:** A set of processes that create or derive new words.

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## 9.5 Sample Questions

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### 9.5.1 Objective Questions:

**A. Examine the following sentences and state whether they are true or false.**

1. Words are mere strings of sounds and letters.
2. Compounding is a word-formation process that involves creation of a new lexeme by combining two lexemes.
3. Bound morphemes can stand alone as words.
4. Semantic change cannot be treated as a word-formation process
5. Zero allomorphs have phonological realizations but no semantic value or grammatical function.

**B. Fill in the blanks with suitable words.**

1. Blending is a ..... process.
2. The word screw driver is an example of ..... compound.

**C. Multiple Choice Questions:**

1. The word NATO stands for North Atlantic Treaty Organization. This kind of word-formation is an example of .....

- (a) Abbreviations                      (b) Acronyms





## Unit-10: Free and Bound Morphemes

### Structure

#### 10.0 Introduction

#### 10.1 Objectives

#### 10.2 Types of Morphemes

##### 10.2.1 Free Morphemes

##### 10.2.2 Open Class

##### 10.2.3 Closed Class

##### 10.2.4 Bound Morpheme

##### 10.2.5 Affixes

#### 10.3 Learning Outcomes

#### 10.4 Glossary

#### 10.5 Sample Questions

#### 10.6 Suggested Readings

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### 10.0 Introduction

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In the previous Unit, we found that morpheme is a meaningful unit of a word. “A morpheme is classically defined as the smallest meaningful unit of morphological analysis” according to Bauer & Lieber. The adjective *national* can be divided into two parts *nation* and *-al*. *Nation* is an independent morpheme representing noun, and *-al* is a morpheme that cannot stand alone like other word categories, i.e. noun, pronoun. The morpheme *-al* has changed the root noun into an adjective in the above example- *National*. This process may not always be the same. For example, in the *proposal*, the root is the verb category- *propose* and by adding the morpheme *-al*, it turns into *proposal*, which is a noun. Some morphemes, e.g. *Azharuddin*, *Sachin*, *pen*, *fan*, *mobile*, *phone*, can stand alone, and some morphemes cannot stand alone, e.g. *-ism*, *-ity*, *-ly*, *-ing*.

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### 10.1 Objectives

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This Unit is designed to fulfill the following objectives:

- to briefly discuss the different types of morphemes

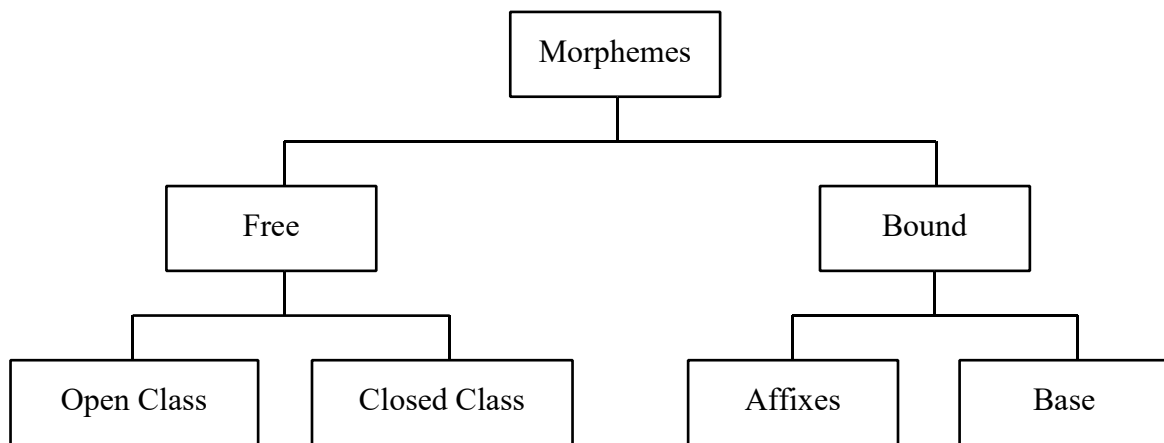
- to introduce the concept of free morphemes
- to provide an overview of the concept of bound morphemes
- to enable students to analyse morphemes

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## 10.2 Types of Morphemes

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Traditionally, morphemes can be divided into two groups based on their autonomy: free and bound morphemes.



The concept of free and bound morpheme can be understood from the task: Segment the words below into minimal meaningful units (try yourself first)

1)

- a. *Cricketer, player*
- b. *Balling, fielding*
- c. *Government, engagement*
- d. *Wanted, gifted*
- e. *Disestablishment, dishonesty*

It is clear that in (1), words can be classified into different categories, and their construction is different. The best way to identify the morpheme is to consult an etymological dictionary, as suggested by Katamba (1993, p. 21), which provides information about the origin and history of words. One such dictionary can be accessed through the link - <https://www.etymonline.com/>. The above words can be analyzed as follows:

- a. *cricket-er, play-er*
- b. *ball-ing, field-ing*
- c. *govern-ment, engage-ment*
- d. *want-ed, gift-ed*
- e. *dis-establish-ment, dis-honest-y*

The above-cited examples, *cricket, ball, field, govern, engage, want, gift, establish*, cannot be segmented further or divided into more meaningful units. Also, these morphemes can occur alone and can be classified as words. These are called free morphemes. In contrast, morphemes like *-er, -ing, -ment, -ed, dis-*, and *-y* are not meaningful on their own but must be attached to another morpheme to be meaningful. The morphemes that cannot express meaning independently are called bound morphemes.

***Check your progress***

1. How many types of morphemes are there? Name them with examples.

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2. What is the best way to identify morpheme?

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**10.2.1 Free Morphemes:**

As discussed above, free morphemes can occur alone and have the meaning of a word. Based on the structural properties, words can be classified into two types: open-class and closed-class words. Consider the sentences below:

2)

- a. *I am an Indian citizen.*
- b. *I study at the Maulana Azad National University.*
- c. *My home is in Hyderabad.*
- d. *You may be familiar with the Hyderabad.*

Task -

- a. *List out the words in the sentences above*
- b. *Organise the words according to their part of speech*

The analyses of the above sentences can be as follows:

Azad, citizen, Hyderabad, I, Indian, Maulana, My, National, University, You, am, an, be, familiar, home, in, is, May, study, the, with.

**Word Categories:**

Article : *an, the*

Preposition : *with, in*

Pronoun : *I, my, you*

Noun : *Maulana Azad National University, home, Hyderabad, citizen*

Verb : *study, am, may, is*

Adjective : *familiar, Indian*

From the above example (2), we can observe that some words provided content to the sentence, and others meaningfully connected them in a grammatical sentence. The words which represent nouns, verbs, and adjectives are called open class words or content words. The terms “open class words” or “content words” refer to the words that represent nouns, verbs, and adjectives. Words that express the grammatical function are called closed-class words or functional words. Linguists identify these forms by studying their morphological structure and their syntactic position in a sentence.

**10.2.2 Open Class:**

New words can be added by borrowing and coining primarily in the following four grammatical categories- Noun, Verb, Adjective and Adverb. For example, in October 2021, a few entirely new headwords appeared in the Oxford English Dictionary. For example-

*Degrowth, n.*- “The action of spoiling or destroying something.”

*Cogeneration, n.*- “The Generation of electricity and useful heat jointly; esp. the utilization of the steam left over from the electricity generation for heating.”

As these word categories are open to including new entries, they are known as open-class categories. Check the following examples in Table 1:

Open Class Words	Example
Noun	<i>Pen, paper, Kabadi</i>
Verb	<i>Talk, sacrifice, give</i>
Adjective	<i>Peaceful, nice, good</i>
Adverb	<i>Carefully, energetically, skillfully</i>

(Table 1: Open Class words in English)

These words *pen, talk, good, skillfully* have meaning of their own are known as lexical morphemes or content words. These word categories represent the sentence's meaning compared to the other categories (a/an, to/into) of words.

**Task:** Try to find a few new word entries in *Oxford English Dictionary* online and check their categories. You can check- [www.oed.com](http://www.oed.com).

### Nouns:

A noun is a term that refers to a person, place, or thing by its name. In morphology and syntax, we classify words according to their behavior and role in a sentence, not by their meaning in isolation. As a result, we must ask: What inflectional morphemes does a noun possess? Additionally, what is a noun's syntactic distribution?

Many nouns add the suffix /-s or -z/ to the noun to form the plural. Like in example 3

#### 3a)

- a. *orange – oranges*
- b. *pen – pens*
- c. *song songs*

On the other hand, if the singular noun ends with *—ch, -s, ss, -sh, -x, or -z*, the suffix /-es/ is added to form plurals like in example 3b:

#### 3b)

- a. *dress – dresses*
- b. *fox – foxes*
- c. *bench – benches*
- d. *dish – dishes*

In syntax, a noun—whether singular, plural, or mass—can occur in a phrase referred to as a noun phrase; for instance,

4)

- a. *the ball, the balls*
- b. *the bat, the bats*
- c. *the wonderful innings*
- d. *the air*
- e. *the fresh air*
- f. *the water*
- g. *The blue water*

**Verbs:**

A verb is commonly defined as a word that describes an action, state, or occurrence. It is also defined as the main predicate of a sentence. In English language, a verb form may vary as per the noun or agent whose action, state or occurrence it describes. For example

- a. *I eat rice.*
- b. *He eats rice.*

Moreover, verbs represent the tense and aspect of sentences. Tense can be understood from the past tense morpheme and the progressive morpheme represents one of the aspects. For example, look at the following table below:

<b>bare form</b>	<b>past tense form</b>	<b>progressive form</b>
Draw	drew	drawing
Talk	talked	talking
Cook	cooked	cooking
Agree	agreed	agreeing
Pull	pulled	pulling
Visit	visited	visiting

*(Table 2: Verb forms in English)*

In certain circumstances, the past tense form of the verb is spelt and pronounced identically to the bare form, which is also the present tense form, such as hit, hurt, cut, and put. Additionally, the forms of some words are irregular, for example, *fly-flew*, *tear-tore*, *sleep-slept*.

One of the essential grammatical functions a verb and verb phrase can perform is that of the predicate in a clause. A clause consists of a subject and a predicate. In example 5 below:

5) I *am studying* linguistics.

The phrase '*am studying*' is the predicate of the sentence. It also occupies the medial position in the sentence as in Subject Verb Object. Thus, syntactically the verb in English occupies the sentence medial position. Moreover, the verb may take past tense or progressive aspect markers.

### **Adjectives:**

An adjective is commonly defined as a word that tells us more about a noun. It "describes" or "modifies" a noun. Syntactically adjectives in English appear between the word determiner- *the* and a noun, such as in example below:

6)

- a. the *black* cat
- b. the *talented* singer
- c. *important* book

7) Another form in which adjectives appear is when it follows the verb, such as in example (7)

- a. That cat is black.
- b. The singer is talented.
- c. This book is important.

The intensity of many adjectives can be specified with *very*, *less* or *more*. Many adjectives also have comparative and superlative forms (example 8).

8)

- a. very talented
- b. less important
- c. more important
- d. less heavy



9)

- a. red – redder – reddest
- b. smart – smarter – smartest

**Adverbs:**

An Adverb is a word that presents information about or describes a verb (*he runs quickly*), an adjective (*very attractive*) or another adverb (*finished so early*). Adverbs can also modify an entire sentence (*Hopefully, I will finish it*). Adverbs can be intensified with *very* or *more* such as in example 10:

- a. very cleverly
- b. more importantly

Additionally, the preceding examples demonstrate how numerous adverbs can be produced by prefixing an adjective with *-ly*. However, not all words ending with *-ly* are adverbs, for example, *wonderfully, lonely*. The syntactic distribution of adverbs is not always the same. An adverb may precede a verb (examples 10c. and 10d.) or follow a verb (examples 10a, 10b and 10e).

10)

- a. Virat Kohli batted *beautifully*.
- b. Kailash Kher performed *wonderfully* among the large crowd
- c. The rain has *just* stopped
- d. Messi was *poorly* fouled.
- e. The parcel will reach *tomorrow*.

Adverbs can also be used in front of adjectives or other adverbs to offer information about the adjective/adverb, like in examples given below:

- a. The biryani was *surprisingly* good.
- b. He was playing with an *extremely* expensive bat.
- c. India had finished the innings *quickly*.

Adverbs can be more challenging to identify than other open class words due to their more varied behavior in the sentence.

**10.2.3 Closed Class:**

Apart from the aforementioned open class terms, there are several sub-categories known

as closed class terms. Since new terms cannot be added to these categories, they are referred to as closed classes or fixed classes. In comparison to the thousands of open-class words, the closed-class categories are fewer in number. They are the non-lexical categories or function words that perform numerous grammatical functions in a phrase but do not necessarily have apparent semantic substance.

<b>Closed Class Words</b>	<b>Example</b>
Determiners	a, an, the
Demonstratives	this, that, these, those
Quantifiers	many, much, a few, a bit, a little
possessive pronouns	your, mine, their
Prepositions	in, to, on, upon
Conjunctions	and, or, because, since,
Complementiser	unless, because, weather, if

(Table 3: Closed Class words in English)

**Determiners** are very few; however, they appear very frequently in the English language.

*A, an* and *the* are often used along with nouns. For example-

13)

- a. *a* girl
- b. *an* apple
- c. *the* peacock
- d. *the* Royal Bengal Tiger

Demonstratives are those words that are used “to refer to a class of items whose function is to point to an entity in the situation or elsewhere in a sentence.” (Crystal 1980, page 135)

14)

- a. *those* girls
- b. *these* apples
- c. *that* peacock
- d. *this* Royal Bengal Tiger

Quantifiers and numerals also behave like determiners. They are used to refer to the

quantity of the objects referred to by nouns.

**15)**

- a. *a few people*
- b. *three monkeys*
- c. *many animals*
- d. *some fruits*

Here, we need to look into possessive pronouns, which can be used without nouns, e.g. *his, her, ours, yours, mine*. On the other hand, an adjectival possessive pronoun is followed by a noun as in the following example-

**16)**

- a. *my sister*
- b. *your idea*
- c. *their car*

Preposition indicates a relationship between words in a sentence. Usually, they are used before nouns or pronouns to locate a place, time and direction. Examples are the following:

**17)**

- a. *inside* MANUU
- b. *On* the desk
- c. *At* 5.00 PM
- d. *Towards* Hyderabad
- e. *around* the school building
- f. *Inside* the bag
- g. *near* campus
- h. *after* class

The conjunction is another significant closed-class classification. The conjunct words' function is to connect two words or phrases that belong to the same category. For instance:

**18)**

- Parveen and Diya
- Sachin and Sahakrukh

- Veg or non-veg
- Playing or studying
- Short height but powerful
- Strict but caring

Complementisers are function words that introduce a clause, which is a sentence contained within a longer sentence:

19)

- Babita said *that* his brother is crazy about football.
- We hope *that* India will reach in World Cup final.
- Tariq asked Riya *if* she was aware of frostbite.
- She could not come to the wedding *because* she went to visit Delhi.
- *Although* he was good at English, he failed the end-semester exam.
- Vijay called his friend *while* watching TV.
- Thomas was uncertain whether her friend would come.

***Check your progress***

1. What are the open class and Closed Class words?

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2. Do you think free morphemes can change the grammatical category of open class or content words?

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**10.2.4 Bound Morphemes:**

Bound morphemes are those that cannot stand alone. They are always parts of words that are attached to other morphemes. There are two types of bound morphemes in English affixes and bound bases. Consider the examples below

1. flowers : flower-> free morpheme  
-s -> bound morpheme
2. unwanted : want-> free morpheme

-un-> affix

-ed -> bound base

Just like in *cats*, we find that the word *flower* is attached to a grammatical marker *-s* to express plurality. In case of *unwanted*, we find that there are two bound morphemes *-un* to express the notion negation and *-ed* as a past tense marker bound morpheme.

### 10.2.5 Affixes:

An affix is a bound morpheme. It is typically joined to a root or stem to create a new word or a variant of an existing word. Affixes in the English language are classified principally into two types. Prefixes come before the root or stem, for example, re-cover. Suffixes are added after the root or base, for example, *drive-er*. There is another type of affixes known as infix that occurs in between two words. Circumfix is another bound morpheme attached to root or base both initially and finally. However, infix and circumfix are unproductive and rare in the English language. Can you find an example of infix and circumfix in the English language?

### Prefixes:

There are several prefixes in the English language. Some of them are commonly used or more productive compared to others. In the following table, examples of prefixes are as:

Prefix	Meaning	Example
anti-	Against, opposite of	antiseptic
bi-	two, twice	biannual
co-	joint, together	co-actor
de-	Undo	deform
dis-	Not, opposite of	disqualify
ex-	out, away	excommunicate
Hyper	super	hypersensitive
in-	Negate	incomplete
mis-	Wrongly	mismatch
non-	Negate	nonstick
pre-	Before	preindustrial
pro-	For	propagate
re-	again, repeat	rewrite

sub-	under, below	Substitute
trans-	Across	transgender
un-	Not	unused

(Table: 4 Common prefixes in English)

**Suffixes:**

Suffixes are added after the root or base word. Examples are given below:

Suffix	Meaning	Example
-al	pertaining to	personal
-able	to have the ability or quality	edible
-dom	Place	kingdom
-er	a person who performs an action	footballer
-en	Become	strengthen
-ful	having the quality of, full of	hopeful
-ish	Quality	feverish
-ify,-fy	make or become	glorify
-ly	in the manner of	hardly
-less	Negate	fruitless
-ment	condition of	containment
-ous	having the quality of	glorious
-tion	to carry out	education

(Table 5: Common suffixes in English)

***Check your progress***

1. Do you think English affixes are bound morpheme? If so, Why?

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2. Apart from the above-mentioned prefixes and suffixes, find out a few more.

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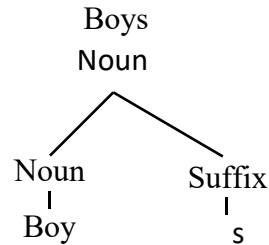


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## Inflectional and Derivational Morphemes:

### Inflectional Morphemes:

The bound morpheme can also be classified as inflectional and derivational morphemes. Inflectional morphemes form a new word but do not change meaning as a whole. Inflectional morphemes create new grammatical forms of the same word. Inflectional morphemes reflect grammatical information about a word, e.g. number, verb, degree. For example: boy+s= boys.



In the above example, *boy* is the root word, and –s is the suffix. The new word *boys* is the plural form of *boy*. In English, the number of inflectional morphemes is limited, and all inflectional morphemes are suffixes. There are only eight inflectional suffixes. All these suffixes are limited to expressing one of the following inflectional feature values or grammatical functions.

Suffix	Meaning	Example
-s	Plural	tigers
-’s	Possession	Sahid’s
-s	third person singular verbal inflection	sings
-ed	past tense	walked
-en	past participle	spoken
-ing	progressive verbal inflection	hearing
-er	Comparative	mightier
-est	Superlative	mightiest

(Table 6: Inflectional suffixes in English)

Let us take the example of *Shahid’s Pen, Navin’s book, Tony’s guitar*; -’s a possessive suffix used to express whose pen, book, and guitar it is.

In the example *sings*, *-s* represents a third person verbal inflectional suffix. Usually, there is a three-way contrast found in many languages: first person (speaker), second Person (addressee), and third Person (neither speaker nor addressee). In English, only the third person singular is expressed morphologically, as in the example *sings* above with the suffix *-s* on the verb.

The inflectional suffix *-ed*, as in *walk-ed*, is the most commonly used to form past tense in English. Its function is to place the event expressed by the verb in the temporal past. Some verbs like *sing* and *go* do not take the regular past form *-ed* but use stem alteration for irregular past forms as *sang* and *went*. Apart from these, *-en* is an inflectional suffix used in English to form past participle form as in *spok-en*. The verb *speak* in “he has *spoken*” is the past participle form of *speak*.

The inflectional suffix *-ing* is used to express a current action, an action in progress, or an unfinished action, like in the following sentence- The children are *sleeping* right now. It is often used for descriptions, as in Polly is *wearing* nice shoes today. It also allows us to express a future action or an intention, mainly with the expression *to be going to*, such as in: We are *going* to count the votes this afternoon. It can also be used with modal auxiliary verbs: *They should be sleeping by now*.

In the example “The pen is *mightier* than the sword”, *-er* represents the comparative form of the adjective mighty. The function is done by the *-est* suffix, e.g- *strongest*, *loudest*. These inflectional suffixes, *-er*, *-est*, express the intensity of the adjective.

***Check your Progress***

1. What is an inflectional morpheme? Write with examples.

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2. How many inflectional suffixes are there in the English language? Note down a few words with each type.

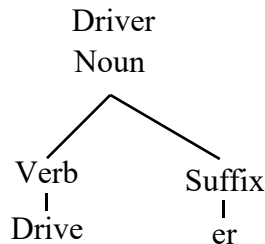
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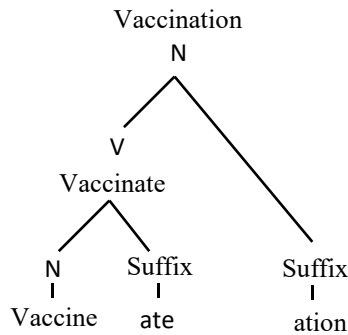


**Derivational Morphemes:**

Another categorization of bound morphemes is derivational morphemes. Derivational morphemes are the affixes that change the meaning or the grammatical category of the word. In the following example - *driver*



Here, *drive* is the root word, and *-er* is the suffix. The suffix *-er* change the verb *drive* into a noun *driver*. Similarly, the morphological structure of the word *vaccination* is below:



The above example shows that from the word *vaccine*, the verb *vaccinate* is derived. Moreover, the word *vaccination* (N) is derived from the derived verb by adding *-ation* suffix.

**Adjective formation:**

Adjectives in English can be formed from nouns, verbs, and other adjectives by using derivational suffixes.

**Adjectives from Nouns:**

Adjectives from Nouns can be formed by using *-ly*, *-ish*, and *-ic*.

Suffix	Noun (example)	Adjective
-ly	body	bodily
	time	timely
	Woman	womanly
-ish	Child	childish

	boy	boyish
	Book	Bookish
-ic	athlete	athletic
	Artist	artistic

(Table 7: Derivational suffixes in English)

### Adjectives from Verbs:

Suffixes like ‘-y’, ‘-able’, ‘-ous’, ‘-al’, ‘-ful’, ‘-ic’, ‘-less’, ‘-ing’ and ‘-ive’ can be added to verbs to form adjectives.

Suffix	Verb	Adjective
-y	speed	speedy
-able	read	readable
	enjoy	enjoyable
	watch	watchable
	laugh	laughable
-ous	continue	continuous
-ful	hate	hateful
	help	helpful
	forget	forgetful
-ic	see	scenic
-less	care	careless
-ive	reflect	reflective
	talk	talkative
-ing	annoy	annoying
	amuse	amusing

(Table 8: Adjective forming suffixes in English)

The -y suffix can be added with a noun to form the adjective *food+ b = foody*. It is also important to remember that the same word can be used as a different grammatical category; *speed* can be noun and verb. A word may be a noun or a verb depending on its usage in a particular sentence.

### Adjectives from Other Adjectives:

An adjective is formed from another adjective by adding a suffix like ‘-ly’, ‘-ive’, ‘-al’, ‘-ish’, ‘-ier’, ‘-est’.

