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Morphology

Morphology is a branch of grammar in which the structure of words is studied. The other branch of grammar is syntax. Both morphology and syntax study construction — the former of words and the latter of sentences.

Morphology implies the study of the form of words in a language, while syntax implies the study of the form of the arrangement of words in phrases and sentences.

According to David Crystal, "The smallest meaningful elements into which words can be analysed are known as morphemes. The way morphemes operate in language provides the subject-matter of morphology."

According to Bloomfield, it is the study of the constructions in which sound forms appear among the constituents.

Dorfman defines morphology as the study of the ways and methods of grouping sounds into sound-complexes or words.

Morphology is a level of structure between the phonological and the syntactic. It is complementary to syntax. Morphology is the grammar of words; syntax is the grammar of sentences. One accounts for the internal structure or form of words; the other describes how these words are put together in sentences.

The English word *unkind* is made up of two smaller units: *un* and *kind*. These are minimal units that cannot be further sub-divided into meaningful units. Such minimal, meaningful units of grammatical description are generally referred to as morphemes. A morpheme is a short segment of language that meets three criteria:

1. It is a word or a part of a word that has meaning.
2. It cannot be divided into smaller meaningful parts without violation of its meaning or without meaningless remainders.
3. It recurs in differing verbal environments with a relatively stable meaning.

The word *unlikely* has 3 morphemes while the word *carpet* is a single morpheme. The words *car* and *pet* are independent morphemes in themselves. The word *carpet* has nothing to do with the meaning of *car* and *pet*. *Carpet* is a minimal meaningful unit by itself. Again, the word *garbage* is a single morpheme while the words *garb* and *age* are independent morphemes by themselves. A systematic study of morphemes or how morphemes join to form words is known as morphology.

The definition of the morpheme may not be completely unassailable as will be evident "from the discussion that follows, but it is certainly a very satisfying definition applicable to a majority of words in any language. The English word unassailable is made up of three morphemes, un-, assail-, able-, each one of which has a particular meaning distribution and a particular phonological form or shape.

Branches of Morphology

A division is traditionally made of morphology into two branches, viz. (i) Inflectional, and (ii) Derivational. In the former, we are concerned with the variations or inflections that occur in words so as to show grammatical contrasts in sentences, such as are found in singular/plural numbers or present/past tenses. For example, 'apple' and 'apples' are two forms of the same word, but they differ in respect of number. Similarly, 'live' and 'lived' are two forms of the same word, but they differ in respect of tense. The study of this difference between the two words in each pair belongs to the field of grammar, and is thus a concern of 'inflectional morphology'.

In 'derivational morphology', we study the principles governing the construction of new words, without reference to the specific grammatical role a word might play in a sentence. Words like 'enjoyable' from 'enjoy', 'agreeable' from 'agree' or 'dislodge' from 'lodge' are formed with their own grammatical properties. The study of the formation of words such as these belongs to the field of 'derivational morphology'. According to C.F. Hockett, *Inflection* is that part of morphology which involves inflectional affixes. The remainder of morphology is derivation" (*A Course in Modern Linguistics*)

SOME BASIC CONCEPTS OF MORPHOLOGY

Morpheme

A morpheme is the minimal grammatical unit of a language. In English, the word 'disagreement' comprises three morphemes: dis+agree+ment; and the words 'men' and 'worse' consist of two morphemes: man+plural and bad+comparative, respectively. In the word 'disagreement', {dis-}, {agree} and {-ment} form its phonological representation; but the words 'men' and 'worse' have no phonological representation. It means that all morphemes may not have phonological representation. By definition, a morpheme should be the smallest meaningful grammatical structure, and it cannot bear the further breakage.

For example, if we break the word 'under' into {un-}, {d}, and {-er}, all these components will become meaningless. So, 'under' is one morpheme, and it loses its meaning after further breakage.