Suffix	Adjective	Adjective
-ly	weak	Weakly
-ive	correct	Corrective
-al	comic	Comical
-ish	Green	Greenish
	red	Reddish
-ier	easy	Easier
	funny	funnier
-est	fine	finest

(Table 9: Adjective forming suffixes in English)

### Verb Forming Suffixes:

Some of the verb forming suffixes are *-en*, *-ate*, *-ize*, *-ify*

Suffixes	Examples	Meaning
-en	redden, whiten, blacken	to become
-ate	acerate, create, incinerate	to bring about a state
-ise	empathise, cannibalise, metabolise	to do something, to become
-ify	deify, terrify, amplify	to make something, to become

(Table 10: verbal suffixes in English)

## Noun Formation:

Agent Nouns can be formed by using the following suffixes -er, -or, and -ar.

Suffixes	Verb	Noun
-er	bake	Baker
-or	administrate	Administrator
-ar	beg	beggar

(Table 11: Noun forming suffixes in English)

In the above discussion, we must have observed that *-er* is used both as a derivational and inflectional morpheme. Phonologically, both forms are the same. In the example driver, -er worked as a derivational suffix, as -er changed the verb *drive* to a noun, i.e. driver. On the other hand, -er can be an inflectional morpheme. For example, -er is attached to the adjective *nice* and forms a different word *nicer* to express the degree of the adjective in *nicer*.

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## 10.3 Learning Outcomes

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After the completion of this Unit, it is expected that you will be able to classify morphemes into different categories. You should be able to identify free and bound morphemes of English. Within free morphemes, you are expected to distinguish between closed class and open class words. You are expected to have gained familiarity with English affixes. You should also be able to differentiate between inflectional and derivational morphemes.

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## 10.4 Glossary

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**Free Morpheme:** A morpheme that can stand alone and have meaning on its own.

**Bound Morpheme:** A morpheme that is dependent on another morpheme.

**Open Class or Content word:** Categories of words in which new words can be added.

**Closed class or Grammatical or Functional word:** Categories of words to which new words cannot be added.

**Prefix:** Prefix is a letter or group of letters added before a word or another prefix to modify the meaning.

**Suffix:** Suffix is added after a word or a suffix to make a new word.

**Inflectional morpheme:** A morpheme that represents grammatical information and does not change the word category even after adding with the root

**Derivational morpheme:** a morpheme that creates a new word category.

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## 10.5 Sample Questions

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### 10.5.1 Objective Questions:

#### A. Read the sentence and choose an appropriate option:

1. Free morpheme can
  - (a) Stand alone
  - (b) Depended on another morpheme
  - (c) Limited in number
  - (d) None of the above
2. What is the root of the dishonesty?
  - (a) dis
  - (b) honest
  - (c) -ty
  - (d) dishonesty
3. What is an example of a free morpheme?
  - (a) un
  - (b) ish
  - (c) ness
  - (d) fun
4. What is applicable for the English language?
  - (a) The number of inflectional morphemes is limited
  - (b) Number of inflectional morpheme in unlimited
  - (c) *Toy* is a bound morpheme
  - (d) Number bound morpheme is more than free morpheme
5. How many morphemes are there in the following word *noninstitutional* ?
  - (a) 2

- (b) 3
- (c) 4
- (d) 5

**B. Read the following statements. State if they are True or False?**

1. The noun *footballers* constitute 3 morphemes.
  - (a) True
  - (b) False
2. *Less* can be free morpheme and bound morpheme also.
  - (a) True
  - (b) False
3. *-edis* is an inflectional free morpheme.
  - (a) True
  - (b) False
4. A free morpheme is dependent on a bound morpheme.
  - (a) True
  - (b) False
5. All the inflectional bound morphemes are suffixes.
  - (a) True
  - (b) False

**10.5.2 Short Answer Questions:**

1. What is a prefix?
2. What is a suffix?
3. What is an inflectional morpheme?
4. What is a derivational morpheme?
5. Write five words with *-ity* morpheme?

**10.5.3 Long Answer Questions:**

1. What is a morpheme? What are the types of morphemes? Discuss with examples
2. Draw the morphological tree of- *demonetisation, vaccination*. Identify the free morpheme and bound morphemes with an explanation.
3. *-ing* can be both inflectional and derivational morpheme. Explain with examples.

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## 10.6 Suggested Readings

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1. Aronoff, Mark & Fudeman, Kristen. *What is Morphology?* (2<sup>nd</sup> Edition). Wiley-Blackwell, 2010.
2. Bauer, Laurie, Lieber, Rochelle & Plag, Ingo. *The Oxford Guide to Morphology (Oxford Linguistics)*. Oxford University Press, 2015.
3. Carstairs-McCarthy, Andrew. *An Introduction to English Morphology: Words and Their Structure (2nd Edition)*. Edinburgh University Press, 2018.
4. Katamba, Francis. *Morphology*. St. Martin's Press, 1993.

# Unit-11: Lexical Morphemes

## Structure

11.0 Introduction

11.1 Objectives

11.2 Towards understanding Word

11.2.1 Phonological and Orthographic words

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11.2.10 Clipping, blends and acronyms

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## 11.0 Introduction

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In the previous Units, you have already studied most of the concepts and terms that we will discuss in this Unit. It is primarily agreed and at the same time contested that human life is organized by language. The scientific study of languages is the endeavour of linguistics. Languages are studied from several perspectives (linguistic, sociological, psychological, historical, etc.), and for the exploration, various units have been designed to facilitate analysis and theorization. One such unit is 'word' for linguists. Lexis is the technical term used to refer to words or vocabulary of languages. Morphology is the study of the internal structure of words. Let's quickly see what it means.



When we attempt to study ‘lexical morphemes’, we first need to understand compound noun. It is made of two words – ‘lexis’ and ‘morpheme’. We have already noted that ‘lexis’ refers to words. ‘Morpheme’ is not such a straightforward concept. It essentially means a part of the word that cannot be further divided. To understand this, let’s take a look at the following sets of words:

Table	tabled	tabling
Work	worked	working
Begin	began	beginning

The words in the first column can be called the root words, whereas words in columns two and three are different. The difference lies in the fact that they can be divided into additional units. For example, the words – ‘tabled’ and ‘worked’ in the second column take the suffix (we will discuss it later ‘-ed’ or ‘d’ indicating past tense. The third word ‘began’ can be seen changing its structure, again indicating past tense. So, the entries in the second and the third column can be divided to reach the root words (words in the first column), or they are derived from the words in the first column. The words in the first column can be called ‘morphemes’. The study of this internal structure of words is called ‘morphology’. Morphologists attempt to understand and explain the different forms of the same word (see words listed above) or the internal structure of words. To illustrate the ‘internal structure’ of words, let’s take the example of ‘unbreakable’ or ‘indefinitely’.

The word ‘unbreakable’ is made of three units - ‘un’+ ‘break’+ ‘able’  
And ‘indefinitely’ can be divided into ‘in’ + ‘definite’+’ly’  
In these examples, ‘un’ and ‘in’ (prefixes, we will see them later) show antonymic meaning, and ‘able’ and ‘ly’ add extra meaning to the words ‘break’ and ‘definite’.

***Check your Progress***

1. Consider the following words for deriving the root word:

Measurement, intransitively, incompatible

Dissatisfaction, instability, noncommittal

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## 11.1 Objectives

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- to explore the concept of WORD and understand its special status in human languages
  - to understand the notion of ‘morpheme’ and its different types
  - to understand word-formation in English
- 

## 11.2 Towards understanding Word

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Words are those entities that receive intense attention parallel to grammar in any language-pedagogic conversation and discourse. As human beings, we often take the existence of words for granted. As we know, words help us to describe and define things. They are often called the building blocks for conceiving and formulating meaningful utterances. There exist several definitions of ‘word’. Let us discuss them briefly.

- *Oxford Learners’ Dictionaries* (online) define ‘word’ as “a single unit of language that means something and can be spoken or written” (2021).
- *Collins Cobuild English Dictionary* (online) defines it as “a single unit of language that can be represented in writing or speech. In English, a word has a space on either side of it when it is written.
- *Merriam Webster’s Dictionary* (online) states that a word is “a sound or combination of sounds that has a meaning and is spoken or written”.

From the above definitions, we can say that a word is:

- A countable unit
- A meaningful unit
- Either spoken or written
- Written sign with space on either side

The advanced dictionaries shed more light on ‘word’ entity. Let’s see a few of them.

- *Oxford English Dictionary* notes that a word is “a combination of vocal sounds, or one such sound, used in a language to express an idea (e.g. to denote a thing, attribute, or relation), and constituting an ultimate minimal element of speech having a meaning as such” (1989).

- *Collins English Dictionary* defines it as: “One of the units of speech or writing that native speakers of a language usually regard as the smallest isolable meaningful element of the language, although linguists would analyze these further into morphemes.’ (1986)

Now, if we attempt an analysis of the content of these definitions, we notice the following points:

- Sound is something inherent to words. Words can be realized as sound or a string of sounds. For example, the term ‘we’ is one sound /wi:/ or in Devnagri script, the sound can be represented as / वी /. For a string of sounds, we can take ‘class’ which has three different sounds /kla:s/ or in Devnagri /क्लास/
- A word is a part of speech and, thus, a unit of speech. For instance, the sentence “Where is the chair?” has four words.
- The definition by Collins English Dictionary indicates that words are not always “smallest isolable meaningful” units. In other words, they can be further divided into ‘morphemes’. Take the following sentence as an example:

*Where are you going?* The visual clue (spaces on either side) says the sentence comprises four words. But for linguists; it is a sentence with five morphemes.

*Where            are            you            go            -ing*

- All the definitions suggest that words contain some meaning.
- Words can have visible shapes, i.e. written forms.

### ***Check your Progress***

Identify the number of words in the following sentences/utterances.

- This is my pen, and I am not going to give it away.
- It is not my headache.
- The orthographic representation of a phonological word is never straightforward.

Let us go further to explore what else is there to make sense of words. Take two examples:

‘You’re’

‘Handmade’

Are these words considered one word or two words? Along the same lines, examples such as ‘work’ and ‘works’, ‘sing’ and ‘sang’, ‘eat’ and ‘ate’ also present us with a challenge of identification as one/similar word or different words. We know that words are meaningful units but not always the smallest isolable units. The linguists extensively study this aspect of words and have tried to identify elements/aspects of words. What follows now is the overview of these labels. Going by the discussion in the previous section, we can observe that there is more than one kind of ‘word’.

### 11.2.1 Phonological and Orthographic words:

Conceptualising a word as a sound or a string of sounds is referred to as ‘phonological word’. It can be represented by phonetic transcription. For example,

Word /wɜ:(r)d/

Bird /bɜ:(r)d/

Chair /tʃeə(r)/

Concept /'kɒnsept/

When these words are written in a combination of letters (which represent phonological elements), we call this an ‘orthographic word’. It must be noted that the orthographic (written) form of ‘phonological word’ is never straightforward or linear. For instance, the word ‘read’ in orthographic form can represent two phonological words:

Read (present tense) /ri:d/ and read (past tense)/red/

‘Bear’ (endure) and ‘bear’ (animal)

‘Close’ (connected) and ‘close’ (end)

‘Fair’ (reasonable) and ‘fair’ (appearance)

In linguistics, such a phenomenon is called ‘homographs’. It is also possible that one phonological word can manifest in two or more orthographic forms.

‘Meet’ and ‘meat’  
‘Coarse’ and ‘course’  
‘Dual’ and ‘duel’  
‘I’ and ‘eye.’  
‘Caret’ and ‘carrot’  
‘New’ and ‘knew’  
‘Mail’ and ‘male’

Accordingly, any slight change in the physical form of words (sound or written) results in two or more different terms. For instance,

Run	runs	ran	running
Walk	walks	walked	walking
Eat	eats	ate	eaten

We noted earlier that the words in columns 2, 3 and 4 are derived from words in column 1, which are called root words.

### **11.2.2 Lexeme:**

In linguistic terminology, ‘lexeme’ stands for root words. It is a free form without inflections of number, tense, gender, etc. In simple terms, ‘tiger’ and ‘tigers’ are the inflected forms of ‘tiger’. Oxford Bibliographies (online) note that “a lexeme is a theoretical construct that stands for the unitary meaning and shared syntactic properties of a group of word forms”. In other words, ‘lexemes’ are abstract entities. For example, take the word ‘bamboozled’. To know its meaning, we refer to the dictionary and start looking for ‘bamboozle’ and not ‘bamboozled’ or ‘bamboozling’ because we know that these are different manifestations of the word ‘bamboozle’. In morphology, the term ‘lexeme’ refers to this abstract (sense) vocabulary item. Usually, ‘lexemes’ are the vocabulary items listed in the dictionary.

***Check your Progress***

1. Which ones of the following words belong to the same lexeme?

Tall, thin, clear, jump, Jumped, thinner, taller, clearest, Tallest,                   thinnest  
jumping, clearer, Seen, saw, seeing, see

**11.2.3 Word-form:**

We use the term ‘word’ to indicate or refer to a particular manifestation of ‘lexeme’ in the language use. Let us quickly revisit the set we saw before to understand the notion of ‘word form’.

Run	runs	ran	running
Walk	walks	walked	walking
Eat	eats	ate	eating

Here we can say that ‘walk’, ‘walks’, ‘walked’ and ‘walking’ are different ‘word forms’ obtained from the lexeme ‘walk’.

***Check your Progress***

1. What are the different word forms of the following lexemes?

Table	sleep	keep	drink
Put	draw	stand	rest

**11.2.4 Grammatical word:**

Words can be conceptualized or understood as a representation of lexemes associated with grammatical categories such as noun, adjective, verb, adverb, number, gender etc. The grammatical word occurs in the grammatical paradigm. To illustrate the point, let’s consider the following sets of words.

Play	plays	playing	played
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Each of these words have distinct phonological and orthographic properties. But they indicate grammatical categories. ‘plays’ corresponds to ‘third-person singular’, ‘playing’ refers to ‘present participle form’ and ‘played’ past or past participle. So, a grammatical word represents the grammatical function or properties of the word. The term ‘playing’ in ‘present participle form’ has specific properties that dictate its use in sentences that are different from the properties of ‘play’, ‘plays’ and ‘played’.

### **11.2.5 Morphology:**

Morphology can be defined as a scientific study of the internal structure of words. The issue of the internal structure becomes noteworthy in the case of words with complicated internal structure. And indeed, there are plenty of words with a complex internal structure (we often fail to notice)!

#### **11.2.5.1 Morphemes:**

Some words are straightforward, such as animal, milk, sing, digest, thousand, and so on, which cannot be further divided. For instance, we have no clue what ‘and’ stands for in ‘thousand’. But as said words like ‘misunderstand’, ‘complicatedly’, or ‘pen-s’, ‘un-necessary’ are not straightforward. In the case of ‘pen-s’, ‘s’ indicates pluralization phenomenon, and in ‘un-necessary’ ‘, un’ indicates the antonymic meaning. The word ‘misunderstand’ has two units ‘mis’ and ‘understand’, and ‘complicatedly’ has three units ‘complicate’, ‘ed’, and ‘ly’. These units are the smallest indivisible parts, called ‘morphemes’ in linguistics. The morpheme is the smallest unit of the word with a meaning. The words can be analyzed into morphemes by isolating ‘morphs’.

#### **11.2.5.2 Morphs:**

Now the question in your mind could be ‘what is this morph’. Well, it is the phonological realization (or you may wish to call it manifestation) of morpheme. So, it has a physical form, i.e. sound or strings of sound. In other words, we can call it word segments. For example, let’s look at the word ‘disinvestment’ which has three morphs (or segments):

Dis – invest – ment

### **Morpheme and morphs:**

‘Morphs’ are the constituent elements of ‘morphemes’. For example,

Morpheme	morph
Bird	bird
Is	be
Had	have

### **Allomorphs:**

An ‘allomorph’ can be defined as a ‘morph’ with distinct grammatical and lexical features. For example, morph ‘en’ is used to make a plural of the child, brother, ox, etc., or ‘ed’ helps to make the past tense of regular verbs such as ‘work’, ‘realize’, ‘rush’ etc. To illustrate the concept further, in English, the past tense morpheme is realized by three different morphs – /t/, /d/, and /id/. These three morphs are phonologically conditioned as the sound of the word determines the realization of /t/, /d/ and /id/.

Realization as /t/

Kick /kɪk/

Kicked /kɪkt/

Realization as /d/

Clean /kli:n/

Cleaned /kli:nd/

Realization as /ɪd/

Part /pɑ:rt/

Parted /pɑ:rtɪd/

### **11.2.6 Word Formation:**

Word formation is an exciting area of study as it involves capturing meaning or idea in a communicable label or sign popularly known as words. Word-formation is a process of



combining morphemes to make meaningful units. To understand the process of word formation, we need to reconsider the notion of morphemes. For example, consider the following words:

Employee is made of ‘employ’ and ‘ee.’

Unhappy - ‘un’ and happy.’

Promise – ‘promise’

Write – ‘write’

In the case of ‘employee’ and ‘unhappy’, we can divide the word, but the remaining two words, ‘promise’ and ‘write’, cannot be further divided. This leads us to consider the concepts ‘bound morpheme’ and ‘free morpheme’. The morphemes ‘ee’ (an employee) and ‘un’ (in unhappy) are bound morphemes. But ‘employ’, and ‘happy’ are independently meaningful and hence called ‘free morphemes’. The ‘bound morphemes’ can either follow the root word or precede it. For example,

Weekly – ‘week’ + ‘ly’

The morpheme ‘ly’ can only follow the root word.

Disinfect – ‘dis’ + ‘infect’

The morpheme ‘dis’ can only precede the root word.

These examples must have offered some clue to the functioning of certain morphemes in English. The morpheme ‘un’ and ‘dis’ suggest negative meanings. The morpheme ‘ly’ indicate adverb function. What follows now is a quick overview of the word-building process in English.

***Check your Progress***

1. Identify the free and bound morpheme in the following words

Immaterial

Democratically

Classes

Institutionalization

### 11.2.7 Affixation:

The term 'affix' refers to something fixed to the root word either at the beginning (preceding the root) or at the end (following the root) of the word. What is 'affixed' is, in essence, a morpheme. The process of affixation is realized in two forms:

- Prefix: As the term indicates, the morpheme is attached before/at the beginning of the root word. The examples are:  
'Dis' – disembark, disband, dislocate  
'UN' – unhappy, untie, untangle  
'Ir' – irregular, irrespective, irresponsible  
'il' – illogical
- Suffix: This is a form of affixation after or at the end of the root word. The examples are:  
'Ness' – kindness, childishness  
'ly' – kindly, markedly  
'er' – smarter, cleaner

### 11.2.8 Compounding:

We combine two root words or root morphemes in this form of word-building. Some words combine root words, and a few examples exist where one base is in affixed form.

Root 1	Root 2	Compound
Black	Board	blackboard
Week	end	weekend
Dinner	table	Dinner table
Bed	room	bedroom
Class	room	classroom
Book	store	bookstore
Note	book	notebook

### 11.2.9 Conversion:

In English and few Indian languages, certain words have the same pronunciation (phonetic form) but perform different functions. For example, notice the word ‘table’ in the following sentences:

There is a *table* in the room.

*Table* the bill in the house.

In the first sentence, ‘table’ is a physical object, whereas ‘table’ in the second sentence denotes ‘present’.

### 11.2.10 Clipping, Blends and Acronyms:

In clipping, the words are shortened without affecting the meaning or grammatical category. According to sociolinguists, it is one of the most familiar processes in contemporary times. The popular examples are intro (introduction), promo (promotion), *insta* (Instagram), phone (telephone), bro (brother), sis (sister), ad (advertisement), mic (microphone) etc. The other examples are:

Mathematics - math

Binoculars – binocs

Photograph – photo

Higher technology – high-tech

Internet – net

The other way of word-building is blending; wherein two words are merged.

Clap - crash – clash

Documentary – drama – docudrama

Electricity – execute – electrocute

Biography – picture – biopic

Motor- hotel – motel

Work – alcoholic – workaholic

Another familiar way of word-formation is forming acronyms. It involves using the first letters of phrase (collection of words) and using it as a word.

UGC – University Grants Commission, WHO – World Health Organisation, UNO – United Nations Organisation

### 11.2.11 Suppletion:

It involves the combination of two or more phonetically distinct roots for different forms of the same word. In other words, it means the replacement of one stem or root word with another different root word. The following examples illustrate the point.

Good	better
Bad	worse
Go	went

### 11.2.12 Reduplication:

This process of word-formation is well-known in the Indian languages. There are plenty of examples frequently used in daily conversations. In essence, it is a process in which affix is realized by phonological material borrowed from the root word. The two words show a rhyming tendency.

Brain-drain	sing-song
Wishy-washy	okey-dokey
Pitter-patter	blah-blah

Now notice the examples from the Hindi:

Rote- girte (रोते – गिरते)

Rona-dhona (रोना – धेना)

Pani-vani (पानि – वानि)

Chai-vaay (चाय – वाय)

Khate-pite(खाते – पिते)

To summarise, in this Unit, we began by exploring the concept of words. We discussed the role and place of the word in language in general, definition and classification of the word, as well as the notion of morpheme, morph, allomorph, and the process of word formation.

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## 11.2 Learning Outcomes

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By the end of this Unit you should be able to:

- explain the structure of words considering all nuances
- explore the constituent elements of words
- use words in informed way considering the word-formation processes

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## 11.4 Glossary

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**Word:** In essence it is considered as the linguistic unit to be deployed in forming and formulating utterances.

**Morpheme:** A morpheme is the smallest unit of language that has its own meaning, either a word or a part of a word.

**Morph:** It is the smallest meaningful unit and it is constituted of a sound or a string of sounds. It cannot be further divided.

**Allomorph:** It refers to a morph (smallest unit realized as a sound or a string of sounds) that has unique set of grammatical or lexical features.

**Affixation:** It is a process of word-formation where a morph is added to word either at the front or at the end of the word to form other words.

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## 11.5 Sample Questions

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### 11.5.1 Objective Questions:

1. 'Lexis' is a technical term for \_\_\_\_\_.
  - (a) Lexicography
  - (b) Vocabulary
  - (c) Word-grammar
  - (d) Grammar
2. Which of the following is not a feature of 'word'?
  - (a) Having a physical realization, either phonological or orthographic

- (b) Having independent meaning or function
  - (c) Being beyond grammar
  - (d) Composed of morphemes
3. Which of the following is a correct observation about words?
- (a) Orthographic word exactly represents a phonologic word.
  - (b) Orthographic words have no relation with the phonologic word.
  - (c) Orthographic words and phonologic words are similar.
  - (d) An orthographic word may have two phonological realizations.
4. Identify the lexeme from the following set:
- (a) Formation
  - (b) Formed
  - (c) Form
  - (d) Format
5. 'Unexamined', 'examined' and 're-examined' are word forms of the lexeme...
- (a) Examination
  - (b) Examine
  - (c) Exam
  - (d) Example
6. Identify the morph of 'been.'
- (a) Is
  - (b) Are
  - (c) Be
  - (d) Been
7. Identify the bound morpheme in the word – 'Marxism.'
- (a) Marx
  - (b) –ism
  - (c) –sm
  - (d) Marxism
8. Identify the free morpheme – biocentrism
- (a) Bio

- (b) Centre
  - (c) Bio and centre
  - (d) -ism
9. Which of the following words operates on the principle of conversion?
- (a) Promise
  - (b) Remove
  - (c) Chair
  - (d) Remark
10. 'am', 'is', 'are' 'was' are the examples of...
- (a) Affixation
  - (b) Reduplication
  - (c) Conversion
  - (d) Suppletion

#### **11.5.2 Short Answer Questions:**

1. Write at least six words from your language and ten words from English and divide them into smaller units.
2. What is the difference between 'morpheme' and 'morph'?
3. Identify the morphemes in the following sentences.
  - a. She was parking her car near the banyan tree.
  - b. The guests have arrived.
  - c. We parked the cars in the open ground.
  - d. There is no point in studying words.
  - e. India won the match by six wickets.
4. Identify the past tense morphemes in the following words.
  - a. Booked
  - b. Read
  - c. Banished
  - d. Abandoned
  - e. Tabled
  - f. Cried

- g. Smiled
5. What is affixation in word-formation?

### 11.5.3 Long Answer Questions

1. What is a word? What are the properties of a word? Discuss with appropriate examples.  
You may wish to use examples from your language.
2. What is a morpheme? Discuss.
3. Write a detailed note on the word-formation process.

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## 11.6 Suggested Reading

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1. Akmajian, A., Demers, R. A., Farmer, A. K. and Harnish, R. M. *Linguistics: An Introduction to Language and Communication*. Cambridge: MIT Press. 1995.
2. Bauer, L. *Introducing Linguistic Morphology*. Edinburgh: Edinburgh University Press. 1988
3. Bloomfield, L. *Language*. London: Allen and Unwin. 1993.
4. Katamba, F. *Morphology*. London: Macmillan.1993.
5. Lyons, J. *Introduction to Theoretical Linguistics*. Cambridge: Cambridge University Press. 1968.
6. Plag, I. *Word-Formation in English*. Cambridge: Cambridge University Press. 2003



## Unit-12: Inflectional Morphemes

### Structure

#### 12.0 Introduction

#### 12.1 Objectives

#### 12.2 Inflectional Morphemes

##### 12.2.1 What is inflection?

##### 12.2.2 Differences between Inflectional and Derivational Morphemes

##### 12.2.3 Inflection in English and its classification

##### 12.2.4 Regular Inflection

##### 12.2.5 Irregular Inflectional

#### 12.3 Learning Outcomes

#### 12.4 Glossary

#### 12.5 Sample Questions

#### 12.6 Suggested Readings

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### 12.0 Introduction

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Morphology is the study of the structure of words, mainly categorized into free and bound morpheme. A morpheme is the minimal meaningful and grammatical unit of a word. For example, **re-enter-ed**, here the stem **enter** is the free morpheme because it can stand on its own but the affixes {re-} and {-ed} are bound morphemes, as they require a free morpheme to be attached.

The most commonly found affixes in the English language are prefixes and suffixes. These bound morphemes are categorized as derivational and inflectional morphemes. In this Unit, we will concentrate on the inflectional morphemes. You have also studied this in earlier Units.

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### 12.1 Objectives

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This Unit has the following objectives:

- to enable you to understand inflection in the English language.
- to acquaint you with the features and functions of inflectional morphemes.
- to introduce the regular and irregular inflectional morphemes to you.
- to introduce you to the eight inflectional morphemes found in the English language.

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## 12.2 Inflectional Morphemes

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Inflection in languages has often been described by various linguists. Inflectional morphemes are highly significant in any language as they carry grammatical functions. Let us see a few definitions:

*Oxford Learners Dictionary* defines Inflectional Morpheme as, “a change in the form of a word, especially the ending according to its grammatical functions in a sentence.”

In *The Study of Language*, George Yule asserts that inflectional morphemes are a “set of bound morphemes which are not used to produce new words in the language, but rather to indicate aspects of the grammatical function of a word. Inflectional morphemes are used to show if a word is plural or singular, if it has past tense or not, and if it is a comparative or possessive form.”

Peter Robinson states, “inflectional morphemes are bound morphemes which are used to serve grammatical purpose. As opposed to derivational morphemes, the attachment of the inflectional morphemes does not create a new word. Therefore, an inflected word always stays in the same lexical category as the original one.”

With the above definitions, we can conclude a few things: first, inflectional morphemes are bound morphemes which are only suffixes; second, it does not produce new words but retains the same lexical form; and third, it indicates the aspects or modifies its grammatical functions to convey the change in sense. All these points will be discussed in detail in the following sections.

### 12.2.1 What is inflection?

Let us observe these sentences:

The ship that **transports** the goods is on time. (1)

The ship that **transported** the goods was on time. (2)

The ship that is **transporting** the goods is on time. (3)

The **transportation** of goods with the ship is smooth. (4)

Few things which are noticeable here:

- i. The words transports, transported, transporting and transportation have the same root word which is *transport*.
- ii. However, transports, transported and transporting in sentences 1, 2 and 3 respectively, belong to the same grammatical class which is a verb.
- iii. The word transportation in the sentence (4) belongs to the different word class i.e., noun.
- iv. In sentences 1, 2, and 3, the word-formation process is inflection.
- v. Inflection does not change the grammatical category of the word but definitely it indicates the sense of meaning.
- vi. The suffix **-s** is added to the root 'transport' because the subject **the ship** is third person singular. So we can say that the inflectional morphemes carry the syntactical meaning.
- vii. Similarly in sentences 2 and 3, the suffixes **-ed** and **-ing** are used to indicate the past tense and the present progressive. It indicates the relationship between the word forms of the same lexeme.
- viii. In sentence 4, the word-formation is derivational.
- ix. The derivational morpheme **{-tion}** is added to the root word to form a new word by changing the word class (parts of speech) i.e., noun.

To put everything together, it can be said that inflectional morphemes are bound morphemes attached to the stem. Inflectional morphemes are significantly suffixes in the English language. They are often called closed class as they resist any addition of new forms in their existing category.

Unlike lexical or derivational morpheme, inflectional morpheme does not change the form or grammatical class of the lexeme but slightly alters the form of the lexeme to indicate its grammatical properties.

### 12.2.2 Differences between Inflectional and Derivational Morphemes:

After studying inflection in isolation, let us understand it further by comparing it with Derivational Morphemes.

(i) Inflectional morphemes suggest the relationship between the word forms of the same lexeme. For example, proposes, proposed, proposing. On the other hand, derivational morphemes are about the relationship between the lexeme of the word family. For example, proposal. Propose, proposes, and proposed, proposing are verbs but they slightly differ in their grammatical function but the word proposal suggests different meaning and different word class.

(ii) Inflectional Morphemes suggest and indicate the grammatical distinctions in tense, number, possession and comparison. In English language, there are only 8 inflectional suffixes. They are, **-s/-es**; **-’s/s’**; **-ed**; **-en**; **-er**; **-est**; and **-ing**. We will discuss this in detail in the next section. It does not create new words but slightly changes the form of the word so that the word could be identified at its various grammatical functions. Derivational morphemes change the meaning of the lexeme, form new lexeme. Inflection suggests grammatical meaning whereas derivation lexical meaning.

(iii) Inflectional morphemes are always suffixes. For example, **{-er}** in shorter; **{-est}** in shortest; **{-en}** in oxen. On the other hand, derivation affixes in English are both prefixes and suffixes. For ex: Un-happy-ly. The word unhappily has the prefix **un-** and the suffix **-ly**.

(iv) If derivational suffix is added to a lexeme it would certainly follow the inflectional suffix. For ex: Sing-er-s. The word singer has two suffixes; the derivation suffix **-er** (it is different from the inflection suffix **-er**, which is a comparative case) and the inflectional suffix **-s** which is a plural marker. The root word sing is a verb, when added with the derivation suffix **-er**, it becomes singer which is a noun. Here we notice the change in meaning and change in grammatical category. After inflection suffix, no more affixation is possible. That is why derivation is significantly known as open class as it opens to form new words from the same lexeme; and inflection is known as closed class.

(v) Inflection has syntactical function and is determined by syntax. For example:

She opens the door. (5)

They open the door. (6)

Rose is a beautiful flower. (7)

Roses are beautiful flowers. (8)

The above sentences follow the subject verb agreement. The singular subject takes singular verb and plural subject takes the plural verb. There is no such obligation with derivations. They are not determined by syntactic functions.

### 12.2.3. Inflection in English and its classification:

As we have briefly discussed above, English has only eight inflectional suffixes which is comparatively less than other languages. The grammatical meaning which is constantly repeated above include information about tense (past, present, future); persons (first, second and third); number (singular, plural) and other distinctions.

Morphemes	Marked on	Suffixes	Examples
Plural	Noun	-s/-es	girls/copies
Possessive	Noun	-’s/-s’	girl’s/girls’
Comparative	Adjective	-er	taller
Superlative	Adjective	-est	tallest
3 <sup>rd</sup> Person Singular Present Tense	Verb	-s	shows
Past Tense	Verb	-ed	showed
Past Participle	Verb	-en	swollen, broken
Present Participle or Progressive	Verb	-ing	showing, walking

The above table illustrates the eight inflections in English with examples. The table does not necessarily show the regular and irregular inflection on Noun plurals, Past participle and Past tense. For example, the irregular plural for **sheep, fish, goose** are **sheep, fish, geese** respectively. In all these, the typical plural form is not used but the internal morphology of these words suggests their plurality. Similarly, the regular and irregular inflection can be seen in past tense and past participle.

Let us now discuss each inflection mentioned above in detail:

**i. Noun Inflectional Morphemes- Number {-s}**

The nouns (mostly countable) in English are marked as singular or plural for number. In inflection, any lexeme has two grammatical forms; a singular number and a plural number. For example,

Boy	{boy} (singular)	1 morpheme
Boys	{boy} + {s} (plural marker)	2 morphemes

Likewise,

Sheep	{sheep} (singular)	1 morpheme
Sheep	{sheep} + Pl	1 morpheme

Although for sheep, there is no plural {-s} attached to the word but morphologically it is internally constructed. For all the countable nouns the plural -s is attached but few exceptions are there like sheep. There is another notable case where the words which generally end in -s are not necessarily plural like mathematics, news. Sometimes, there is an internal change in the vowels of the allomorphs for the plural of a morpheme. For example,

Man	{man}+Pl	men
Tooth	{tooth}+Pl	teeth

These types of irregularity in nouns which are present in English are generally the nouns which still follow the old pattern of Old English derived from Latin and Greek.

Majority of countable nouns in English are pluralized by adding the suffix -s to the stem. For English plurals, we have {s} morpheme and the sounds [s], [z], [ɪz] individually which are the morphs, collectively are the allomorphs of the plural morpheme {s}.

For example,

Cats'	/kæts/
Dogs'	/dɒgz/
Buses	/bʌsɪz/

### ii. Noun Inflectional Possessives {-’s}

The possession is marked by using -’s. This not only suggests the possession and ownership but also the introduction and invention. For example, Grimm’s Law, Darwin’s Theory.

The nouns that take the possessive {-’s} are generally people, animals, time and collective nouns.

Singular possessive	mother’s	child’s	
Plural possessive	mothers’	children’s	eggs’

The singular possessives take {-’s} to the base form and for plurals, the morpheme {s’} is used.

### iii. Adjective Inflectional Morphemes- Comparative Degree {-er}

Just as nouns and verbs take inflectional morphemes, similarly, adjectives and adverbs also take the morphemes {-er} and {est} for the comparative and superlative degree. Comparative degree signifies the comparison between any two things or persons. For example,

Smart	{smart}+ {-er} =	smarter
Tall	{tall}+ {-er} =	taller
Short	{short}+ {-er}=	shorter

The comparative morpheme {-er} is added to the base morpheme to indicate the comparisons. This comparisons with the {-er} morphemes only takes place in monosyllabic words and if the word has three or more than three syllables then the word ‘more’ is added. For example:

That boy is smarter than me. (9)

He is more intelligent than you. (10)

In the above sentences, the base morpheme {smart} is monosyllabic, so it takes {-er} to indicate comparison. Whereas, the base morpheme {intelligent} has four syllables so it takes 'more' to indicate the comparison.

The words with two syllables to form comparative, generally end in **y**, change the **y** to **i** and add the suffix '-er' to indicate comparison. For example, holy becomes holier.

The comparative morpheme also has the irregular forms, like bad- worse; much- more.

#### **iv. Adjective Inflectional Morphemes- Superlative Degree {-est}:**

Adjectives and adverbs take the morpheme {-est} to signify the superlative degree. A superlative degree is also a comparison but unlike comparative degree, it is the comparison of more than two things or person. For example,

That boy is smartest of all. (11)

The number of syllables play an important role in defining the superlative degree. If the length of the base is monosyllabic then the morpheme {-est} would be added to the base but if the length of the base has three or more than three syllables then the word '**most**' is used to indicate the comparison. For example,

She is the most beautiful girl in the family. (12)

Adjectives with two syllables, ending in 'y' change to 'i' and the suffix '-est' is added to indicate plurality. For example, holy becomes holiest; dirty becomes dirtiest.

The superlatives in English also have irregular inflections, they are, bad- worst; much- most, respectively.

#### **v. Verb Inflectional Morphemes- Present Tense {-s}:**

Number is only marked in the 3<sup>rd</sup> Person present tense. For past and future tenses there is no agreement between subject and verb. The morpheme {-s} in the verb signifies the singular



subject. The verbs in English only inflect in present and past tense along with the present participle and past participle.

3rd Person singular Present Tense	He jumps.
Present tense plural	They jump.
Past tense	He jumped.
Progressive (present participle)	He is (be form) jumping.
Past Participle	He had jumped.

The above mentioned auxiliaries in the table are the aspectual distinctions of the verb inflection.

The {-s} morpheme is added to the base only in Present tense form. If the subject of the verb is 3<sup>rd</sup> person he/she/it (singular), then the morpheme {-s} is added to the verb.

#### vi. Verb Inflectional Morphemes- Past Tense {-ed}:

The past tense in the verb is generally indicated by adding {-ed} to the base. For example,

He walked on the silent road. (13)

She listened to the music. (14)

That person showed his genuine concern. (15)

Apart from these regular forms, there are few irregular forms, as in ate, drove etc.

#### vii. Verb Inflection- Present Participle {-ing}:

The present participle is also known as progressives and it takes the morpheme {-ing} to be added to the base. This -ing is used along with the Be form as auxiliaries. For example,

She was sleeping when I left. (16)

They are roaming in the city. (17)

**viii. Verb Inflection- Past Participle {-en}:**

The past participle takes {-en} morpheme to be added to the base. With this past participle morpheme, the auxiliary ‘had/have’ is also used. For example, Had broken, have swollen, had driven, have stolen etc.

Inflections appear in English Pronouns as well. Let us check the inflection in pronouns. The inflection in pronouns differs from that of nouns. So, it is justifiable to treat inflection in pronouns separate with nouns. Inflection is determined by case, gender, number, and person. Unlike nouns, pronouns have a very finite and limited set plurality. The below table illustrates the paradigm of pronouns.

Person	Number	Gender	Case			
			Nom.	Obj.	1 <sup>st</sup> Poss./Pl	2 <sup>nd</sup> Poss./P
First	Singular		I	Me	My	Mine
			We	Us	Our	Ours
	Plural					
Second			You		Your	Yours
Third	Singular	Masculine	He	Him	His	His
		Feminine	She	Her	Her	Hers
		Neuter	It			Its
	Plural		They	Them	Their	Theirs

*Source: egyankosh- Inflectional Morphology in English*

The above tabular representation illustrates the inflection in pronouns on the stated grammatical aspects such as person, number, gender and case. The representation is on personal pronouns of English. However, there are other words like somebody, someone, everything, everyone, and so on. There are suffixes for these pronouns such as somebody's, someone's. The

suffixation in these pronouns is recognizable but the inflections on the personal pronouns are not externally recognizable. The personal pronouns go through internal morphological change to show inflection.

**12.2.4. Regular Inflection:**

In all the above sections, we have discussed the regular and irregular inflections. Let us now understand these in detail with examples.

Inflection indicates the grammatical function of a word. In English, regular inflections are formed with suffixes, but irregular inflections do not have these suffixes. In irregular inflection, the word undergoes the internal morphological change. It follows a consistent pattern of rules which makes it a regular inflection. For example, plurality of Nouns is indicated by adding the morpheme {-s} to the stem (cats, trees, windows). Similarly, to indicate past tense in Verbs, the morpheme {-ed} is added to the stem (stumbled, checked, walked). Let us now see these regular inflections in the below cases:

**i. Regular Inflection in Plural Nouns**

The plural in nouns is generally indicated by the morpheme {-s}. We have discussed it earlier, but there are few words which end in **y, f, x, s, ch** etc, all the cases take **-es** and **-ies** to indicate the plurality. Well, these cases are considered to be consistent so they fall under the plural morpheme {-s}. Let us see few examples,

Car	Cars
Book	Books
Ball	Balls
Box	Boxes
Lady	Ladies
Knife	Knives
Beach	Beaches
Toy	Toys

The word 'toy' is an exception, it does not take {-ies} to become 'toies' but it takes the suffix -s to form toys.

## ii. Regular Inflection in Comparative form

The comparatives in English take the morpheme {-er} to be added to the base. There are few rules that govern in the creation of these comparatives. They are:

- The comparative suffix -er is added to the base and the new word is formed. If the base adjective is of one syllable and the last consonant is preceded by one vowel then the last consonant of the base will be doubled. For example,

Big	{big}+ {-er}	bigger
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Here the word 'big' is of only one syllable and the last consonant is preceded by only one vowel which results in the doubling of the consonant 'g' in the word 'bigger'.

- The second rule states that if the word is of one syllable; and the final letter of the base adjective is not doubled; and if there are two vowels preceding the last letter or there are two different consonants in the last then the final word would be the **base + {-er}**. For example,

Plump	{plump}+ {-er}	Plumper
Short	{short}+ {-er}	shorter
Clean	{clean}+ {-er}	cleaner

The words **plump** and **short** are monosyllabic, both end with two different consonant sounds. The word **clean** is also monosyllabic but instead of ending in two different consonants, the last consonant is preceded by two vowels.

- The third rule is that if the adjective ends in 'y' then the morpheme {-er} would reflect as the suffix -ier in the final word. For example,

Lazy	{lazy}+ {-er}	lazier
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Angry                                    {angry}+ {-er}                                    angrier

- The fourth rule states that if the word is monosyllabic then the suffix **-er** would be added (big becomes bigger); if the word is disyllabic (mostly ends in **y**) then the suffix **-ier** is added (happy becomes happier); and if there are three or more than three syllables then ‘more’ is used before the base adjective (beautiful becomes more beautiful).

### iii. Regular inflection in Superlatives

The regular inflection of superlatives in English follows the same rule as the comparatives. The only difference lies in the morpheme. The morpheme **{-est}** is added to the base adjective.

- The superlative suffix **-est** is added to the base and the new word is formed. If the base adjective is of one syllable and the last consonant is preceded by one vowel then that last consonant of the base will be doubled. For example,

Big                                    {big}+ {-est}                                    biggest

- The second rule states that if the word is of one syllable; and the final letter of the base adjective is not doubled; and if there are two vowels preceding the last letter or there are two different consonants in the last then the final word would be the **base + {-est}**. for example,

Short                                    {short}+ {-est}                                    shortest

Clean                                    {clean}+ {-est}                                    cleanest

- The third rule is that if the adjective ends in **y** then the morpheme **{-er}** would reflect as the suffix **-iest** in the final word. For example,

Lazy                                    {lazy}+ {-est}                                    laziest

Angry                                    {angry}+ {-est}                                    angriest

- The fourth rule states that if the word is monosyllabic then the suffix **-est** would be added (big becomes biggest); if the word is disyllabic (mostly ends in **y**) then **y** is replaced with **-i** and the suffix **-est** is added (happy becomes happiest); and if there are three or more than

three syllables then ‘more’ is used before the base adjective (beautiful becomes most beautiful).

#### iv. Regular Inflection in Verbs

The verbs in English takes the morpheme {-ed} to denote the past tense and the past participle. For example,

Word	Past Tense	Past Participle
Walk	Walked	Walked
Slap	Slapped	Slapped
Return	Returned	Returned
Climb	Climbed	Climbed
Like	Liked	Liked

There are few regular past tense suffixes that are added to the base verb which are default endings. These are new verbs which are added in the English language. Like **Google** becomes googled, **whatsapp** becomes whatsapped (these words are nouns but are often used as verbs).

#### 12.2.5. Irregular Inflection:

The irregular forms are generally formed by internal morphological changes which are known as ablaut and umlaut. The irregular noun and past tense forms are closed cases because there is a fixed list of those words and no new forms can be added. These irregular forms are the remnants of the Old English which was derived from various languages. These remnants show the rule of umlaut which was present during those times. Thus, the irregular inflection does not follow the same conventions of English to form new words.

##### i. Irregular Inflection in Noun Plurals:

The irregular noun plurals reject the conventional {-s} to be added to the base. The word undergoes the internal morphological change. Few examples are listed below:

Foot	Feet
Ox	oxen
Person	people
Child	children
Man	men
Datum	data
Woman	women

**ii. Irregular Inflection in Comparatives:**

The irregular inflections also follow in comparatives. For example,

Bad	worse
Good	better

**iii. Irregular Inflection in Superlatives:**

The superlatives also defy the convention of regular inflection. Few examples are,

Bad	worst
Good	best

**iv. Irregular Inflection in Past Tense and Past Participle (Verbs)**

The irregular verbs in past tense and past participle are not governed by any rule. The very usage of that word in its past tense form is only to be memorized. Some of those are listed below,

Verb	Past Tense	Past Participle
Eat	Ate	Eaten
Sing	Sang	Sung
Sit	Sat	Sat
See	Saw	Seen
Write	Wrote	Written
Ride	Rode	Ridden

Grow	Grew	Grown
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The 'be' form of the verb in past tense and past participle also show variety of irregular inflection. The illustration is provided with the help of table.

<b>Singular</b>	<b>Plural</b>	<b>Past Participle</b>
I was	We were	been
You were	You were	been
He/she/it was	They were	Been

The **be** form of verb also show irregularity in present tense as well.

<b>Singular</b>	<b>Plural</b>	<b>Present Participle</b>
I am	We are	Being
You are	You are	Being
He/she/it is	They are	Being

The above tables show that the **be** form of verb alone is highly irregular in its inflection and has many forms.

The irregular inflections in English are not governed by any rule rather they are unpredictable. It is difficult to understand the formation of their inflected forms.

### **12.3 Learning Outcomes**

At the completion of this Unit, you are expected to develop an understanding of what inflection means and it works in the English language. You should be able to recognize the eight inflectional morphemes in English and their functions. You should also try to apply the theoretical knowledge in identifying different inflectional morphemes in their language.



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## 12.4 Glossary

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**Ablaut:** It is a systematic vowel variation whose quality of length is determined by linguistic distinctions.

**Affix:** An addition to the stem or base of a word in order to modify its meaning or create a new word.

**Allomorph:** It is the representation of a morpheme. A morpheme can have two or more allomorphs.

**Aspect:** It is a verb form (or category) that suggests characteristics that are related to time, such as the duration, completion or repetition of an action.

**Auxiliary Verb:** A verb used to form tenses, moods, and voices of the main verbs. It is often called as helping verbs. The primary auxiliary verbs in English are *be*, *do*, and *have* ; the modal auxiliaries are *can*, *could*, *may*, *might*, *must*, *shall*, *should*, *will*, and *would*.

**Bound Morpheme:** It is a morpheme that cannot stand on its own and requires a free morpheme.

**Disyllable:** A word with two syllables.

**Free Morpheme:** A morpheme that can stand alone and has meaning of its own.

**Lexeme:** A lexeme is a minimal lexical unit of a language that underlies a set of words that are in relation with each other through inflection.

**Lexical:** A lexical form is an abstract unit. It represents a set of words that differs only in inflection and not in core meaning.