The morpheme may or may not have meaning independently. For example, {un-} has a negative meaning in the words 'unhealthy', 'unable', 'undo', 'unbearable', etc., but it will be meaningless independently. In the words 'longer', 'smaller', 'teacher' and 'preacher', {-er} is a meaningful unit. It changes the degrees in the case of 'longer', {long} + {-er}, and 'smaller', {small} + {-er}; the parts of speech in the case of 'teacher' {teach} + {-er}, and 'preacher', {preach} + {-er}. But independently 'er' is meaningless. Such type of morphemes that show their meaning only with other words (or morpheme) are known as bound morphemes. The morphemes such as 'long', 'small', 'teach'; and 'preach', are known as free morphemes, because they are meaningful even if they are independent.

In some cases, the singular and the plural forms of some words are alike, for example, 'sheep', 'fish', and 'deer': {sheep} + { }, {fish} + { }, {deer} + { }. The same may be found in several other verbs such as 'cut', 'cast', 'shed', 'set', 'shut', 'spread', 'put', and 'let', where they are same in past simple, past participle and present-plural. They are homophonous. In the former case the plural morphemes of the nouns are present, but their phonetic representation is zero, and in the latter, it is assumed that the past tense is present, but the phonological manifestation or representation is zero. Such morphemes are known as zero-morphemes.

In simple words, two types of morphemes have been identified on the basis of their occurrence in larger constructions : *free form* and *bound form*. A morpheme that occurs alone, or can stand alone is a *free form*. It doesnot require the presence of another morpheme; in other words, such a morpheme doesnot need the support of any other element. All content words are free forms : *house, church, girl cat, walk, see, red, short, book, water*. Some form words are also free forms, *always, though, but, never, and, or, if*. The meaning of such words is 'contained in their ability to refer to some point in the world outside'.

A second class of morphemes called *bound form*, contain elements that must always be attached to some other elements. They cannot occur or stand alone. In words like *watery, invisible, reader, possibility, madness, cats, and manly*. We can identify' such morphemic particles as -y, in, -He, - cr, -ty, -ness, -s, and -ly. Their meaning is in their grammatical fund inns such as noun-snaking, verb-forming, pluralizing, adjectivizing, 4iid so on. They can be attached to any other free forms of the same form class to construct similar segments. Isolated they donot stand by themselves.

There are a few more morphemes which vary in their phonological manifestations. For example, *pro*, in 'profess', 'progress', and 'program', and *un* in 'under' and 'sun'. They all have one morpheme each because *if pro* or *un* is separated, *fess, gress, grain, der* and *5* will become meaningless.

A morpheme may be monosyllabic or polysyllabic. They are usually put within curly brackets as {happy} and {-ness}.

The free morphemes lire called *roots* or *bases* and the bound morphemes are called *affixes*. See the following table for further classification of the morphomes.

Roots and Affixes

Look at the following words:

1. goes, rea'ds, walked,-received, perceived
2. greater, smaller, taller, costliest, busiest
3. player, reader, leader, dancer, preacher
4. unhappy, enable, irregular, illegal, asleep, renew
5. befriend, belittle, enlarge, enrich, imprison

Now, the above words may be analyzed in the following ways:

- (1) {go} + {-es}; {read} + {s} (verb+singular)

- {walk} + {-cd}; {receive} + {-d}; {perceive} + {-d}, (verb + past tense)
- (2) {great} + {-er}; {small} + {-er}; {tall} + {-er}; (adjective + comparative degree)
- {costly} + {-est}; {busy} + {-est} (adjective + (superlative degree))
- (3) {play (verb)} + {-er}; {read (v)} + {-er}; {lead (v)} + {-er}; {dance(v)} + {-er}; {preach (v)} + {-er} (noun)
- (4) {un-} + {happy}; {en-} + {able}; {ir-} + {regular}; {il-} + {legal}; (negative+adjective)
- {a-} + {sleep (v)}- adjective; {re-} + {new (adj)} (verb)
- (5) {be-} + {friend (n)}; {be-} + {little (adj)}; {en-} + {large (adj)}; {en-} + {rich (n)}; {im-} + {prison (n)} (verb)