**Monosyllable:** Words with only one syllable.

**Morpheme:** It is the smallest meaningful grammatical unit of a language.

**Umlaut:** A symbol or mark that is over vowels in German language.

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## 12.5 Sample Questions

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### 12.5.1 Multiple Choice Questions:

1. Which of these morphemes do not have a grammatical function of inflectional morphemes?
  - (a) Singer
  - (b) Mice

- (c) Oxen
- (d) Chairman's

2. In a sentence, *The Children are playing in Smith's garden*; identify the number of inflectional morphemes in it.

- (a) 3
- (b) 2
- (c) 4
- (d) 5

3. Inflection is \_\_\_\_\_.

- i. The formation of new forms of the same grammatical category.
- ii. Does not change the class
- iii. Open ended and allows the addition of other morphemes.
- iv. prefix and suffix.

- (a) All are correct
- (b) Only (i) & (ii) are correct
- (c) All are false
- (d) Only (i) & (iv) are correct

4. To mark possessives on plural noun morphemes, it often takes the suffix,

- (a) {-s'}
- (b) {'s}
- (c) Internal morphological change
- (d) All are true

5. In English, inflectional morphemes are often,

- (a) Prefix
- (b) Suffix
- (c) Infix
- (d) Affix

6. The adjective morpheme takes {-er} as the suffix, then which is not the comparative form of the Adjective inflection?

- (a) Bigger

- (b) Larges
  - (c) Funnier
  - (d) Waiter
7. The word 'climbing' has which inflectional morpheme?
- (a) 3<sup>rd</sup> Person Singular Present Tense
  - (b) Possessives
  - (c) Progressives
  - (d) Plural
8. The Past Participle in verb takes {-en} as suffix. Identify which is not one.
- (a) Bitten
  - (b) Forgotten
  - (c) Given
  - (d) Oxen
9. What is the way of forming regular superlatives?
- (a) By adding the suffix **-est**
  - (b) By adding the suffix **-er**
  - (c) By adding the **most** before the adjective
  - (d) By adding the suffix **-ly**
10. The morphemes {-s'}, {-s} indicate,
- (i) Possession, plural nouns and singular verbs
  - (ii) Possession, present tense in verb and plural nouns
  - (iii) Present tense in verbs, possession and singular verbs.
- (a) All are false
  - (b) Only (i) is true
  - (c) Only (ii) is true
  - (d) Only (iii) is true

### 12.5.1 Short Answer Questions:

1. When do you use 'es' instead of 's' to indicate plurality in nouns? Give examples.
2. Describe inflection in your own words.

3. 'Woman' as a countable noun follows irregular paradigm. Provide its plural form with explanation.
4. The syllable of a word defines the comparative and superlative forms of adjectives. Explain with examples.
5. Explain regular and irregular verb inflections in English.

### **12.5.3 Long Answer Questions:**

1. Describe the eight inflectional morphemes in English language in your own words. Explain their functions with examples.
2. Trace out at least three inflectional morphemes in your language and their functions.
3. Explain with examples the Noun Inflectional Possessive.

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## **12.6 Suggested Readings**

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1. Haspelmath, M., & Sims, A. *Understanding Morphology* (2<sup>nd</sup> edition). Hodder Education. 2010.
2. Lieber, Rochelle. *Introducing Morphology*. Cambridge University Press. 2009.

## Unit-13: Introduction to English Syntax

### Structure

#### 13.0 Introduction

#### 13.1 Objectives

#### 13.2 The Science of Syntax

##### 13.2.1 Universal Grammar

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### 13.0 Introduction

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Modern linguistics has paved the way to look at languages in a more varied and scientific way. Human languages have been an intriguing field of investigation for ages. Earlier, languages were looked at as individual entities. Noam Chomsky's book *Syntactic Structure* (1957) provided a completely different perspective on how languages are viewed. The main aim of the book was the 'construction of a formalized general theory of linguistic structure'. As a result, the theoretical aspect of English language also underwent a change. The theory of English language

was viewed from a new generative transformational grammar perspective. Every language has a few core levels which include phonology, morphology, syntax and semantics. Syntax deals with the study of sentence structure. So, English syntax deals with the structure of English sentences. One of the most important structures that English syntax deals with is the word order in a sentence. According to experts on syntax, words are not arranged randomly in sentences. They follow certain rules. Some of these rules are called ‘principles’ which are common to all languages and some rules are called ‘parameters’ which are language specific. Syntax is the study of these rules and patterns in detail. So, the syntax of English focuses on different types of English sentence structures such as simple sentences, order of words, phrases, clauses etc.

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### **13.1 Objectives**

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The Unit is designed to fulfill the following objectives:

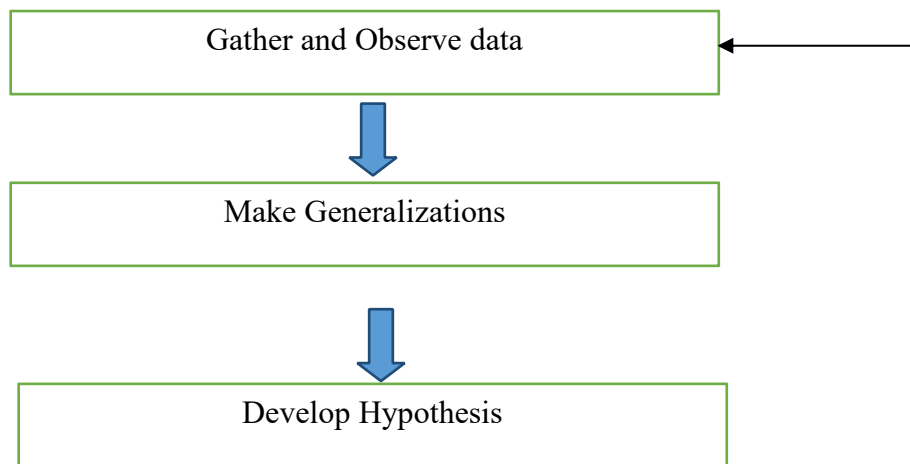
- to familiarize you with the importance of linguistic theory at the syntax level.
  - to be able to understand the concept of universal grammar.
  - to enable you to understand the difference between grammaticality and acceptability.
  - to get familiar with different syntactic categories in English and their definitions.
  - to acquaint you with various word classes.
- 

### **13.2 The Science of Syntax**

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Syntax is the scientific study of sentence structure. Scientific syntactic theories have taken many labels throughout its development such as transformational grammar, transformational generative grammar, standard theory, extended standard theory, principles and parameters and minimalism. All these theories come under an umbrella term called *Generative Grammar*. The main concept of the generative grammar is that an indefinite number of sentences are produced from a set of definite rules. The generative grammar focuses mainly on what the human mind is capable of.

In linguistics, language is studied in a more scientific way. This is called the formal aspect of language. The method used to get the scientific data from a language is shown in the figure below:



(Figure: 1 Carnie’s method to get scientific data)

There are two ways of writing grammar of any language. The first way of writing grammar is based on *prescriptive rules* where certain rules are predefined and imposed on speakers about how they should speak. An example of English prescriptive rule is ‘never start a sentence with a conjunction like *and or but*’. The second way of writing grammar is by using *descriptive rules*. This rule focuses on what the speakers actually speak. This approach is known as descriptive approach to linguistics or descriptive linguistics.

### 13.2.1 Universal Grammar:

Around the middle of the twentieth century, American linguist Noam Chomsky proposed a theory that our mind is hard wired with a mental template for learning grammar. It is referred to as “Mental Grammar”. Human beings rely on this innate grammar module to acquire language. Chomsky’s theory of universal grammar defines a set of rules applicable to all languages. Universal grammar acts as a hidden unit that underlies the vast surface diversity of 7000 languages of the world including English. It was a reforming break from the more informal approach towards languages. Universal grammar is an abstract notion which contains some characteristics that are true for all languages across the world. This came into existence because of similarities among languages. These are generally known as principles.

Chomsky discussed all the aspects and complexities involved in a competent native speaker of a language. He claimed that everyday language used by human beings behaves like a

mathematically based commutator language. He said that natural languages are a wonder of science. All the natural languages are rule-governed. Chomsky believes that there exists a universal grammar innate in nature and that it is an art of the human mind. It has deep biological underpinnings. The concept of universal grammar underwent a major change in the 1980s. According to this theory, a particular language A will possess the property B and the parameters that govern A. These principles are exhibited themselves differently in all languages of the world which are linked with society and culture to bring out parametric variations that exist today. The same is applicable to English language.

***Check your Progress***

1. There are \_\_\_\_\_ ways of writing grammar of any language.
2. The generative grammar focuses mainly on what the human mind is capable of.
3. The American linguist mentioned here is \_\_\_\_\_.

### **13.2.2 Grammaticality and Acceptability in English:**

Let us now discuss the notions of ‘grammaticality and acceptability’. Grammaticality is a theoretical notion and acceptability is a native speaker’s intuition. A sentence is grammatical in English if it is formed according to the rules of the English grammar formulated by linguists. Those utterances used systematically by native speakers are grammatical.

For example:

1. A girl is playing tennis.
2. The boy is going home.

The sentences 1 and 2 are said to be grammatical because they conform to the rules of English grammar.

Acceptability, on the other hand, is always about the native speaker’s intuition about the linguistic data. So there may be cases where a sentence is perfectly grammatical in English but not acceptable by its native speakers.

The famous example, ‘*colourless green ideas sleep furiously*’, composed by Noam Chomsky (1957) is a perfectly correct grammatical sentence but has no meaning. This sentence



is not acceptable by native speakers of English. A native speaker's judgement about acceptability cannot decide on grammaticality. The speaker has only intuition about acceptability. It is the job of an English linguist/grammarian to check the ungrammaticality of a sentence and find out the cause.

The society determines which forms are accepted and which are not. It is a matter of acceptance by society. Grammaticality and acceptability are two different notions but they are related to each other. A construction is grammatical if it is formulated by the grammarians. The correctness of a sentence depends on the speaker. Grammaticality does not ensure acceptability. The famous English example by Chomsky is a case of grammaticality which does not ensure grammaticality. Acceptability is somewhat related to appropriateness.

***Check your Progress***

1. What is grammaticality?

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2. What is acceptability?

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**13.2.3 Syntactic Categories in English:**

The words that make up a sentence are essential to syntax. Parts of speech which are otherwise known as syntactic categories play a very important role when it comes to words. The most common parts of speech are nouns, verbs, adjectives, adverbs and prepositions. These words are combined together to frame phrases which in turn combine sentences. A particular word class appears in a particular position in a sentence. A noun will appear in its designated position in a sentence and the same is true for all word classes.

**13.2.4 Types of Parts of Speech:**

The most common syntactic categories of English as mentioned above are nouns, verbs, adjectives, adverbs, prepositions, conjunctions etc. The definitions of all these word classes are available in school grammar books. So a traditional definition of noun would 'be a name of

person, place or thing’ and verb would be ‘names of action or states’. These types of definitions are based on semantic criteria. Examples of different word classes are given below in table 1:

Names of the word class	Examples
Noun	dog, sincerity, death, king, information
Verbs	walk, sing, run, plan, help
Adjectives	beautiful, careless, very, helpful, biggest
Adverbs	loudly, badly, very, slightly
Prepositions	in, on, at, around, with, through
Determiner	the, a, an, some, few, any
Conjunction	and, or, but, that, if, because, although

Table 1: Different parts of speech in English with examples

In syntactic theory, parts of speech are important because we can determine their occurrence in a sentence and make some scientific generalizations.

<p><b><i>Check your Progress</i></b></p> <p>1. What are the major syntactic categories in English?</p> <hr/> <hr/> <p>2. What is the traditional definition of a noun?</p> <hr/> <hr/>
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**13.2.5 Criteria for Parts of Speech:**

There are some serious problems in the traditional definition of parts of speech. The problem lies in the over simplicity of these definitions which are inadequate for a serious investigation of English. These definitions are not scientific in nature. For example:

1. Meditation brings good health to us.

The meaning of *meditation* is not a place, person or thing. If we follow the traditional semantic definition then it would be a verb. But any native speaker of English would identify it as a noun. It does not take much time to identify a similar kind of situation with other parts of speech. Thus, it seems inadequate to define parts of speech solely based on semantic criteria. Another important thing to be noted here is that the native speaker of English identifies *meditation* as a noun because it appears in a certain position in the sentence where a noun occurs normally. There are even instances in English where a word changes its parts of speech based on its position of occurrence.

2. *Mother* is the most beautiful word in this world.

3. The villagers *mother* him a lot.

In sentence 2, *mother* is a noun whereas in sentence 3 the same word *mother* is a verb. So the definition of parts of speech should be based on its distributional criteria rather than its meaning. Scientifically, there can be two types of distribution:

- i. Morphological distribution
- ii. Syntactic distribution

Morphological distribution is based on affixes and other types of morphology that appear on a word. There can be two types of affixes as you have already studied. They are derivational affixes and inflectional affixes. Derivational affixes change the category of the word. For example, if the derivational suffix -(t)ion is added to the verb *destruct* then it becomes a noun '*destruction*.' So we can say that -(t)ion affix creates nouns. Similarly, if we look at inflectional affixes, we can observe that they are attached to a few categories. For example, -ed is attached to verbs to make past tense. These affixes cannot be used to change the syntactic category of a word. It can be said that inflectional affixes help us in identifying a few syntactic categories.

The other kind of distribution that helps us in identifying parts of speech is syntactic distribution. It gives us information about the environment of a word. For example, what are the word classes that can appear before and after a noun?

### 13.2.6 Redefining Major Parts of Speech:

Based on the discussion in the previous section, we can now redefine the parts of speech in English.

- i. Noun: A noun is something which takes noun position in a sentence and noun affixes. Let us now have a look at the morphological and syntactic distribution of nouns in English.

Morphological Distribution		Syntactic Distribution
Derivational Suffixes	Inflectional Suffixes	
-ment (basement), -ness (friendliness), -ity (sincerity), -ty (certainty), -(t)ion (devotion), -ation (expectation), -ist (specialist), -ant (attendant), -ery (shrubbery), -ee (employee), -ship (hardship), -aire (billionaire), -acy (advocacy) , -let (piglet), -ling (underling), -hood (neighborhood), -ism (socialism), -ing (fencing)	-s (cats), -es (glasses), -en (oxen), -ren (children), -i (cacti), -a (addenda)	<ul style="list-style-type: none"> <li>➤ After the determiner</li> <li>➤ After the adjective</li> <li>➤ Follows reposition</li> <li>➤ Can be negated by <i>no</i> etc.</li> </ul>

Table 2: Distributions of Noun in English

Source: Carnie (2006: 40)

All the suffixes mentioned under morphological distribution in Table 2 can be named as noun suffixes in English. Similarly, all the positions mentioned under syntactic distribution in Table 2 are the positions of a noun and no other parts of speech can occur in that position.

- ii. Verb: A verb is something which takes verb position in a sentence and verb affixes. Let us now have a look at the morphological and syntactic distribution of verbs in English.

Morphological Distribution		Syntactic Distribution
Derivational Suffixes	Inflectional Suffixes	
-ate (dissipate), and -ize/-ise (regularize)	-ed and -t for past tense (worked) -s for third person singular (Shilpa walks) -ing in aspectual constructions (She was walking) -en and -ed suffix for passivization (the rice was eaten)	<ul style="list-style-type: none"> <li>➤ Follows auxiliaries and modals</li> <li>➤ Follows infinitive marker</li> <li>➤ Follows subjects and adverbs as well</li> <li>➤ Can be negated with <i>not</i> etc.</li> </ul>

Table 3: Distributions of Verbs in English

Source: Carnie (2006: 41)

All the suffixes mentioned under morphological distribution in Table 3 can be named as verb suffixes in English. Similarly, all the positions mentioned under syntactic distribution in Table 3 are the positions of a verb and no other parts of speech can occur in that position.

iii. Adjective: An adjective is something which takes adjective position in a sentence and adjective affixes. Let us now have a look at the morphological and syntactic distribution of adjectives in English.

Morphological Distribution		Syntactic Distribution
Derivational Suffixes	Inflectional Suffixes	
-ing (the dancing cat), -ive (indicative), -able (readable), -al (traditional), -ate (intimate), -ish (childish), -some (tiresome), -(i)an (reptilian), -ful (wishful), -less (selfless), -ly (friendly)	-er (comparative form) -est (superlative form) Negated by using prefix -un	<ul style="list-style-type: none"> <li>➤ Appear in between determiner and noun</li> <li>➤ Can follow an auxiliary</li> <li>➤ Can be modified by adverbs</li> </ul>

Table 4: Distributions of Adjectives in English

Source: Carnie (2006: 41)

All the suffixes mentioned under morphological distribution in Table 4 can be named as adjective suffixes in English. Similarly, all the positions mentioned under syntactic distribution in Table 4 are the positions of an adjective and no other parts of speech can occur in that position.

iv. Adverb: An adverb is something which takes adverb position in a sentence and adverb affixes. Let us now have a look at the morphological and syntactic distribution of adverbs in English.

Morphological Distribution		Syntactic Distribution
Derivational Suffixes	Inflectional Suffixes	
-ly: quickly, frequently, slowly	Do not take any inflectional suffixes generally	<ul style="list-style-type: none"> <li>➤ Can't appear in between determiner and noun</li> <li>➤ Can't appear after</li> </ul>

		<p>the 'be' verb</p> <p>➤ They can appear anywhere else</p>
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Table 5: Distributions of Adverbs in English

Source: Carnie (2006: 42)

All the suffixes mentioned under morphological distribution in Table 5 can be named as adverb suffixes in English. Similarly, all the positions mentioned under syntactic distribution in Table 5 are the positions of an adverb and no other parts of speech can occur in that position.

***Check your Progress***

1. What is the new definition of a noun?

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2. What are some derivational suffixes of English verbs?

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**13.2.7 Open vs. Closed Word Classes:**

Some word classes allow new words to their categories. These kinds of word classes are called open word classes. For example, *chutney* which is a native word in many Indian languages is now considered an English noun. The dictionary defines it as a spice condiment made of chopped fruits or vegetables cooked in vinegar and sugar. In fact, *chutnified* has been derived from *chutney*. In the open class, a new word can be coined or added at any point of time.

Closed classes are those classes where coining or adding new words are next to impossible. They do not allow new forms. For example, coining or adding a new preposition to English is not allowed. So, we can say that prepositions belong to the closed word class. The same is true for conjunction. In English, or in any other language for that matter, a new conjunction is highly unlikely.

### 13.2.8 Lexical vs. Functional Categories:

Lexical words are known as content words. Content words in English include nouns, verbs, adjectives and adverbs. Functional categories are also referred to as grammatical categories. They refer to grammatical information in a sentence. Determiners, auxiliary verbs, modals, prepositions, complementizers, conjunctions and negation are examples of functional categories. Open and closed classes may look similar to lexical and functional categories respectively but they are not identical in their function.

#### *Check your Progress*

1. What is the difference between open and closed word classes?

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2. How is lexical category different from functional categories?

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### 13.2.9. Structure of an English Sentence:

A sentence is defined as a grammatically complete idea. A sentence must have some required components. The required components of a sentence are parts of speech and they need to be arranged in a particular way, otherwise the sentence will lose the intended meaning and will result in a grammatically incorrect sentence. For example:

1. Shawn likes to have cold drinks every day.
2. Shawn cold drinks every day to have likes.

Sentence 2 is clearly an ungrammatical sentence because it doesn't follow the word order rule of English. The grammatical and acceptable word order in English is Subject, Verb and Object i.e. SVO. Sentence 1 follows the SVO word order whereas sentence 2 doesn't.

### 13.2.10 Components of a Sentence:

Sentences are not collections of random words. Sometimes, we may have pretty long sentences and sometimes, we may use a word like 'come' or 'go' which constitutes a whole



sentence. Some sentences have a tense, and others have no tense and some may have infinite sentences/clauses. What we find very common among all these sentences is the verb. Everything revolves around the verb. So, we may understand that if there is no verb, there is no sentence. The components (mainly lexical items) of the sentences have different types of relationships between them and functional categories play a very significant role in establishing the relationships among them.

The grammatical components of a sentence are: (1) 'subject', which is a noun phrase, and (2) 'predicate', which is a verb phrase. These components need to be in the right order to make a sentence grammatical. When we talk about the right order, it is not only the order of verbs but also about the other components which are important. English is a verb medial language because verbs are placed in between the subject and object in a sentence. We can say that the verb must precede the object or the object must follow the verb. So, the relationships among these components such as 'between a subject and a verb', 'verb' and 'object' and the role of predicate are very crucial for a sentence to be grammatical.

### 13.2.10.1 Subject

Subject is the most complex grammatical function in a sentence. Subject is one of the constituents of a sentence which tells us, who performs the action denoted by the verb and who or what the sentence is about. For example,

1. Kolkata Knight Riders beat Delhi Daredevils yesterday.
2. Delhi Daredevils beat Kolkata Knight Riders yesterday.

Sentence 1 is more concerned in giving information about *Kolkata Knight Riders* whereas in sentence 2, we learn more about *Delhi Daredevils*. So, if we ask who carried out the action denoted by the verb or what is this sentence about, the answer will be 'the subject.' Another important characteristic of a subject is that it agrees with the verb. For example,

1. The rabbits eat carrots.
2. The rabbit eats carrots.

In sentence 1, the subject, *the rabbits* agrees with the verb *eat* by taking a pluralized form whereas in sentence 2, the subject, *the rabbit* agrees with the verb *eats* by taking a singular form.

The definition of subject mentioned above gets into a problem when you have *it/there* in the subject position.

3. It is very hot here.

4. There is some milk in the fridge.

The subjects in sentence 3 and 4 are non-referent subjects. They do not refer to anything concrete or abstract and are meaningless subjects. The subject *it* in sentence 3 is called non-referential subject whereas *there* in sentence 4 is called existential *there* as it has got something to do with existence. Subject in a sentence can also be identified by using a question tag. For example,

5. Shelly is a very affectionate person. Isn't she?

6. Dictators have always exercised power. Haven't they?

7. We should know the history of our country. Shouldn't we?

The answers of all the tag questions from 5 to 7 are subjects of respective sentences. So, tag questions can also be used as a test to identify a subject in a sentence.

### 13.2.10.2 Predicate

The grammatical function which tells about the work of the subject is called predicate. In a layman's term, we can say that predicate is sentence minus subject. Subject-minus everything in a sentence is called predicate. The implication of this definition is that the subject is not part of the predicate. A sentence is basically divided into two parts i.e. subject and predicate. So a predicate definitely has a verb. Let us have a look at a predicate:

1. [The mother] [fed the child].

Subject                  Predicate

2. [Mohan] [ate pizza at the Dominos].

Subject                  Predicate

In sentences 1 and 2, we can see that everything else apart from the subject is known as predicate. The verb inside a predicate is also called as a predicator. The feeding or eating

activities in 1 and 2 are predicated of their respective subjects of these sentences, which specifies who were engaged in the feeding and eating activities.

### 13.2.10.3 Object

The presence of an object in a sentence is dependent on the verb. To understand an object, we need to know the nature of the verb. There are different types of verbs, namely intransitive, transitive and ditransitive. Verbs like *come, go, sit, dance* etc. are intransitive verbs as they do not require an object. Verbs like *eat, see, beat, love* etc. are called transitive verbs because they need an object. Ditransitive verbs are those verbs which require two objects such as *give, keep, send, wish* etc. Let us see few examples:

1. I went.
2. I ate a banana.
3. I gave him a book.

In sentence 1, the sentence is complete and makes sense even if we don't have an object that follows the verb. It means a verb like *went* does not need an object to complete the sentence. The same is not true with sentence 2. The verb *ate* requires an object to make the sentence complete and in the absence of an object, the sentence will not make complete sense. There will always be a question: *I ate what or what did you eat?* Now a verb like *give* requires two objects obligatorily. In sentence 3, the two objects are *him* and *a book*. There is a diagnostic test that can be applied to determine whether a verb needs an object or not. If the object position can be questioned by 'what' then it requires an object. In sentence 1, can we ask the question *I went what or where did you go?* No, we cannot ask this question and this is an indication that *go* is an intransitive verb. But in the case of sentences 2 and 3, we can ask the question 'what' to the object. In 3, the 'what' question is applicable to the object, *a book*. This diagnostic test of 'what' may not be a foolproof test, however, it is one of the reliable ways to test the transitivity of a verb.

There are two types of objects. One is called a 'direct object' and the other is called an 'indirect object'. Let us discuss the direct object first. Direct objects are mostly nouns/noun phrases and they come immediately after the main verb. In sentence 3, *a book* is the direct object and fulfills our criteria to become a direct verb. It is a noun phrase and comes immediately after the main verb *give*. In sentence 2, *banana* is the direct object. So, we can say

that a verb that requires a direct object is called a transitive verb. Direct objects can become the subject of a passive sentence. An Indirect object mainly is a goal or receiver or a beneficiary. Verbs that take both a direct object and an indirect object are called ditransitive verbs. Indirect objects are often noun phrases. They cannot occur without an indirect object.

4. I gave a book.

If we do not have a direct object as in sentence 4, the sentence becomes ungrammatical. Indirect object always comes before the direct object but it can be reversed by adding 'to'.

5. I gave a book to him.

Indirect objects can also be the subjects of passive sentences.

#### **13.2.10.4 Phrase Structure:**

The words and constituents of a sentence are arranged in a hierarchical way and this arrangement is called phrase structure. Generalizations about structures are represented by rules. These rules are called phrase structure rules since their purpose is to show internal structure of a phrase. There are different types of phrases in a sentence. They are: Noun Phrases (NP), Verb Phrases (VP), Prepositional Phrases (PP), Adjective Phrases and Adverb Phrases (AP).

A noun phrase generally contains a determiner, an adjective, a noun, and a prepositional phrase.

1. A beautiful girl with long hair

In sentence 1, *a* is a determiner/article, *beautiful* is an adjective, *girl* is a noun, *with long hair* is a PP.

So the rule for NP can be written like:

2. NP (D) (Adj P+) N (PP+)

The bracket in the rule mentioned in 2 indicates optionality. It means, we can have a noun phrase without them. The + symbols indicate that, we can have multiple no. of AdjP and PP. For example:

3. a. girl

b. the girl

- c. the beautiful girl
- d. the long green table (two Adj Ps)
- e. the green table with chair
- f. The island of Andaman with coconut trees (two PPs)

In the same way, we can write the rules of other phrases as well.

4.  $VP \rightarrow (AdvP+) V (NP) (\{NP/CP\}) (AdvP+) (PP+) (AdvP+)$

CP stands for complementizer phrase. The curly bracket in the VP rule gives us the information of either this or that which means a VP will either have a NP or a CP in the same position. Complementizer phrases normally start with *that*.

5. John said *that he will decorate the hall*.

The italicised part in sentence 28 is the CP and is taking the object position of the sentence.

6.  $PP \rightarrow P (NP)$

30. a. with a knife

- b. on the table

A prepositional phrase will have a preposition and an optional noun phrase

7.  $AdjP \rightarrow (AdvP) Adj$

8. very big

An adjective phrase will have an adjective and an optional adverb phrase

9.  $AdvP \rightarrow (AdvP) Adv$

An adverb phrase will have an adverb and an optional adverb phrase

10. very slowly

So far, we have seen the phrase structure rules for four major phrases in an English sentence. These rules account for a good number of English sentences, if not all. More advanced rules have been formulated for more complex data. This is the first phase of phrase structure rules under generative grammar.

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### 13.3 Learning Outcomes

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It is expected that upon the completion of this Unit, you should be able to define the term 'syntax'. You should be able to explain why syntax is a science. You should be able to describe what universal grammar is. You should be able to identify grammatical and acceptable sentences in English language. You can redefine the parts of speech based on the morphological and syntactic distribution. You should be able to identify the parts of a sentence in English. You are expected to have an understanding of phrase structure in English.

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### 3.4 Glossary

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**Syntax:** The scientific study of a structure of a language is called syntax.

**Language:** The cognitive ability of humans to communicate with each other. English, French, Hindi, Telugu are individual languages.

**Generative Grammar:** A modern grammar theory proposed by Noam Chomsky, which tries to formalize the grammar of all the languages of the world in one framework.

**Scientific Method:** In this context, gather data, analyze them which will be followed by hypotheses. The hypothesis can be tested.

**Prescriptive Grammar:** The grammatical rule of a language is given by the grammarians who prescribe how to talk.

**Descriptive Grammar:** A grammar that describes the way language exists.

**Universal Grammar:** The grammar that is inside a human mind, which is innate in nature.

**Grammaticality:** A sentence/clause that follows the grammatical rule of a language.

**Acceptability:** It is the native speaker's intuition whether a sentence is acceptable by native speaker or not.

**Parts of Speech:** It is a word class or syntactic categories like noun, verb, adjective, adverb, preposition etc.

**Open Class:** These are those word classes which can add new words every time.

**Closed Class:** Word classes, which cannot add new words

**Lexical Category:** A category that gives information on the content of the sentence.

**Functional Category:** A category that gives grammatical information in a sentence.

**Subject:** It is a complex grammatical function without which a sentence remains ungrammatical in English.

**Predicate:** Sentence minus subject is called predicate.

**Intransitive Verb:** A verb that requires no object.

**Transitive Verb:** A verb that requires only one object.

**Ditransitive Verb:** A verb that requires two objects.

**Direct Object:** It is often a noun phrase which occurs after the main verb.

**Indirect Object:** Semantically, it is a goal/receiver/beneficiary.

**Phrase Structure:** It talks about the structure of a phrase and what it contains.

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## 13.5 Sample Questions

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### 13.5.1 Objective Questions:

1. What is defined as 'the study of sentence structure'?
  - (a) Morphology
  - (b) Semantics
  - (c) Phonology
  - (d) Syntax
2. Which of the following is an example of a tag question?
  - (a) Who do you plan on seeing this afternoon?
  - (b) Why did he do that?
  - (c) Is it really raining outside?
  - (d) It is hot, isn't it?
3. In the sentence 'I went to the market', 'to' is a/an:
  - (a) Infinitival
  - (b) Preposition
  - (c) Adverb
  - (d) Interjection
4. In the sentence, 'I felt that he was a fool', 'that' is a:
  - (a) Coordinating Conjunction
  - (b) Preposition

- (c) Vocative
  - (d) Complementizer
5. A sentence cannot stand without a \_\_\_\_\_
- (a) Noun
  - (b) Verb
  - (c) Adjective
  - (d) Adverb
6. Which of these sentences is an intransitive sentence?
- (a) The man chased the dog.
  - (b) The old man laughed.
  - (c) The tall and foolish man put the book on the table.
  - (d) The man in the dark dress ate the apple in the garden.
7. Who introduced the concept of Universal Grammar in linguistics?
- (a) Noam Chomsky
  - (b) Ferdinand de Saussure
  - (c) Charles Sanders Peirce
  - (d) Edward Sapir
8. The man with the blue cap is my friend.  
Identify the **Subject** of the sentence.
- (a) The man
  - (b) blue cap
  - (c) The man with the blue cap
  - (d) my friend
9. What is the word order in English?
- (a) SOV
  - (b) VSO
  - (c) SVO
  - (d) None of the above
10. Which one is not a component of a sentence in English?
- (a) Indirect Object



- (b) Subject
- (c) Syllable
- (d) Verb

### 13.5.2 Short Answer Questions:

1. Identify the parts of speech in the following sentences.
  - a. The old friend came all of a sudden in front of me.
  - b. Shilpa and Sameera have just gone to the Charminar market in a bus.
  - c. He is well behaved in his community.
  - d. The Hyderabadi biryani was truly delicious.
  - e. I'll carefully clean the museum.
  - f. I am reading a novel by Khuswant Singh.
  - g. Everyone in the class thinks that Azhar should run for the student union president.
2. How is grammaticality different from acceptability?
3. What are open and closed classes in English? Give examples.
4. What is a predicate? What are the elements it contains?
5. Discuss the structure of a verb phrase (VP) in English.

### 13.5.3 Long Answer Questions:

1. Describe the components of a sentence with adequate examples.
2. What evidences will you give to describe syntax as a science?
3. What is phrase structure? Explain different phrases with examples.

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## 13.6 Suggested Readings

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1. Carnie, Andrew. *Syntax: A Generative Introduction* (2<sup>nd</sup> ed.). Blackwell Publication. 2006.
2. Crystal, D. *The Cambridge Encyclopedia of the English Language*. Cambridge: Cambridge University Press. 1995
3. Eastwood, J. *The Oxford Guide to English Grammar*. Oxford: Oxford University Press. 1994
4. Emonds, J. *A Transformational Approach to English Syntax*. New York: Academic Press. 1976

## Unit-14: Deep Structure and Surface Structure

### Structure

#### 14.0 Introduction

#### 14.1 Objectives

#### 14.2 Immediate Constituent Analysis

##### 14.2.1 Transformational Grammar

##### 14.2.2 Deep Structure and Surface Structure

##### 14.2.3 The Auxiliary Verbs in English

##### 14.2.4 Types of Transformation in English

###### 14.2.4.1 Affix Hopping

###### 14.2.4.2 Question Transformation

###### 14.2.4.3 Passive Transformation

###### 14.2.4.4 *Do* Support

###### 14.2.4.5 Negative Insertion

###### 14.2.4.6 Reflexivization

###### 14.2.4.7 *There*-Insertion

###### 14.2.4.8 Dative Transformation

###### 14.2.4.9 Ordering the Transformational Rule

#### 14.3 Learning Outcomes

#### 14.4 Glossary

#### 14.5 Sample Questions

#### 14.6 Suggested Readings

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### 14.0 Introduction

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Deep structures and surface structures can be best understood through transformational grammar. The phrase structure grammar determines the order of words and phrases. However, it has some limitations too.

1. We sold the vegetables.
2. The vegetables, we sold.

The above mentioned sentences 1 and 2 have the same meaning, but they do not follow a similar word order. Phrase structure grammar does not account for sentence 2. Transformational grammar provides a solution to this problem: however, it does not do away with the phrase structure rules. It brings out the concept of original structure of a sentence. Transformational grammar says that a sentence has an original structure. The sentence takes different shapes or structures with the same meaning when transformations are applied to it. We can see that in sentence 2. The meanings of sentence 1 and 2 are same but the structures are different. A transformation called ‘movement’ i.e. direct object movement to the front has been applied to sentence 1 that results in sentence 2. So, a transformational grammar has two levels of syntactic structures.

- i. Deep structure (original structure)
- ii. Surface structure (transformational structure)

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## 14.1 Objectives

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The Unit is designed to fulfill the following objectives:

- to familiarize you with transformational grammar.
- to understand the concept of phrase structure grammar.
- to have a conceptual understanding of deep structure and surface structure.
- to enable you to understand the difference between deep and surface structure.
- to get familiar with different types of transformations in English.
- to acquaint you with the ordering of the transformations.

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## 14.2 Immediate Constituent Analysis

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Immediate constituent analysis, which is shortly known as IC analysis, is one of the syntactic methods used to analyze a sentence. The analysis mainly focuses on the constituents and their relationship with one another. When words and morphemes are put together in a specific order, they form sentences. The analysis of these constituents is known as immediate

constituent analysis. Morphemes or words are the ultimate constituents of a sentence as it can't be analyzed further at the syntactic level. Here's how it goes:

3. The young boy ran away.

There are two immediate constituents in sentence 3. The first one is *the young boy* and *ran away* is the second one. These constituents can further be analyzed at the next level, *the young boy* is divided into *the*, *young*, and *boy* and *ran away* into *ran*, *away*. The term immediate constituent analysis was given by Bloomfield in 1939. The IC analysis of sentence 3 can be represented in the following diagram:

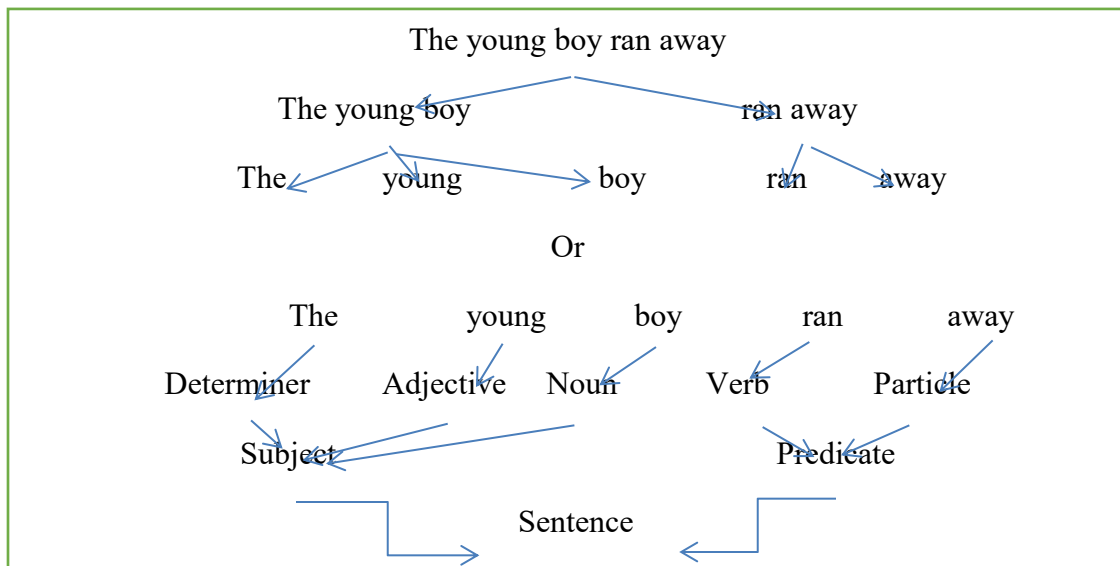


Figure 1: Representation of Immediate Constituents in different tree diagrams

The constituents of the sentence can be represented by using any one of the tree diagrams showed in figure 2. The IC analysis tries to divide the constituents into sub-parts. The analysis is called 'immediate' as there are no interrupting elements between the constituents. Let us analyze one more sentence.

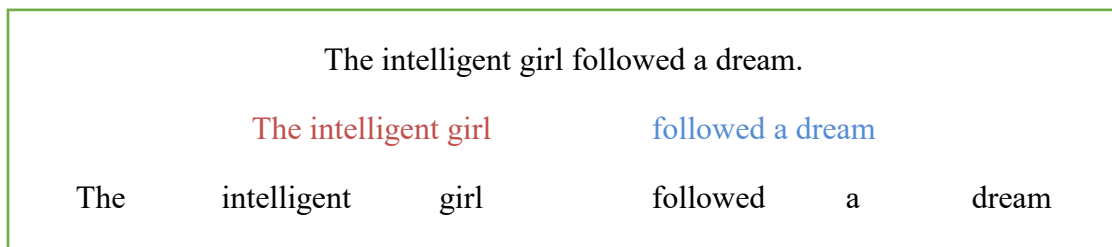


Figure: 2

There are three immediate constituents in this sentence. The first one is *the intelligent girl*, second is *followed* and third one is *a dream*.

#### **14.2.1 Transformational Grammar:**

Transformational grammar deals with the relationship among different elements of a sentence. Noam Chomsky came up with the idea of transformational grammar in 1957. According to him, phrase structure rules only addressed a few varieties of sentences and were not adequate enough to deal with all possible sentences in a language.

For example, transformational grammar connects the active sentence with its respective passive sentence.

4. Mary read this book.
5. The book was read by Mary.

A transformational grammar discusses the underlying structure of a sentence. It gives us the information regarding sentence 4 and 5 which may look different on the surface but deep down, they are very similar. Transformational grammar tries to manifest the relationship between such sentences through the concept of deep and surface structure. A transformation is an exercise that transforms one sentence into another. Chomsky came up with a name called 'kernel sentences' to describe active sentences and passive sentences that are transformed sentences. These kernel sentences are not necessarily basic sentences from the perspective of immediate constituent analysis. It can be any sentence which has not gone through any transformation.

His work countered the previous works of structuralism. He rejected the concept that every language is unique. Structuralist framework concentrated on the procedures to discover the structure of language. Chomsky said that the grammars produced by using structuralist rules do not have predictive power. It is very limited in scope. According to Chomsky, grammatical theory should be predictive in nature and should generate all the grammatical strings not the ungrammatical ones. The goal of this grammatical theory is to:

- i. Be able to distinguish between competence and performance of a speaker.
- ii. Provide an infinite number of sentences from a finite number of rules.
- iii. Establish the relationship between sound and meaning.

iv. Represent all the linguistic levels of the language etc.

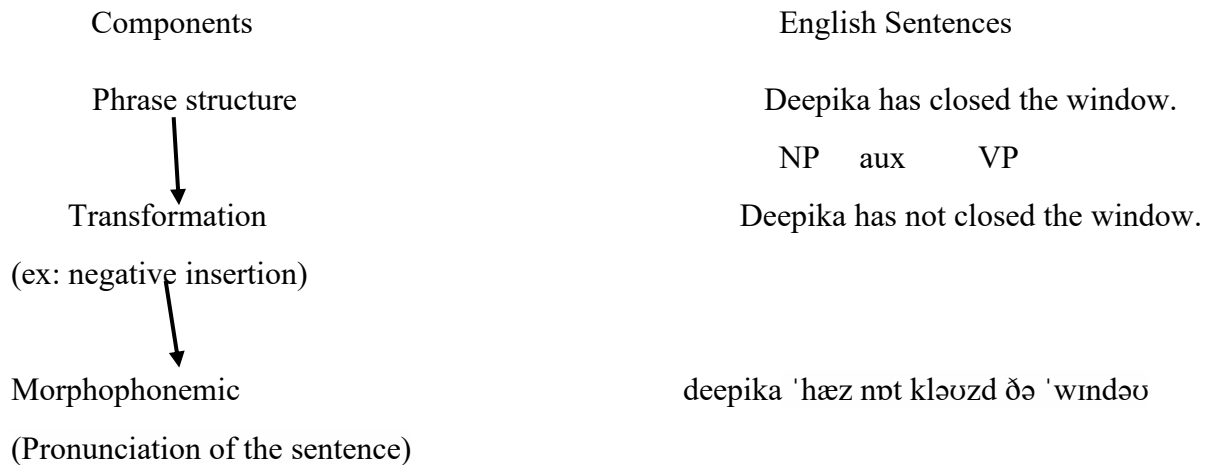
In his book *Syntactic Structure*, Chomsky said that a grammatical theory should have three components.

- a. Phrase Structure component
- b. Transformational component
- c. Morphophonemic component

A phrase structure component generates the rules for phrases as well as sentences. For example:

S NP Aux VP

A sentence will have three components: NP the subject of the sentence, Aux which is optional and a VP. In the transformational component, a sentence can be in any form apart from the kernel sentence. This component contains the rules which can change the kernel sentences in various ways. The morphophonemic component converts the transformed sentence into a phonemic transcription.



The study of transformational grammar remains essential today due to its pioneering role in the development of modern linguistics.

***Check your Progress***

1. What is IC analysis?

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**14.2.2 Deep Structure and Surface Structure:** Deep structure and surface structure play a significant role in understanding and analyzing the structure of a sentence.

**Deep Structure:** The structure of a sentence before any transformation is applied to it. It is also known as D-structure. Deep structure deals with the semantic interpretation.

**Surface Structure:** The structure that we get after all the necessary transformation which we apply to a sentence. The sentence that we hear is the surface structure, and is also known as S-structure. Surface structure deals with phonetic interpretation.

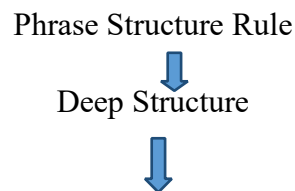
American linguist Noam Chomsky developed the concept of deep structure and surface structure. According to him, deep structure is an abstract structure. A native speaker knows the meaning of a deep structure. On the other hand, the surface structure is an uttered or written sentence. The deep structure tells us the meaning intended by the native speaker whereas the surface structure shows us how the speaker uses it in communication. Deep structure is the underlying syntactic structure of a sentence and is generated by phrase structure rules. A series of necessary transformation rules are applied to deep structure to get the surface structure.

The important components of a sentence like ‘subject’ and ‘object’ are defined at deep structure. Transformational rule actually connects the deep structure and surface structure. There can be many surface structures of a particular deep structure.

For example:

6. I purchased beautiful clothes.

The surface structure, in sentence 6, talks about an elaborate and detailed experience. The deep structure will have more details in it. It will give information on types of clothes, colour of the clothes, location of the cloth store, experience of buying clothes, the cost of the clothes etc. All this information is with the speaker and is deleted in the process of transformation from deep to surface structure. The final syntactic representation of a structure can be the surface structure. The following figure represents the relationship between deep and surface structure:



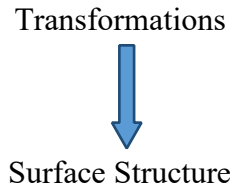


Figure 1: The Deep Structure and Surface Structure

Transformation is a process that generates the deep structure into a more perplexed surface structure of a sentence. Deep structure and surface structure can better be understood through transformation.

***Check your Progress***

1. What is deep structure?

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2. What is surface structure?

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**14.2.3 The Auxiliary Verbs in English:**

It is very important to know about the auxiliary verbs in English to understand transformation. Auxiliary verbs are different from main verbs. The auxiliary verbs are shifted to the front part of the sentence to ask questions, not the main verbs. For example:

Declarative Sentence	Question
7. They are running a show.	Are they...?
8. She has built a house.	Has she...?
9. Asif can read Japanese.	Can Asif...? / can he...?
10. I have passed all the exams.	Have I...?
11. Sameera is fond of music.	Is Sameera...? / is she...?
12. It wasn't interested.	Wasn't it...?



In the above sentences, the auxiliary verbs come to the front to form a question not the main verbs. From the above examples, it is clear that there are different types of auxiliary verbs.

- i. Be- verb (forms include is, am, are, was, were)
- ii. Have- verb (forms include have, has, had)
- iii. Modal auxiliaries (forms include can, could, may, might, will, would, shall, should, must, etc.)

The first rule of transformational grammar or a sentence can be proposed based on the examples we have seen so far.

### 13. S NP Aux VP

A sentence is basically divided into three basic elements. They are: NP, which is the subject, an auxiliary verb and a VP. The auxiliary verb and VP normally constitute a predicate. There are compound and complex sentences in English. Other types of sentences, apart from simple sentence, have complicated phenomena and more advanced theories available for them. Our focus here is only on simple sentences. The structure of the sentence can be shown in a tree diagram as follows:

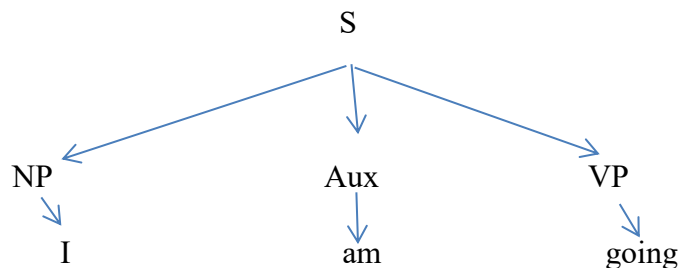


Figure 3: Sentence diagram in phrase structure rule

Let us now see, what would be the order of auxiliaries in a sentence. We will have a look at a few examples to determine the order:

14. He **will** come to the party.
15. Jack **has** a valid visa.
16. I **may** be dancing tomorrow.
17. The university **may have been** thinking about this matter.