In the first group, *-es* and *-s* are bound morphemes which make the root words 'go' and 'read' singular. Similarly, *-ed* and *-d*, have been joined with the free morphemes *walk*, *receive* and *perceive* to change them into past tense. These are free morphemes as they have their own meaning without being added to any other morphemes, *-es*, *-s*, *-ed* and *-d* are the bound morphemes because they are meaningless independently. In the second group, the morphemes 'great', 'small', 'tall', 'costly', and 'busy', are free morphemes, and *-er* and *-est* bound morphemes added to the free morphemes to change their degree. In the third group, 'play, read, dance, lead and preach' are free morphemes, as they have their own meaning independently and *-er* has been added to them to change their parts of speech. In the fourth group, 'happy, able, regular, and legal' are free morphemes and *un-*, *en-*, *ir-* and *il-* are the bound morphemes added in the beginning to make them negative. In the fifth group the morphemes, 'friend', 'little', 'large', 'rich', and 'prison' are free morphemes while *he-*, *en-*, *im-* are bound morphemes to change their parts of speech.

We see, thus, that every word of all the above groups has one independent (free) morpheme, which has some meaning, and there is a bound morpheme added to each to form a new word. The bound morpheme has no independent meaning. So, the free morphemes are the *roots* or *bases* to which the bound morphemes are added as *affixes*. There are two types of affixes: one is added in the beginning to the free morphemes or roots, and the other next to the root. The former is known as *prefix* and the latter *suffix*. In English, the roots are mostly free morphemes. A word may consist of one or more morphemes, one morpheme usually as the central and one or more morphemes as the peripheral. The central morpheme is the *head* and the peripheral morphemes are the modifiers. The head morpheme is known as root morpheme and the peripheral, affixes. An important difference between these two is that root morphemes are unlimited in number whereas affixes are limited.

Prefix, Suffix, and Infix

The affixes in relation to their root morphemes may be divided into three kinds: prefixes, suffixes and infixes.

A *prefix* is a word-element added in the beginning of a word to form another word. A *suffix* is a word-element added next to the root morpheme making a new word. In the word 'unfaithful', for example, {un-} is a prefix and {-ful} is a suffix. Similarly, in the word

'denationalized', {de-} is a prefix, and {-al}, {-ize} and {-d} are suffixes. *Infixes* are less commonly found in English apart from one mode of analysis of plurals such as 'geese', and 'men'.

Prefixes

Some common prefixes in English

a-, ante-, anti-, auto-, be-, bi-, co-, dc-, dis-, en-, ex-, extra-, fore-, il-, im-, in-, inter-, ir-, mini-, mis-, non-, out-, over-, pre-, pro-, re-, sub-, super-, tri-, un-, under-, up-, upper-,

Examples

a-	asleep, ablaze
ante-	antedate, antenatal, ante meridiem
anti-	anti-social, antidote
auto-	automatic, automobile
be-	befriend, belittle
bi-	bilingual
co-	co-exist, co-education
de-	defrost, deform, degrade
dis-	discontent, disown, disclose, dishonest
en-	enrich, enclose, enable
extra-	extraordinary
fore-	foresee, forecast, foreword
il-	illegal, illiterate, illegible
im-	improper, immoral, impossible
in-	indirect, indoor, indefinite
inter-	interconnected, international, inter-university, inter-caste
ir-	irregular, irrelevant, irreligious
mini-	miniskirt, minibus
mis-	mistake, misunderstand, misbehave
out-	outburst, outstand
over-	oversure, overcrowd
pre-	preoccupied, prehistoric, prefix, precaution
pro-	prorata, pro-administration, proscribe
re-	recollect, recall, recreate, revive, regain

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sub-	subjudice, sub-judge
tri-	triangle
un-	unknown, uncommon, unkind
under-	underhand, understand
up-	uplift, uphold
upper-	upperhand

Prefixes referring to parts of human body or their functions

audi(o)-	audition, auditorium, audio-visual
cardi(o)-	cardiology, cardiologist, cardiac
derm-	dermatitis, dermatology, dermatologist
hemo-	hemoglobin, hemophilia, hemorrhage
nephro(o)-	nephritis, nephrology, nephrologists
neuro-	neurology, neurologist, neurosis
osteo-	osteopathy, osteopath, osteology
psycho-	psychology, psycholinguistics, psychophysical