18. The university **have been may** thinking on this matter.

Sentences 14 and 15 tell us that there is a particular order that needs to be followed by auxiliary verbs to appear in a sentence. Modal always comes first followed by 'have' and 'be'. So, we can formulate a rule for auxiliaries now:

19. Aux (Modal) (Have) (Be)

The auxiliaries are written in brackets because it indicates optionality. We have seen in sentences 14 to 16 that the presence of all auxiliaries is not compulsory in a sentence.

***Check your Progress***

1. What is an auxiliary verb in English?

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2. What is the order of occurrence of auxiliary verbs?

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**14.2.4 Types of Transformation in English:**

There are different types of transformation which are applied to deep structure in English. Transformation is a type of syntactic rule that moves elements from one position to another. The transformation in English happens by inserting, deleting or moving elements in a sentence. The types of transformation in English include:

- i. Affix Hopping
- ii. Question Transformation
- iii. Passive Transformation
- iv. *Do* Support
- v. Negative Insertion
- vi. *There* Insertion
- vii. Reflexivization
- viii. Dative Transformation

Let us see each transformation in detail in the following sections:

**14.2.4.1 Affix Hopping:**

Affix hopping is an internal transformation where every affix immediately followed by a verb is shifted to the right of that verb which becomes a part of it. Affix hopping is applied after every transformation. For example:

20. You would be happy to have been chased out of the class.

Deep Structure: You *past* will be happy to *present* have *en past* be chase out of the class.

Affix Hopping: You will *past* be happy to have *present been* chase *past* out of the class.

Surface structure: You would be happy to have been chased out of the class.

At the deep structure level, affixes are actually positioned to the left of the verb. So during affix hopping, they just hop to the right of the verb which will eventually take its grammatical form. *Will+past = would, chase+past= chased* etc. Affix hopping is an obligatory transformation.

**14.2.4.2 Question Transformation:**

The focus of question transformation here is on ‘yes/no’ question only. We first need a declarative sentence as an input to form a yes/no question. The rule for the yes/no question transformation would be:

Take a declarative sentence and move the first auxiliary to the front or left of the subject NP followed by affix hopping.

21. Sentence: Binay will go.

Deep Structure – Binay present will go.

Yes/no Question Transformation- Present will Binay go.

Affix Hopping – Will Binay go?

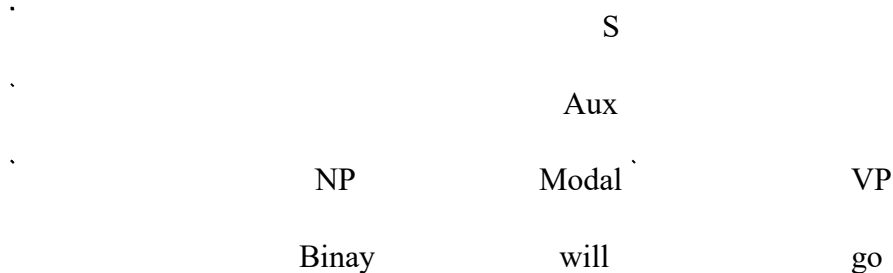


Figure 4: Deep structure of the sentence

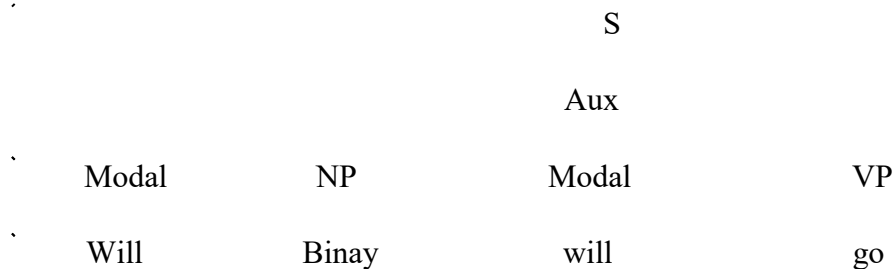


Figure 5: One of the surface structures of the sentence in figure 4

The sentence in figure 4 is generated by applying phrase structure rules (PS rules) which is also one of the surface structures of the same deep structure. We can assume that no transformation is used to get a declarative sentence as a surface structure. To get the yes/no question sentence in figure 5, yes/no transformation rule (17) has been applied. The first auxiliary of the sentence which is *will* has been moved to the left of the subject NP. The deep and surface structure of the sentence *Binaya will be going* is given below.

**Deep Structure**

Binaya present will go.

**Surface Structures**

Binaya will go.

Will Binaya go?

**14.2.4.3 Passive Transformation:**

It is not only a yes/no question but there are many constructions in English that show the need for transformational rules. One of such constructions is passive construction. The rule for a passive transformation would be:

When we have an active sentence,

Step 1 - Interchange the subject and object position of the active sentence.

Step 2 – Insert *by* before the new object.

Step 3 – Insert *be en* after all members of the auxiliaries, which will then be followed by affix hopping.

Let us demonstrate this rule in the following examples:

22. Active sentence: The tiger beat the lion.

Deep Structure- The lion past beat the lion

Step 1 – The lion past beat the tiger.

Step 2 – The lion past beat by the tiger

Step 3 – The lion past be en beat by the tiger.

Affix Hopping – The lion be past beat en by the tiger

After step 3, the sentence will take its grammatical form and becomes:

Surface Structure - The lion was beaten by the tiger.

Let us see one more example with passive transformation.

23. Sentence: The baby has eaten the cake

Deep Structure- The baby present have en eat cake.

Step 1 – The cake present have en eat the baby.

Step 2 – The cake present have en eat by the baby.

Step 3 - The cake present have be en en eat by the baby.

Affix Hopping – The cake have present be en eat en by the baby.

After step 3, the sentence will take its grammatical form as follows:

Surface structure - The cake has been eaten by the baby.

Passive constructions are mostly applied to transitive verbs since it requires an object in the sentence. If we take an intransitive verb and try to apply the passive construction rule, it will be impossible to do. For example,

24. Rina went to Hyderabad.

25. \* Hyderabad was gone to Rina.

Sentence 25 is not possible and is a syntactically ill-formed sentence. The auxiliary verb *be* cannot be inserted to a sentence with an intransitive verb.

#### 14.2.4.4 *Do Support*:

*Do support* or *do insertion* is the insertion of the auxiliary *do*. *Do* is considered as an auxiliary in English.

Rule: *Do Support*: Insert *do* to the left of the tense which is not attached to any verb.

Let us see a few examples of *do support* below.

26. Active sentence: Imran went to New York.

Deep Structure: Imran past go to New York.

Do Support: Imran do past go to New York.

Affix Hopping – Imran past do go to New York.

Surface Structure: Imran did go to New York / Imran went to New York.

*Do support* plays an important role when we ask yes/no questions if a *do* auxiliary is part of the sentence.

27. Active Sentence: Misha danced in the party yesterday.

Deep Structure: Misha past dance in the party yesterday.

Yes/no Transformation – past Misha dance in the party

Affix Hopping – past Misha dance in the party

*Do Support*: do past Misha dance in the party yesterday.

Surface Structure: Did Misha dance in the party yesterday.

*Do support* transformation always comes at the end, just before the surface structure.

#### 14.2.4.5 *Negative Insertion*:

Negative insertion rule says insert the word *not* immediately after the first auxiliary verb. Let us see some examples of negative insertion.

28. Active sentence: Suhani has eaten all the Amul chocolates

Deep Structure – Suhani present have en eat all Amul chocolates.

Negative Insertion – Suhani present have not en eat all Amul chocolates.

Affix Hopping - Suhani have present not eat en all Amul chocolates.

Surface Structure: Suhani has not eaten all the Amul chocolates.

When there is only one auxiliary in the form of tense, application of *do* support is needed otherwise insertion of a negative will block affix hopping.

29. Active sentence: Chris saw Carita yesterday.

Deep Structure – Chris past see Carita yesterday

Negative Insertion – Chris past not see Carita yesterday

*Do* Support - Chris do past not see Carita yesterday.

Affix Hopping - Chris past do not see Carita yesterday.

Surface Structure: Chris did not see Carita yesterday.

#### 14.2.4.6. *There*- Insertion:

It says, insert *there* in the position of the subject and move the old subject to a position after the verb. We have two types of *there*.

i. Existential *there*

Existential *there* occurs only as the subject of a sentence but it cannot be the subject of just any sentence. It occurs only with the auxiliary verb *be*. In existential *there*, the NP after *be* must not refer to a specific, unique individual. Existential *there* may occur only if the NP is indefinite.

Example:

30. **There** is a girl on the stage.

ii. Locative *there*

The other type of *there* is called locative *there*. It talks about direction, place etc.

Example:

31. I want to go **there**.

In the *there* insertion, we are referring to existential *there*. Let us see an example of *there* insertion.

32. Active sentence: Students are in the class.

Deep Structure - Students present be in the class.

*There* Insertion – There present be students in the class.

Affix Hopping – There be present students in the class.

Surface structure: There are students in the class.

#### **14.2.4.7 Reflexivization:**

Reflexivization is a transformation of agreement between elements in a sentence. This transformation is different from others because it changes the syntactic feature of a particular element. There are certain groups of words in English called reflexive pronouns. For example,

33. Myself, yourself, themselves, yourselves, himself, herself etc.

Reflexive pronouns can never occur in a subject position in a sentence. If a reflexive pronoun is occurring in a sentence then it must agree with the subject.

34. I like myself.

35. \*I like yourself.

In sentence 34, *myself* is agreeing with the subject *I* but not in sentence 35. Rule of reflexivization is proposed to maintain the distribution of agreement. It says that if the subject of the sentence is the same as some other NP within the sentence, then the NP which is in the right-most will be converted into a reflexive form.

36. Deep structure: You present praise you

Reflexivization: You present praise yourself.

Affix Hopping – You praise present yourself.

Surface Structure: You praise yourself.

#### **14.2.4.8 Dative Transformation:**

In dative transformation / movement, one type of structure changes into another, but not the vice-versa. The rule of dative movement says that the indirect object is moved to the position immediately following the verb and deletes the preposition of the indirect object and the indirect object becomes the new direct object.

37. The man gave a book to the girl.

Deep Structure: the man past give a book to the girl.

Dative movement – the man past give the girl a book.



Affix Hopping - The man give past the girl a book.

Surface structure – The man gave the girl a book.

The indirect object *the girl* is said to be dative case marked. *To* in the sentence 37 is to be the dative case markers. Case is a grammatical element in a sentence that established relationship between clauses.

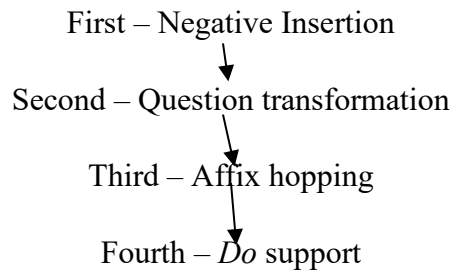
#### 14.2.4.9 The Ordering of Transformation in English:

Let us see the ordered list of transformations that we have discussed so far. The order of the transformation is mentioned below:

Sl. No	Order of the Transformation	Nature of Transformation
1	Dative movement	Optional
2	Passive transformation	Optional
3	Reflexivization	Obligatory
4	<i>There</i> insertion	Optional
5	Negative insertion	Obligatory
6	Question transformation	Obligatory
7	Affix hopping	Obligatory
8	<i>Do</i> support	Obligatory

Table 1: Order of the transformation

If the transformation needs to be applied, it has to be in the order mentioned in table 1. If a particular sentence needs negative insertion, question transformation and *do* support, then the order of the transformation would be:



The nature of transformation gives us the information about optionality and obligatory nature of the transformation. For example, dative transformation is completely an optional transformation whereas reflexivization is mandatory. So it becomes an obligatory transformation otherwise sentence will be ungrammatical.

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### 14.3 Learning Outcomes

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It is expected that upon the completion of this Unit, you should be able to define the term ‘transformational grammar.’ You should be able to understand the concept of deep and surface structure. You should be able to explain the meaning of transformation. You should be able to name a few of the transformations in English. You should be able to describe the transformation in English. You should be able to demonstrate the transformation from deep structure to surface structure. You should have an understanding of the ordering of transformation.

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### 14.4 Glossary

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**IC Analysis:** An analysis that divides sentences into different constituents of syntactic level. It is a method for sentence analysis that was first mentioned by Leonard Bloomfield.

**Transformational Grammar:** It is a theory of grammar that accounts for different types of Linguistics structures and their transformation. It was proposed by Noam Chomsky

**Phrase Structure Rule:** It is a type of rewriting rule.

**Deep Structure:** It is the underlying structure of a sentence representing its meaning.

**Surface Structure:** A structure that we get after transformation is applied. It is a form of a sentence that is uttered. It represents the phonetic interpretation.

**Affix Hopping:** It is an internal transformation rule where all the affixes are shifted to the right of their immediate verbs.

**Question Transformation:** A rule where the first auxiliary is shifted to the left of the subject in a declarative sentence.

**Passive Transformation:** A process which turns an active sentence into a passive sentence.

**Do Support:** It is a transformation where the auxiliary verb *do* is inserted to the left of the verb.

**Negative Insertion:** It says insert the negative word *not* immediately after the first auxiliary verb.

**There Insertion:** In this transformation, an existential *there* is inserted in the subject position and the old subject is moved to a position immediately after the verb.

**Reflexivization:** It is a transformation where a noun/pronoun transforms into a reflexive pronoun.

**Dative Transformation:** A movement where an indirect object of a ditransitive verb is moved to the direct object position.

**Case:** It is a form of a noun. It depends on the position a noun takes in a sentence.

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## 14.5 Sample Questions

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### 14.5.1 Objective Questions:

1. Underlying representation of a sentence is known as \_\_\_\_\_.
  - (a) Syntax
  - (b) Deep structure
  - (c) Universal Grammar
  - (d) Surface structure
2. IC analysis stands for \_\_\_\_\_.
  - (a) Internal constituent
  - (b) Immediate content
  - (c) Immediate constituent
  - (d) Insertion case
3. Something that can be heard or uttered is known as \_\_\_\_\_.
  - (a) Deep structure
  - (b) Phonemic structure
  - (c) Surface Structure

- (d) Semantic Structure
4. Deep structure represents \_\_\_\_\_.
- (a) Words
  - (b) Sounds
  - (c) Meaning
  - (d) Morphemes
5. Who introduced the concept of IC analysis?
- (a) Noam Chomsky
  - (b) Ferdinand de Saussure
  - (c) Leonard Bloomfield
  - (d) Edward Sapir
6. \_\_\_\_\_ they see her yesterday?
- (a) Do
  - (b) have
  - (c) did
  - (d) has
7. How long \_\_\_\_\_ it take you to go to office?
- (a) do
  - (b) does
  - (c) has
  - (d) was
8. have + present in the third person context is \_\_\_\_\_.
- (a) have
  - (b) has
  - (c) had
  - (d) has had
9. She \_\_\_\_\_ passed her exam easily.
- (a) Could have
  - (b) Might have
  - (c) Must have

(d) Would have

10. The transformation where the subject and object positions are interchanges is called

\_\_\_\_\_.

(a) Question transformation

(b) Dative movement

(c) Passive transformation

(d) All of the above

#### 14.5.2 Short Answer Questions:

1. Identify the constituents in the following sentences:
  - a. The old friend came all of a sudden in front of me.
  - b. Shilpa and Sameera have just gone to the Charminar market in a bus.
  - c. He is well behaved in his community.
  - d. The Hyderabadi biryani was truly delicious.
  - e. I'll carefully clean the museum.
  - f. I am reading a novel by Khuswant Singh.
  - g. Everyone in the class thinks that Azhar should run for the student union president.
2. How is affix hopping different from other transformations?
3. Why do we need to order transformation?
4. Explain the steps of passive transformation with examples.
5. What is auxiliary verb in English?

#### 14.5.3 Long Answer Questions:

1. Write an essay on transformational grammar.
2. What is the difference between deep and surface structure? Elaborate.
3. Provide complete transformation of the following sentences.
  - a. There were very few people at the shopping mall.
  - b. She did not abide by the Covid-19 protocol.
  - c. You will drink your juice.
  - d. They punished all the culprits.
  - e. The bus did not come on time.

- f. The food has been cooked by a famous chef.
- g. The professor was not invited to the meeting.
- h. The book seems to be interesting.
- k. The man was taken to the hospital.
- l. The house was not abandoned by us.

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## 14.6 Suggested Readings

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1. Akmajian, A. & Heny, F. *An Introduction to the Principles of Transformational Syntax*. Cambridge Mass: MIT Press. 1975.
2. Carnie, Andrew. *Syntax: A generative introduction* (2<sup>nd</sup>ed.). Blackwell Publication. 2006.
3. Chomsky, N. *Aspects of the Theory of Syntax*. Cambridge : MIT Press. 1965
4. Chomsky, N. *Language and Mind* (enlarged edition). Harcourt Brace Jovanovich: New York. 1972.
5. Crystal, D. *The Cambridge Encyclopedia of the English Language*. Cambridge: Cambridge University Press. 1995.

## Unit-15: Structural Ambiguity

### Structure

15.0 Introduction

15.1 Objectives

15.2 Structural Ambiguity

15.2.1 Ambiguity of Structure and Meaning

15.2.2 Different types of Structural Ambiguity

15.2.3 Combination of Lexical and Structural Ambiguity

15.2.4 Some major types of Structural Ambiguity

15.3 Learning Outcomes

15.4 Glossary

15.5 Sample Questions

15.6 Suggested Readings

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### 15.0 Introduction

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A sentence may have more than one meaning or sense. Let us consider the following examples:

(1) John saw the girl with the binoculars.

Sentence (1) can imply either of the two meanings:

(2) John was the person who saw the girl and the girl had the binoculars with her.

(3) John was the person who saw the girl through the binoculars which he used to see her.

This is a common example where (i) and (ii) meaning comprehensions result out of sentence (1)

Consider example (2) where two meanings emerge again.

(4) John shot the elephant in his pyjamas.

In sentence (4), the possibility of the different kinds of meaning or senses arise from the fact that either the pyjamas can be understood to have been worn by John or by the elephant itself. If you notice carefully, this sense variation, occurs within a single sentence itself, and is not due to any double meaning in a word (e.g. the word 'bank' meaning either the 'river side' or a 'financial' institution; book meaning either a 'reading material' or the 'activity of reserving some ticket etc.,').

According to Hurford (2007), “A word or sentence is AMBIGUOUS when it has more than one sense”. If the ambiguity is at the level of the word, it is called ‘lexical ambiguity’ and when it is at the level of the sentence structure, it is called ‘structural ambiguity’.

***Check your Progress***

Try to frame two paraphrases for the following ambiguous sentences:

1. The chicken is ready to eat

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2. Visiting relatives can be boring.

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## 15.1 Objectives

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The Unit has been designed to fulfill the following objectives:

- to familiarize you with different aspects and issues in structural ambiguity.
- to make you notice the role of different grammatical categories containing the structural ambiguity.
- to provide clarity about local ambiguity, global ambiguity and disambiguation points.
- to enable you to understand certain issues in processing of structural ambiguity.
- to acquaint you with some ways to solve the ambiguity.

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## 15.2 Ambiguity of Structure and Meaning

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Structural analysis of a sentence represents the relationship between words in a sequence that form a sentence. This representation relates to the form of the linguistic units that occur beside each other. Consider the following sentence:

(5) John hit the boy with a stick.

In the following illustration of the tree diagram, we can represent the two emerging interpretations as follows (using the Transformational Generative Grammar approach)



(Interpretation 1)

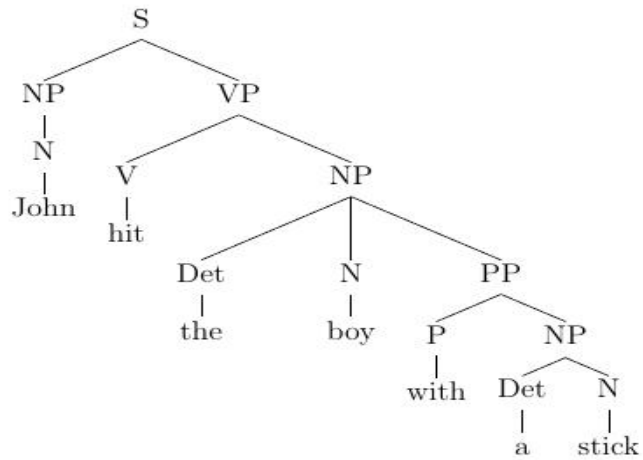
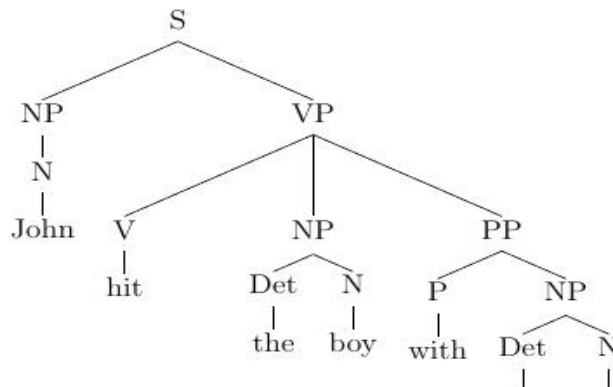


Figure 1 (a)

In the first tree, the interpretation represents a sense wherein the Prepositional Phrase with a stick is attached to NP suggesting that this PP is closely related to the NP and not anything outside it. Therefore at the structural level, this interpretation can be shown to represent only one of the two senses in the ambiguous sentence. Figure 1 (b)

(Interpretation 2)



The tree for sentence (1) indicates shows the interpretation that John used the stick to hit the boy. According to this structure, the PP with a stick is linked with the VP and not the NP, therefore implying the sense that the stick was used as an instrument of hit and does not describe the preceding NP the boy.

***Check your Progress***

1. What do you mean by structural ambiguity? Explain with an appropriate example.
2. Try to find out and explain in your own words, how the following sentences are ambiguous:
  - (6) I saw someone on the hill with a telescope.
  - (7) The thief threatened the woman with a knife.
  - (8) This is my father's painting.
  - (9) I saw a horse sitting in the corridor.
  - (10) The teacher said on Monday he would give an exam.
  - (11) Flying airplanes are dangerous.
  - (12) Visiting relatives can be boring

**15.2.1 Different types of Structural Ambiguity:**

**(a) Global Ambiguity:** Global ambiguity is a situation where the ambiguity is not resolved by any cue within the ambiguous sentence. In sentence (6), the answer to the question, who may have been holding the 'telescope', is not available within the sentence. Similar unresolved situations occur in sentences (7) to (12) where the ambiguity is not resolved within the sentence and both the meanings are possible.

**(b) Local Ambiguity:** In sentences (13) to (17) some ambiguity seems to be existing in the initial area of the sentence and after the reader goes through the whole sentence, s/he finds that the whole sentence has to be completely reinterpreted for clear comprehension.

- (13) Fat guys eat harms health.
- (14) The court houses salaried and underpaid lawyers.
- (15) The young man the machine.
- (16) Time flies like an arrow; fruit flies like a banana.
- (17) The horse raced past the barn fell.

If we observe the structural representation of some of these sentences, it becomes clear. In sentence (13) the first interpretation tends to compel the analysis to analyze Fat guys together as an NP.

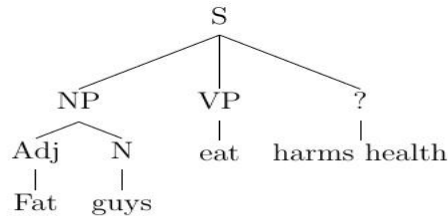


Figure 2: Initial tendency of analysis

This creates a problem for the parser when it encounters ‘harms’ health at the later part of the sentence. Initially the reader, or listener of that sentence, tends to make the first analysis. But by the end of the sentence, ‘harms health’ reveals that the first analysis is incompatible with the sentence. Therefore only through a reanalysis, the second analysis is done where ‘guys eat’ is now reanalyzed as a relative clause and that ‘guys eat’ is actually a description of the noun ‘fat’. Such ambiguities are common in English because it drops the relative clause complementizer so frequently. Therefore ‘harms health’ is analyzed as the new VP where ‘harms’ is the main verb of the matrix clause, whereas ‘eat’ is now a verb inside the embedded relative clause as shown in figure 3.

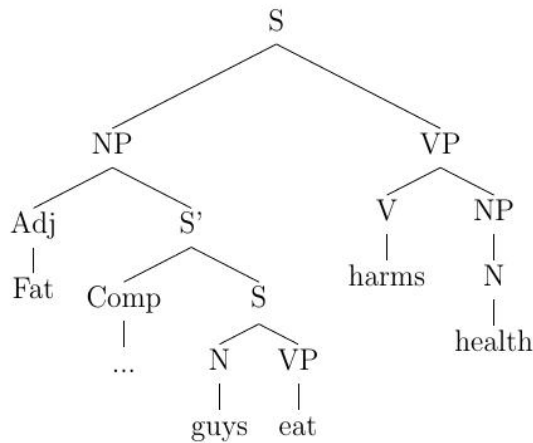


Figure 3: Final parse from reanalysis

Therefore the ambiguity is whether the speaker is talking about some ‘Fat guys...’ or ‘Fat’ that ‘guys eat...’ Likewise, in sentence (15) the question remains as to whether the speaker is talking about ‘The young man’ or ‘The young’ who ‘man the machine’ and initial interpretation tends to

give a reading that is incompatible with the later part of the sentence. Therefore, the reader or listener has to reanalyze the sentence and retrieve the second analysis of the sentence to get a coherent comprehension from it. Such sentences can be so ambiguous that often times, after reading such sentences, even native English speakers are completely unable to recover any sense out of them. The point in the sentence, where the comprehension mechanism suddenly realizes that the initial parse or assumptions were wrong, has to reanalyze the complete structure, is called a disambiguation point. The important fact in such sentences is that, the information processing mechanism can detect both the possibilities of senses, but there is a preference to predict just one of them in the beginning, without waiting for the completion of the sentence. This biased prediction is the main responsible reason to the reader's ambiguity, though the whole sentence is not actually ambiguous. The ambiguity arises due to the crucial reason that the sentence processing mechanism predicts one structure by default.

### 15.2.2 Combination of lexical and structural ambiguity:

Some sentences have only structural ambiguity where as some do have traces of lexical ambiguity. For e.g., in sentence (15), at the level of lexical ambiguity, the word 'man' denotes a verb as well a noun category, indicating a lexical ambiguity. If 'man' is identified as a noun and 'young' is identified as an adjective, then the interpretations according to figure 4 can be derived, both of which result in incomprehensible and implausible sense.

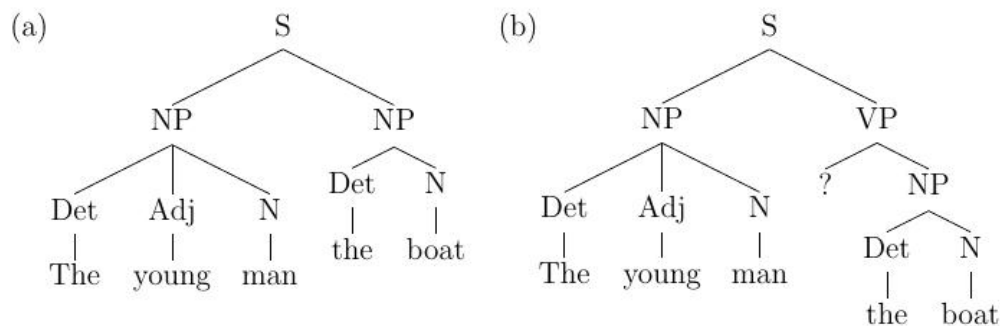


Figure 4: Implausible interpretations

So, once a reanalysis is initiated with 'young' reanalyzed as a noun and 'man' reanalyzed as a verb, the parser can come up with a proper structural analysis as shown in figure 5

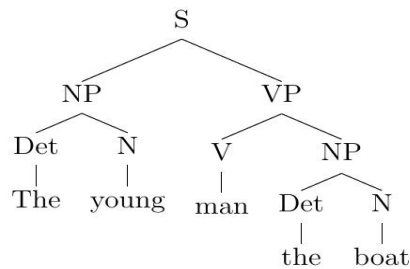


Figure 5: Correct parse

The ambiguity can be detected in ‘The young man’ both at the structural and lexical level as shown below. The structural ambiguity is also tied up with whether ‘man’ is a part of the subject NP or the verb in the sentence and whether or not ‘young’ is an adjective or a noun.

### 15.2.3 Some major types of structural ambiguity:

Cruse (1986) classifies non-lexical ambiguity into four major categories:

#### a) Pure syntactic ambiguity

This kind of ambiguity can be seen in sentences and phrases having no lexical ambiguity. The ambiguity arising here is due to the order of the words and not from the independent meaning or sense of the words.

#### (17) Old men and women

In sentence (17) the ambiguity is that, either both the ‘men’ and ‘women’ are being described as ‘old’ (figure 6.a) or only the ‘men’ are described as old (figure 6.b). The following structural analysis explains the same.

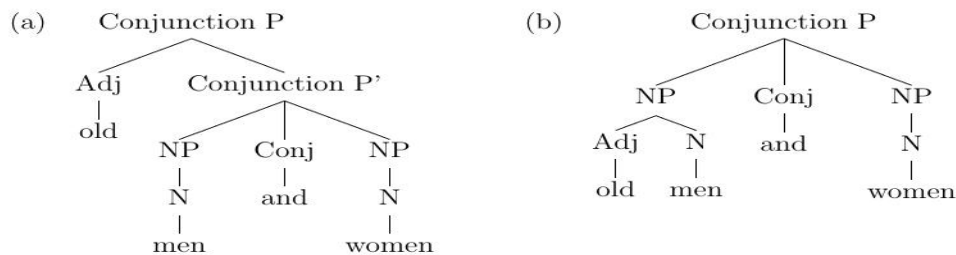


Figure 6: Ambiguity between either only the ‘men’ or both are ‘old’

#### (18) Indian cotton shirts

In sentence (18) the ambiguity is that either the ‘cotton’ is of ‘Indian’ origin or the ‘cotton shirts’ are of any ‘Indian’ design, manufactured anywhere in the world.

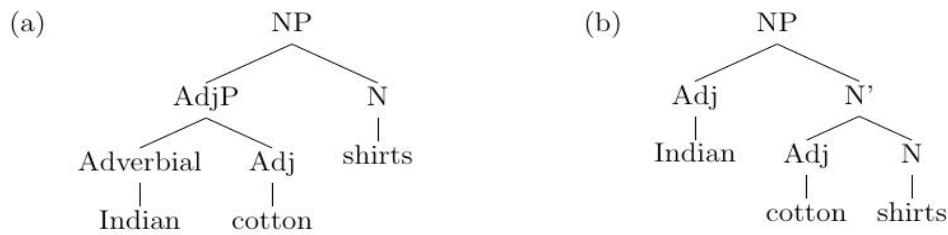


Figure 7: Two interpretations of (18)

Sentences (6) to (10) have the same kind of ambiguity.

b) Quasi-syntactic ambiguity

In some sentences, there may be only one structure that can be interpreted and only one meaning in the words, but there is still a possibility of interpreting two senses out of the sentence.

(19) The astronaut entered the atmosphere again.

In sentence (19), one sense indicates that the astronaut may have entered the atmosphere earlier. The other sense can indicate that the astronaut, who had just flown out of the atmosphere, has come back to the atmosphere again. Though the second interpretation is sometimes not thought of, such an interpretation is always possible.

(20) A red pen.

In sentence (20), the ambiguity is between whether the 'pen' is painted in red colour or whether it writes in red colour.

(c) Lexico-syntactic ambiguity

As discussed in 1.2.1, sentence (15) shows both lexical as well as syntactic ambiguity.

(d) Pure lexical ambiguity

Pure lexical ambiguity comprises ambiguity solely at the word level, involving no structural or other source of double meaning. The word 'bank' can mean both river side as well as a financial institution irrespective of any usage in a sentence. It is the context of the sentence that can provide clarity and disambiguation about the actual sense of that word

**15.2.5 Misplaced Modifiers:**

A major observation in English grammar is that sometimes modifiers, such as adjectives or adverbs, may be placed (in written or spoken form) at such a place that the ambiguous interpretations can arise due to that.

In “old men and women” the adjective ‘old’ is placed at such a location that can create the ambiguity between whether it modifies both ‘men and women’ or only ‘men.’ Again in “The police stopped dancing at midnight” it is ambiguous whether the dancing of other people in general is being referred to or dancing by the police. Ambiguity in this is caused by the adverbial ‘midnight’ which is placed at the end of the sentence.

One can also disambiguate such sentences sometimes by taking the modifier in the sentence and putting it in a suitable position that will create only one interpretation of the sentence. If the words ‘old men’ is placed after ‘women’ then at least the version “women and old men” will have only one interpretation that only the ‘men’ are old. However there is no way to create an unambiguous sentence where the only interpretation is that both ‘old men’ and ‘old women’ are being referred to. In the second example, if the adverbial modifier ‘midnight’ is taken and placed at the beginning of the sentence, then the sentence can refer to the activity of dancing by police. Sometimes inserting another word or phrase can also disambiguate sentences having a misplaced modifier. If words like ‘people’ or ‘people from’ is inserted between ‘stopped’ and ‘dancing’ then it becomes very clear that it is the people whom the police have stopped from ‘dancing at midnight’.

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### 15.3 Learning Outcomes

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It is expected that upon the completion of this Unit, you should be able to define the term “ambiguity”. You should be able to understand the significance of structure and the lexical properties of the words and identify structural ambiguity accordingly. You should be able to explain the central differences in detail in terms of theoretical postulations of syntactic configurations. You should also be able to describe various types of ambiguity in several languages.

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### 15.4 Glossary

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**Ambiguity:** A property in a linguistic unit of having more than one sense.

**Local Ambiguity:** The property of having ambiguity temporarily till a certain word in a phrase or sentence after which there is no ambiguity due to its resolution in later word(s).

**Global Ambiguity:** The property of having an ambiguity in a sentence without any possible resolution as to the exact choice of meaning in it.

**Structural Ambiguity:** The ambiguity that is a result of more than one possible structural relationship between the words or phrases in the sentence. There is no necessary ambiguity at the lexical level in such cases.

**Lexical Ambiguity:** The ambiguity that is a result of more than one sense in a word in that sentence.

**Disambiguation point:** It is a word or phrase in a locally ambiguous sentence that is able to resolve the ambiguity of the sense somewhere later in the sentence.

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## 15.5 Sample Questions

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### 15.5.1 Objective Questions:

#### A. Choose an appropriate option for the following:

1. What is the meaning of structural ambiguity?
  - (a) More than one sentence for a single meaning
  - (b) More than one meaning for a single word
  - (c) More than one structure for a single sentence
  - (d) More than one sound for a single word
2. What is the difference between lexical and structural ambiguity?
  - (a) One is ambiguity within a word and the other is ambiguity in pronunciation
  - (b) One is ambiguity within a word and the other is ambiguity in the phrase
  - (c) One is ambiguity at a surface level and the other is ambiguity at a deep level
  - (d) One is ambiguity of pronunciation and the other is ambiguity of communication.
3. Identify the structurally ambiguous sentence.
  - (a) John was looking at the bank.
  - (b) Meena saw a bat hidden inside the bush.
  - (c) Visiting relatives are annoying.
  - (d) The pilot was walking on the planes.



4. What is the structurally ambiguous part of the following sentence?

‘I wanted to watch the joker perform in my pajamas’

- (a) ‘I wanted’
- (b) ‘perform in my pajamas’
- (c) ‘watch the joker perform in my pajamas’
- (d) ‘I wanted to watch the joker perform’

5. Which one of the sentences has global structural ambiguity?

- (a) The dog that I had really loved bones.
- (b) Until the actors perform the scenes continue with this group.
- (c) The horse raced past the barn fell.
- (d) All of the above sentences

**B. Fill up the blanks.**

1. The main difference between pure lexical ambiguity and syntactic ambiguity between the levels of \_\_\_\_\_.

- (a) Word and Pronunciation
- (b) Speech and Writing
- (c) Lexicon and Structure
- (d) Meaning and Sense

2. In ‘We painted the wall with cracks’, there is \_\_\_\_\_ ambiguity.

- (a) Global
- (b) Quasi-syntactic
- (c) Local
- (d) All the above

3. The sentence ‘Time flies in the garden.’ has \_\_\_\_\_ ambiguity.

- (a) Lexical
- (b) Pure lexical
- (c) Pure syntactic
- (d) Lexico-syntactic

4. In the locally ambiguous sentence, ‘The old man the boat’, an ambiguity between verb and noun can be found in \_\_\_\_\_.

- (a) old
- (b) man
- (c) boat
- (d) All of the above choices

5. A disambiguation point cannot be located in the ambiguous sentence ‘ \_\_\_\_\_ ’.

- (a) The raft floated down the river sank
- (b) I shot the elephant in my pajamas
- (c) When Sameer eats food gets thrown
- (d) All of the above options

### **15.5.2 Short Answer Questions:**

1. Distinguish between lexical and structural ambiguity.
2. Explain in your own words how the structure of a sentence can vary even with the same sequence of words, with an example of your own.
3. What is Pure Syntactic Ambiguity? Discuss with an example.
4. What is Global Ambiguity? Discuss with an example.
5. Explain a suitable example the role of a disambiguation point in sentences having local ambiguity.

### **15.5.3 Long Answer Questions:**

1. Explain with suitable examples, the four types of ambiguity according to Cruse (1986).
2. Elaborate with one example the basic difference between a global and local ambiguity.
3. Give two interpretations each for the following sentences using tree diagrams.
  - (a) The man saw the shepherd with the binoculars.
  - (b) Visiting relatives can be dangerous.
  - (c) Father saw a monkey sitting in the corridor.
  - (d) The chicken is ready to eat.
  - (e) The sports trainer said on Friday he would give a test.

- (f) They are baking soda.
- (e) Mary dislikes scratching dogs.
- (f) The poor servants have broken utensils at home.
- (g) I wore light jacket, dark blue shirt and jeans.
- (h) The police stopped drinking at midnight.

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## 15.6 Suggested Readings

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1. Brown, E. *Encyclopedia of Language and Linguistics*. Amsterdam: Elsevier. 2006.
2. Cruse, D., *Lexical Semantics*. 1st ed. Great Britain: Cambridge University Press. 1986.
3. Haegeman, L. *Introduction to Government and Binding Theory*. Oxford, UK: B. Blackwell. 1994.
4. Hurford, J., Heasley, B. and Smith, M., *Semantics*. Cambridge: Cambridge University Press. 2007.
5. Lasnik, H. & Uriagereka, J. *A Course in GB Syntax*. Cambridge, Mass: MIT Pr. 1988.
6. Saeed, J., *Semantics*. 3rd ed. Wiley Blackwell. 2009.

## Unit-16: Tree Diagrams

### Structure

#### 16.0 Introduction

#### 16.1 Objectives

#### 16.2 Tree Diagrams

##### 16.2.1 Bracketed Parsing and Tree Diagrams

##### 16.2.2 Nodes of trees and their relations

##### 16.2.3 Evolution of structural representation of language

##### 16.2.4 Representing the Head in different phrases

##### 16.2.5 Recursivity in language

##### 16.2.6 Representation of some structural relationships between nodes

#### 16.3 Learning Outcomes

#### 16.4 Glossary

#### 16.5 Sample Questions

#### 16.6 Suggested Readings

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### 16.0 Introduction

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Structural analysis of phrases, clauses and sentences can be written in various visual representations. Some of them are bracketing and some are tree diagrams. In this chapter, we shall understand the concepts represented by tree diagrams and the need to visually represent them in this manner.

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### 16.1 Objectives

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The Unit has been designed to fulfill the following objectives:

- to familiarize you with different approaches of structural representation.
- to make you appreciate the importance of graphical representation of sentence structure
- to enable you to understand the process of analyzing sentences and phrases.
- to learn about some popular syntactic analysis and parsing models.

- to enable you to comprehend the basic principles behind major grammatical analysis and comparative studies of languages.

## 16.2 Tree Diagram

### 16.2.1 Bracketed Parsing and Tree Diagrams:

Initial methods of Bloomfield were to achieve Immediate Constituent Analysis, where the primary goals were to analyse phrases or sentences into groups of words(s) into constituents. For example, the sentence ‘I love ice-cream’ can be first analysed as [SENT [NP [N I]][VP love ice-cream]] and at a higher level with the main sentence constituent ‘S’ having two immediate constituents, NP and VP. The constituent NP can be analyzed as including a single constituent, N inside it where as in the lower levels the VP can also be analyzed as having two constituents [VP [v love]][N ice-cream]]. In the sentence, the subject NP and the predicate VP are the immediate constituents that together form the sentence. Again V and N are the immediate constituents of the VP. These are simply an exercise of finding constituents that are related to each other through Immediate Constituent analysis (cf., Bloomfield’s IC Analysis). The same analysis, however, can be represented as a diagram in terms of nodes and branches that connect together as a tree.

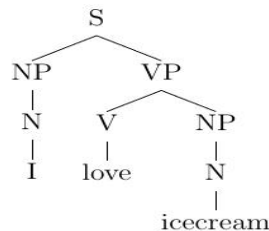


Figure 1: A Tree Diagram

The above tree clearly represents the parse of the sentence in a diagram format. The edges of the trees such as NP, VP, V and N are the nodes and the grouping can be observed in the branching source. E.g., the node VP has branches named V and N. Tree diagrams can be used to utilize the two dimensional space to also simplify the representation of intricate relationships between nodes such as domination, immediate domination, branching, c-command, m-command, argument position, theta position, clausal embedding, specifier, head, complement, adjunct and

so on. The following is a general discussion on how the two dimensional tree diagrams are most suitable for the above purposes.

### 16.2.2 Nodes of trees and their relations:

(a) *Branching node*: If two constituents B and C are combined together to represent a constituent A, then A is a branching node for B and C. For example, S is a branching node for NP and VP whereas VP is again a branching node for V and NP.



Figure 2: Branching Node

Examples of simple branching nodes:

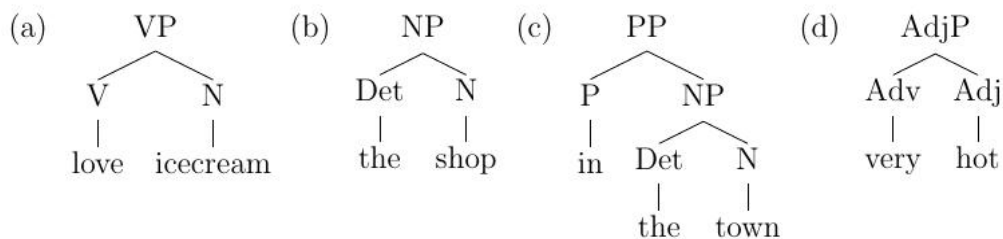


Figure 3: Branching Nodes: Verb Phrase, Noun Phrase, Preposition Phrase, Adjective Phrase

In Figure 3, the topmost nodes are visual representations of a higher level that is shown to contain other nodes inside it in the lower level, in a kind of visual top-down hierarchy. So the higher levels show the bigger constituents and the lower levels show its constituents. Likewise, even in PP, it is shown that the immediate constituents of PP are preposition ‘in’ and the NP ‘the town’. Also, the immediate constituents of NP are shown as determiner ‘the’ and noun ‘town’. The preposition ‘in’ is the sense that points to the location in the NP ‘the town’ as a whole. As such, these relations are adequately represented in such tree diagrams. The branching node is often referred to as the mother node and the ones just next in level are referred to as daughter nodes of that branching node. The daughter nodes are also related as sister nodes.

### 16.2.3 Evolution of structural representation of language:

Transformational Generative Grammar (TGG) has evolved through Chomsky's theory of the grammatical representation of language, which also goes by the popular tag, Mainstream Generative Grammar. It has also evolved through several phases to achieve a systematic representation in terms X-bar Schema. However, we shall try to understand the basic starting point in TGG. In this approach, a branching node could be analyzed into any required number of nodes.

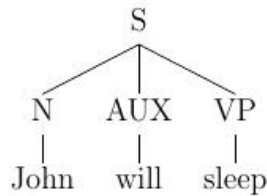


Figure 4: Multiple nodes branching out

In this representation, it is visible that there are only three words and therefore three branches could be formed in the approach. However, in some sentences, there may be more than one possibility of branching.

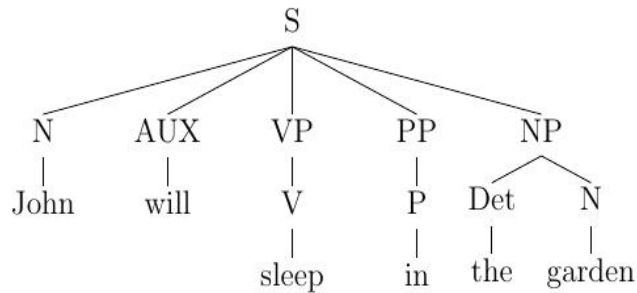


Figure 5: Multiple Branching of Phrases

The tree for the sentence could have different possibilities including that of Figure 5. In figure 6 another branching possibility is explored as follow

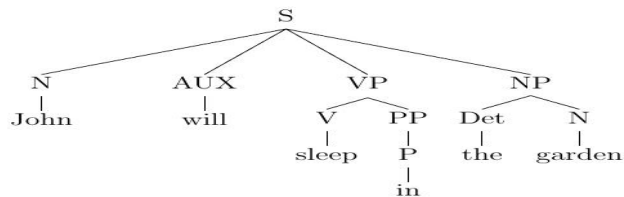


Figure 6: Alternate to Figure 5

Another alternative, however, is also visible in Figure 7 showing that there can be multiple branching possibilities indicating different sense interpretations of the same sentence at structural level

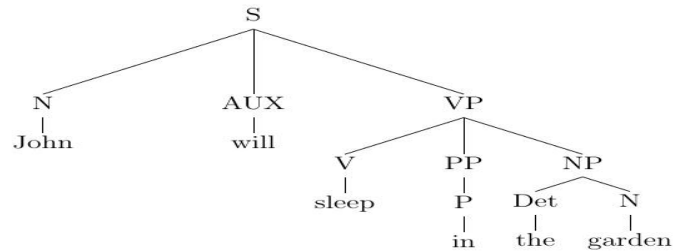


Figure 7: Alternate to Figure 6

However, a series of Immediate Constituent analysis will prove that only Figure 8 is the most appropriate parse.