Prefixes referring to number

Ambi-	ambiguous, ambivalence, ambidextrous
bi-, di-	biannual, bilingual, dioxide
tri-	trimeter
tetra-	tetrameter, tetrachloride
penta-	pentameter, pentagonal
mono-	monogamy, monotony, monotonous
uni-	unilateral, unidirectional
poly-	polyclinic, polygamy
multi-	multilateral

Prefixes referring to size or extent

hyper-	hyperactive, hyperacidity, hypertension
micro-	microbiology, microcosm, microsurgery
mini-	miniskirt, minicab
sub-	subconscious, sub-ordinate
ultra-	ultrasonic, ultrasound
under-	underdeveloped, underestimated

Prefixes are of two types: (1) class maintaining and (2) class changing. In class maintaining prefix, the addition of the prefix does not bring any change in the grammatical class in which the word belongs, but in the class changing prefix it does a few examples of class maintaining and class changing prefixes from English:

Class-maintaining prefixes

a-	atheist, amoral
ex-	ex-member, ex-vice-chancellor
pre-	pre-mature, pre-historic
non-	nonpayment, nonsense
fore-	foretell, forecast
mini-	miniskirt, minibus

Class-changing prefixes

a-	asleep, ablaze
re-	renew
im-	imprison
en-	enable, enrich, enlarge
be-	belittle, befriend

Suffixes

Some common suffixes

-able, -age, -al, -an, -ance, -ar, -ard, -ary, -ate, -ation, -d, -dom, -ed, -ee, -eer, -er, -es, -est, -ful, -fy, -hood, -ies, -ing, -ion, -is, -ist, -ive, -ize, -less, -let, -like, -ly, -ment, -s, -ship, -some, -st, -th, -ty, -ward, -y.

Examples

-able	eatable
-age	marriage, postage
-al	arrival, cultural
-an	Indian, American
-ance	appearance, maintenance, hindrance
-ar	beggar, circular
-ard	dullard, drunkard
-ary	honorary
-ate	nominate, evacuate
-ation	starvation, motivation

-d	proved, received, dared
-dom	freedom, kingdom
-ed	walked, played, stayed
-ee	employee, payee
-eer	engineer, mountaineer
-er	longer, smaller, teacher, preacher, dancer
-es	boxes, goes, does
-est	greatest, smallest, darkest
-ful	beautiful, harmful, handful
-fy	beautify, simplify, glorify
-hood	childhood, boyhood
-ies	babies, puppies
-ing	going, reading, writing
-ion	action, radiation, propagation
-is	childish, foolish, boyish
-ist	realist, economist, socialist
-ive	respective, comparative, active, deceptive
-ize	legalize, realize, penalize
-less	careless, harmless
-let	outlet, booklet
-like	childlike, manlike
-ly	similarly, slowly, kindly
-ment	punishment, astonishment
-s	dogs, cows, walks, plays
-ship	friendship, membership
-some	troublesome, handsome, burdensome
-st	amongst
-th	strength, width
-ty	cruelty, loyalty
-ward	backward, onward, forward
-y	dirty, watery

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adjectives whereas some others as adverbs. For example, *-ly* functions like adjective suffixes in the words such as 'friendly', 'scholarly', and 'brotherly', and as adverb suffixes in the words 'immediately', 'early', 'wisely', and 'fleshly'.

Suffixes help in word formation

1. Verb + er/or/oin/al/age/ = Noun

-er: paint + -er = painter; write + -er = writer; dance + -er = dancer; -or: act + -or = actor; dictate + -or = dictator; narrate + -or = narrator;

-ion: select + -ion = selection, collect + -ion = collection; connect + -ion = connection;

-al: arrive + -al = arrival; approve + -al = approval; refuse + -al = refusal;

-age: marry + -age = marriage; carry + -age = carriage; leak + -age = leakage

2. Verb + sion/ment/ance/ence/ure = Noun

-sion: admit + -sion = admission; permit + -sion = permission; -ment: pay + -ment = payment; agree + -ment = agreement; appoint + -ment = appointment; -ance: assist +