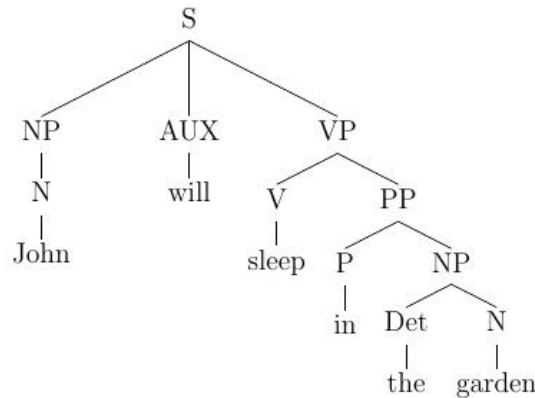


Figure 8: Best parse according to IC Analysis

As it is observed in Figure 8, the phrase VP has two major constituents, the verb ‘sleep’ and the prepositional phrase ‘in the garden’ which can be related to the verb as the location or position where that activity took place. As such, selection of the best parse for a phrase or a sentence can rely completely on the results of certain tests listed down in the IC Analysis methods.

Phrase structure rules are a major guide to how the trees are drawn. For example, the Phrase Structure Rule for all the phrases in Figure 3 can be listed as follows:

VP → V N

NP → Det N

PP → P NP



AdjP → Adv Adj

V → love

N → ice-cream, shop, town

Det → the

P → in

Adv → very

Adj → hot

These, however, are random Phrase Structure Rules for different phrases listed together but even a sentence such as in Figure 8 can be rewritten as Phrase Structure Rules as follows:

S → NP Aux VP

VP → V PP

PP → P NP

NP → (Det) N

N → John, garden

Det → the

Aux → will

V → sleep

P → in

Notice *Det* is now in braces. Can you tell from the tree diagram why? You may have guessed it right. There are two NP's in this tree diagram and only one of them has a Determiner 'the' before the noun. Therefore in the PSR, the *Det* is represented as optional and not obligatory.

However, for a better representation of the relationships between the integral lexical units inside a structure, a newer representation schema was developed. One of them is X-bar schema, also written as, X, X' or X<sup>1</sup>, the writing convention of which is completely tolerant to the convenience of typing feasibility. According to this schema, the following components are significant.

The Head of a phrase,  $X^0$ , bears the center of the meaning of that phrase. It is the word that determines the syntactic type of a phrase. This approach satisfies an endocentric level identification of a phrasal constituent such that the constituent will project its properties till the phrase level through which the combination of that phrase with other phrases and words are possible in a grammatical way. Heads are always terminal nodes in a phrase below which lexical insertion takes place. As seen in figure 9, the head of ‘hot tea’ is ‘tea’, a noun, and the phrase is categorized as a noun phrase. The adjective ‘hot’ however is an adjective and does not categorize the phrase as an adjective phrase. Nouns, verbs, prepositions, Adjectives and Inflections etc can be heads.



Figure 9: An identifiable head in both trees

Likewise, many trees can be drawn for different types of phrases and clauses as follows:

#### 16.2.4 Representing the Head in different phrases:

There are different kinds of phrases such as VP, NP, AP, PP and so on. Each of these has its unique lexical and structural environment where the head is represented along with its complement, specifier and adjunct constituents. Let us take the Verb Phrase and explore some possible configurations without going deep into the X-schema approach.

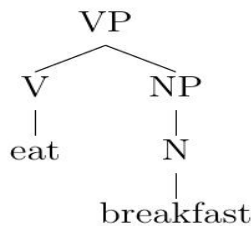


Figure 10: A typical Verb Phrase

However, when we have a preposition, there is a challenge as to what can be the best representation in a tree diagram when there is more than one phrase under (or inside) a VP.

Consider the VP in the sentence ‘John will give flowers to her’.

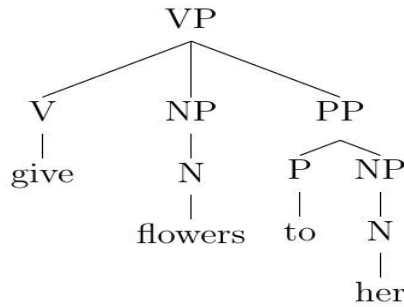


Figure 11: VP with both NP and PP

In figure 11, the sense of ‘flowers’ has been kept separate from the PP such that it can be directly associated as the object of ‘give’ and the PP answers to the probable question, ‘Who is given or gifted with the flowers?’, therefore connecting PP directly to the verb ‘give’. The VP may also have a different version of structure if the sequence is ‘give her flowers’ even if the sense remains the same in ‘John will give her flowers’.

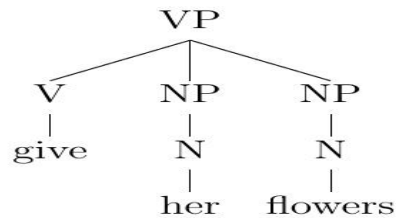


Figure 12: VP with two NP’s

Figure 11 and 12 are instances of ditransitive verbs where two objects of verb must be present inside VP where one is direct NP and the other is indirect NP. In figure 11, the indirect object is postulated inside a PP after the direct object whereas in figure 12, it is postulated immediately after the verb. There may be other cases where adverbs can also be attached in the phrase as follows

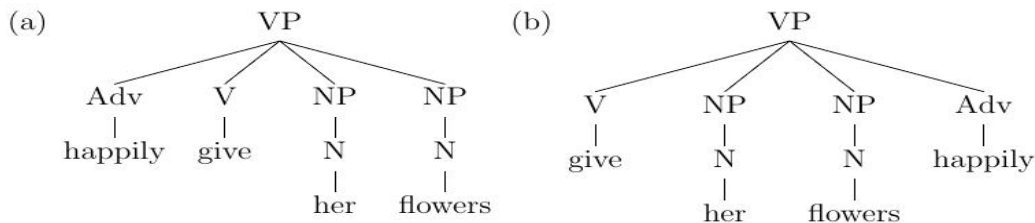


Figure 13: VP with an Adverb

Notice the two options (a) and (b) where the adverb can be located. In many cases, there can be more than one sentence clause within a single sentence. The tree structure can therefore tend to get more complex and requires embedding as shown in the tree diagram below:

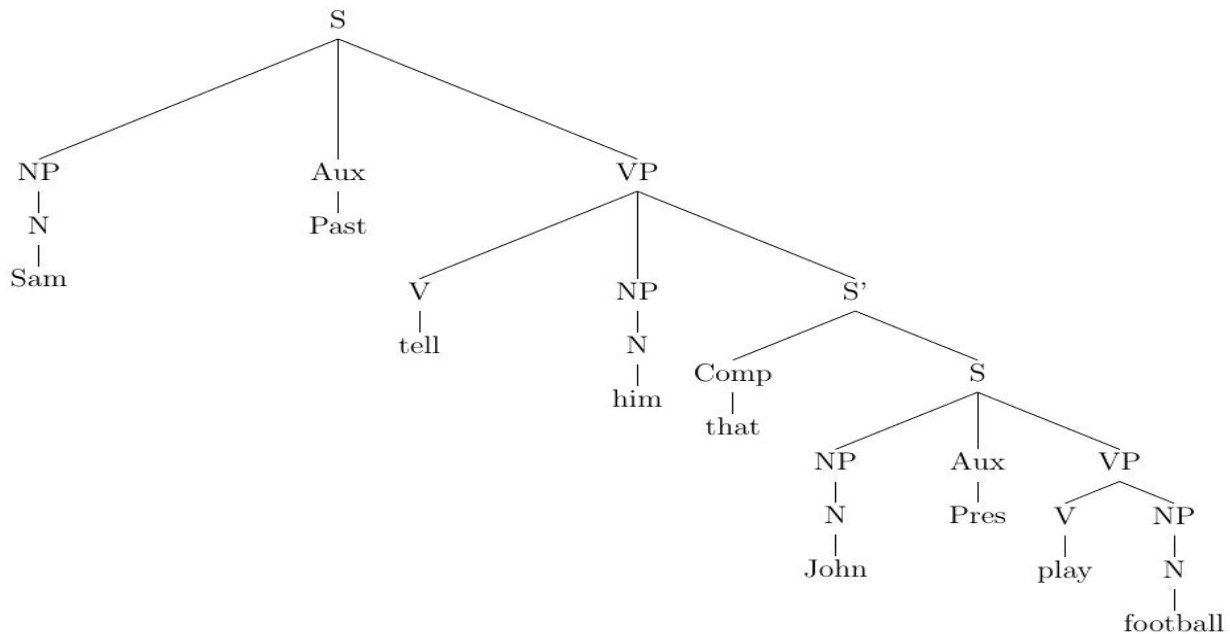


Figure 14: Complex sentence having an embedded clause

In figure 14, there are two sentential clauses. One indicates the action of tell in ‘Sam told him...’ The other indicates what was told in ‘... that John plays football’. The tree diagram is able to adequately show how a dependent clause is positioned under the main clause (for detailed understanding see ‘Government and Binding theory’ by Chomsky).

### 16.2.5 Recursivity in language:

Human languages have a recursive property when it comes to reusing sentence structures either repetitively across different sentences or within sentences. Figure 14 shows an example where a sentence structure ‘S’ is embedded as a subordinate clause within matrix clause ‘S’ which is the main clause. In the theory the word ‘that’ has been identified as a complementizer which allows ‘S’ to take a complement sentence inside it. There are also phrases such as VP, PP or even the main clause ‘S’ which can take an NP within it. We can utter sentences like ‘John chased the boy who hit the dog that chased the cat that chased the rat that ran into the hole which ...’ and so on. Such a feature in languages is also known as *Recursivity*. Syntactic trees

are equipped to represent such systematic Recursivity which is one of the most important resources available to human speech for creative representation of world knowledge and communication. Therefore in order to represent such a complex phenomenon in terms of a visual tree diagram, elaborate relationships between the nodes of the tree, they have to be exhaustively studied. Some of the accepted structural terms are discussed in (16.2.6) below:

### 16.2.6 Representation of some structural relationships between nodes:

As discussed in the beginning, tree diagrams are excellent tools for representing various structural relationships. Following are some adequate illustrations:

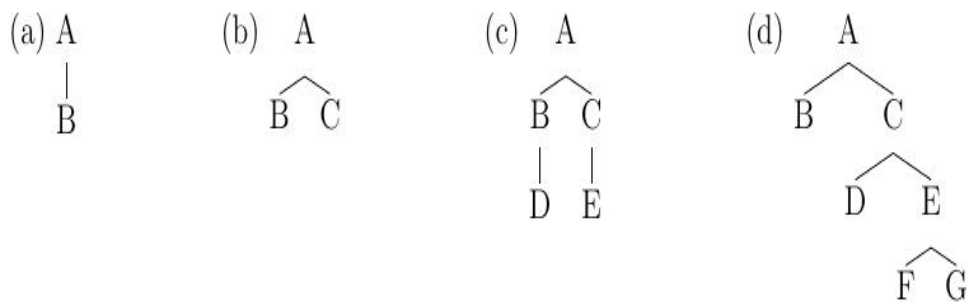


Figure 15: Comparing Domination & Immediate domination

- In figure 15, the following relationships node domination can be listed.
- In figure 15.a, *A* directly dominates *B* and *B* does not dominate *A*.
- In figure 15.b, *A* directly dominates both *B* and *C* while neither *B* nor *C* dominate *A*. *A* is the branching node for both *B* and *C*.
- In figure 15.c, *A* directly dominates *B* and *C* but it indirectly dominates *D* and *E*. *B* directly dominates *D*. *C* directly dominates *E*. *B* does not dominate *E*. *C* does not dominate *D*. *A* is also the first branching node for *B*, *C*, *D* and *E*.
- In figure 15.d, *A* directly dominates both *B* and *C* and indirectly dominates *D*, *E*, *F* and *G*. *C* directly dominates *D* and *E* and indirectly dominates *F* and *G*. *E* directly dominates *F* and *G*. Nothing else dominates any other node. *A* is the first branching node for *B* and *C*

and no other node. *C* is the first branching node for *D* and *E* and no other node. *E* is the first branching node for *F* and *G* and no other node.

The above discussion has been provided to target some of the accepted and well utilized relationships between nodes, suitable for identifying and defining several structural relations between heads, specifiers, complements and adjuncts in Government and Binding theory as well as in Minimalism.

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### 16.3 Learning Outcomes

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It is expected that upon the completion of this Unit, you should be able to draw tree diagrams and understand some of the basic and important approaches behind this method of representing linguistic units. You should be able to explain the significance of hierarchy and grouping of phrases in the structure. You should be able to explain the correct and incorrect tree diagrams in detail. In describing the various theories of syntax such as Government and Binding, Principles and Parameters, and Minimalist Program, tree diagrams can be an efficient aid for visualizing and comprehending the theory. You are expected to be aware of these at the end of the Unit.

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### 16.4 Glossary

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**Tree diagrams:** A visual representation of the structure of phrases, clauses and sentences in a language using the approach of hierarchy and connecting the linguistic units as nodes.

**Phrase:** A set of words that can be grouped together as a unit having a unique function among the other words and phrases it is associated with. Phrases can be identified through IC analysis.

**Node:** A location in the hierarchy of the tree diagram that can represent a constituent. This constituent may or may not include other constituents within it. It is important to notice the level of a node in concern and locate other nodes at a similar level to identify any structural relationship between them.

**Dominates:** Be on top of a node.

**Branching Node:** A node that branches out into two or more nodes below it in the tree diagram.

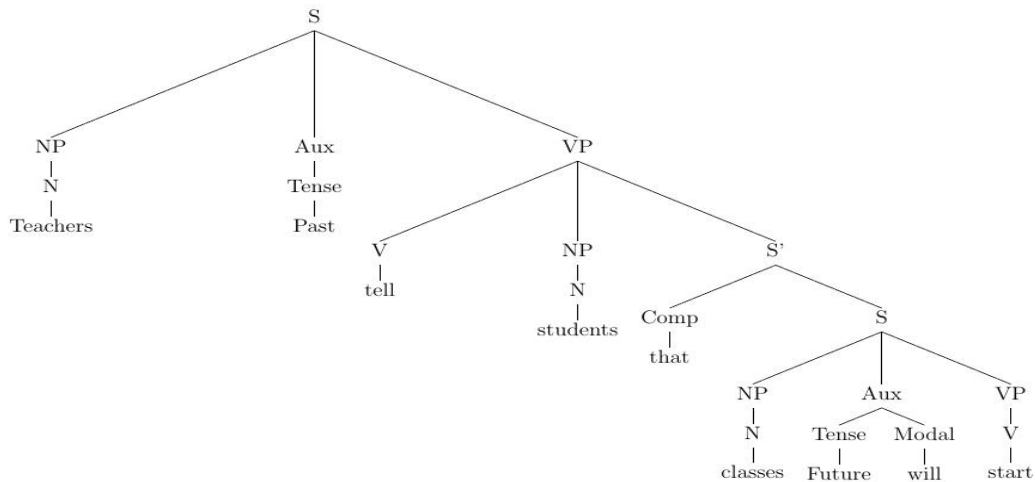
**Phrase Structure Rules:** A set of grammatical rules that contain a systematic representation of rewrite rules where it is shown in which ways a phrase can be re-written as its immediate constituents that it includes.

**Terminal Node:** The node under which lexical insertion happens and words are inserted. These were also initially known as delta nodes.

## 16.5 Sample Questions

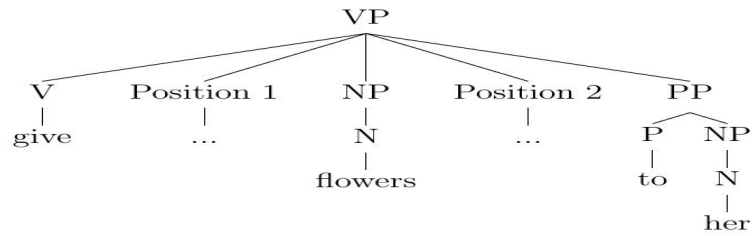
### 16.5.1 Objective Questions:

A. Study the tree diagram and answer the 5 questions below:



1. 'Comp' (Complementizer) node is not dominated by the second NP.
  - (a) True
  - (b) False
2. \_\_\_\_\_ is the first branching node dominating V.
3. There is/are \_\_\_\_\_ clause(s) and \_\_\_\_\_ phrases in the tree.
4. The NP's in the tree have \_\_\_\_\_ constituent(s).
5. The above sentence is a compound sentence.
  - (a) True
  - (b) False

**B. For the tree structure shown below answer the following questions:**



1. Mention the proper location(s) for the adverb ‘happily’:
  - (a) Only Position 1
  - (b) Only Position 2
  - (c) All the positions.
  - (d) None of the positions.
2. \_\_\_\_\_ is the indirect object of the di-transitive verb ‘give’.
3. The first branching node dominating ‘P’ is \_\_\_\_\_.
4. The node ‘NP’ is immediately dominated in two places by \_\_\_\_\_ and \_\_\_\_\_.
5. An adverb can occur at a position between a verb and its direct object.
  - (a) True
  - (b) False

**16.2.5 Short Answer Questions:**

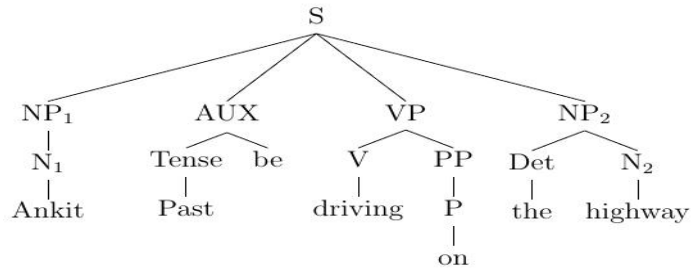
Draw a tree diagram for each of the following sentences:

1. John will eat lunch.
2. Mary bought a toy for her daughter.
3. Amir danced on the stage happily.
4. Ravi quickly went to the market.
5. The computer is gradually becoming very slow.

**16.5.3 Long Answer Questions:**

1. In the following tree, explain in your own words why you think that the positions of NP<sub>2</sub> and PP may not be suitable and draw a tree having appropriate locations for the phrases.

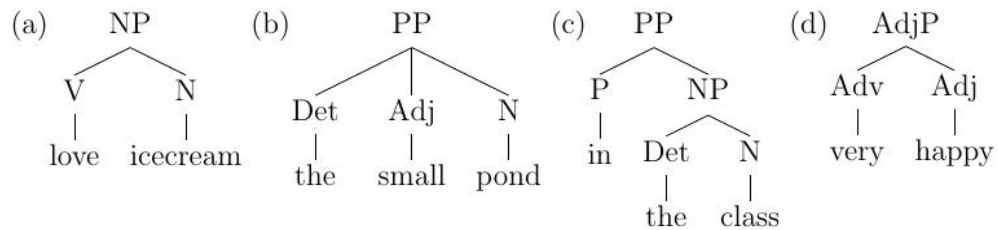




2. Draw a tree for the following sentences:

- a) The driving instructor told that the driving course will be easy.
- b) The students found the book in the shelf at the library.

3. From the choices below, identify and validate the good tree diagrams and try to explain why the others are not appropriate according to you.




---

## 16.6 Suggested Readings

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1. Black, C. *A Step by Step Introduction to the Government and Binding Theory of Syntax* (1sed.). Summer Institute of Linguistics. Retrieved from [http://www.sil.org/americas/mexico/ling/E002\\_Intro\\_GB.pdf](http://www.sil.org/americas/mexico/ling/E002_Intro_GB.pdf). 1999.
2. Brown, E. *Encyclopedia of Language and Linguistics*. Amsterdam: Elsevier. 2006.
3. Chomsky, N. *Syntactic Structures*. The Hague: Mouton. 1957.
4. Chomsky, N. *Aspects of the Theory of Syntax*. Cambridge: M.I.T. Press. 1965.

# Maulana Azad National Urdu University

Semester Examination, April 2021

Programme: MA

Semester: First

MAEN102CCT: The Structure of Modern English

Time: 3 Hours

Maximum Marks: 70

Note: This question paper consists of three parts: Part-A, Part-B, Part-C. Number of words to answer each question is only indicative. Attempt all parts.

Part-A: contains 10 compulsory questions of multiple choice / fill in the blank / very short answer type question. Answer all questions. Each question carries 1 mark. (10x1= 10 marks)

Part-B: contains 08 questions of which students are supposed to answer 05 questions. Answer each question in approximately 200 words. Each question carries 06 marks. (05x6= 30 marks)

Part-C: contains 05 questions of which students are supposed to answer 03 questions. Answer each question in approximately 500 words. Each question carries 10 marks. (03x10= 30 marks)

## Part – A

1. Choose the correct option to answer the following.

- i. Language is a system of communication unique to humans in part because it is\_\_\_\_\_.
  - a. genetically based
  - b. verbal
  - c. symbolic
  - d. complex
- ii. A minimal unit of sound that differentiates meaning in a particular language is a\_\_\_\_\_.
  - a. Phoneme
  - b. Syllable
  - c. Morpheme
  - d. vowel
- iii. The units of meaning that make up a word are known as\_\_\_\_\_.
  - a. Morphemes
  - b. Components
  - c. Words
  - d. phonemes
- iv. The study of human speech sounds in a language that form systematized patterns is called\_\_\_\_\_.
  - a. Phonology
  - b. Phonetics and Phonology
  - c. Articulators
  - d. Phonetics
- v. Choose the best description for the first sound in the pronunciation of the word 'teeth.'
  - a. Velar
  - b. Labiodental
  - c. Alveolar
  - d. Alveolopalatal
- vi. Which one of the following words that violates the phonological rules of English language?
  - a. Mblath
  - b. Stroke
  - c. Gnome
  - d. brish
- vii. \_\_\_\_\_are the abstractions of speech unit which differ one meaning from another.
  - a. Segments
  - b. Morphemes
  - c. Orthography
  - d. Phonemes

- viii. Orthography is \_\_\_\_\_.
- The pronunciation of a word that represents the alphabetic spelling.
  - The alphabetic spelling of words that represents the way they are pronounced
  - The production of any speech
  - The study of the phonetic symbols
- ix. The distinction between active and passive sentences is a difference in \_\_\_\_\_.
- deep structure
  - deep and surface structure
  - phrase structure rules
  - surface structure
- x. Deep structure represents a sentence's most basic units of \_\_\_\_\_.
- words
  - sounds
  - meaning
  - letters

### Part – B

- Describe all the voiceless sounds using three-term label.
- Explain the concept of free and bound morphemes with examples.
- What is the difference between traditional and modern grammar?
- Write short notes on any two of the following –
  - Phoneme
  - Morpheme
  - Nasals
- Distinguish between 'Allophones' and 'Allomorphs'.
- What do you understand by intonation? Explain giving examples.
- What is structural ambiguity?
- Provide tree-diagram for the following sentences
  - Ghosh has been playing football since morning.
  - These women have been singing nicely.
  - After winning the match the boys went for a movie

### Part – C

- Discuss some of the problems faced during studying phonetics.
- Discuss with examples various processes of word formation.
- Explain in detail the difference between inflectional and derivational morphology. Substantiate your answer with suitable examples.
- Explain in detail (with example) the concept of Deep and Surface structures of a sentence.
- Phonetically transcribe the following words –
 

i. Movement	v. Christmas	ix. Reservoir
ii. Pronunciation	vi. Measurement	x. Physician
iii. Examination	vii. Billiards	
iv. Pizza	viii. Grand-prix	

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