-ance = assistance; accept + -ance = acceptance; -ence: depend + -ence = dependence, differ + -ence = difference; exist + -ence = existence;

-ure: fail + -ure = failure; please + -ure = pleasure; depart + -ure = departure

3. Adjective + ness/ity/dom/cy/ty = Noun

-ness: kind + -ness = kindness; dull + -ness = dullness; good + -ness = goodness;

-ity: active + -ity = activity; real + -ity = reality; able + -ity = ability;

-dom: wise + -dom = wisdom; free + -dom = freedom; martyr + -dom = martyrdom;

-cy: accurate + -cy = accuracy; private + -cy = privacy; urgent + -cy = urgency;

-ty: cruel + -ty = cruelty; royal + -ty = royalty; safe + -ty = safety

4. Noun + -al/en/ful/less/ly = Adjective

-al: accident + -al = accidental; culture + -al = cultural; nature + -al = natural;

-en: gold + -en = golden; wood + -en = wooden; wool + -en = woolen; earth + -en = earthen;

-ful: beauty + -ful = beautiful; hope + -ful = hopeful; joy + -ful = joy full;

-less: care + -less = careless; fear + -less = fearless; hope + -less = hopeless;

-ly: brother + -ly = brotherly; man + -ly = manly; coward + -ly = cowardly

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Noun + ish/y/ic/some/like = Adjective

-ish: child + -ish = childish; boy + -ish = boyish; fool + -ish = foolish;

-y: air + -y = airy; wealth + -y = wealthy; health + -y = healthy; dirt + -y = dirty;

-ic: artist + -ic = artistic; hero + -ic = heroic;

-some: burden + -some = burdensome; trouble + -some = troublesome;

-like: child + -like = childlike; war + -like = warlike; business + -like = businesslike

6. Noun + ify/en/ize = Verb

-ify: beauty + -ify = beautify; class + -ify = classify; person + -ify = personify;

-en: black + -en = blacken; fright + -en = frighten; light + -en = lighten;

-ize: capital + -ize = capitalize; central + -ize = centralize; national + -ize = nationalize

7. Adjective + en/ify/ize = Verb

-en: broad + -en = broaden; deep + -en = deepen; dark + -en = darken;

-ify: false + -ify = falsify; pure + -ify = purify;

-ize: equal + -ize = equalize; general + -ize = generalize; familiar + -ize = familiarize

8. Adjective + ly = Adverb

-ly: bold + -ly = boldly; easy + -ly = easily; happy + -ly = happily

Classification of suffix

Suffixes are classified into:

(1) derivational, (2) inflexional, and (3) bound bases

Derivational suffix: It is a kind of suffix which forms a new word by being added to the root morpheme. The part of speech of the root element is changed with the addition of the suffix. Look at the following examples:

write (verb) write + -er = writer (noun)

speak (verb) speak + -er = speaker (noun)

play (verb) play + -er = player (noun)

child (noun) child + -ish = childish (adjective)

beauty (noun) beauty + -ful = beautiful (adjective)

beauty (noun) beauty + -fy = beautify (verb)

Inflexional suffix: It does not form a new word. With the addition of this kind of suffix,

different forms of the same word are made or the number, gender, degree and tense of the same word can be changed. For example, the word 'speak' is a root morpheme.

Speak: speaks, spoke, spoken, speaking

These forms are the variations of the same part of speech, verb. Look at the following examples:

(a) Noun

Singular	Plural	
cat	cat + -s	= cats
dog	dog + -s	= dogs
table	table + -s	= tables
chair	chair + -s	= chairs
girl	girl + -s	= girls
boy	boy + -s	= boys
monkey	monkey + -s	= monkeys
puppy	puppy + -es	= puppies

(b) Adjective

Positive	Comparative	Superlative
degree	degree	degree
tall	tall + -er = taller	tall + -est = tallest
great	great + -er = greater	great + -est = greatest
happy	happy + -er = happier	happy + -est = happiest
heavy	heavy + -er = heavier	heavy + -est = heaviest
big	big + -er = bigger	big + -est = biggest

(c) Verb

Present	Past	Past	Present	Singular
plural	tense	participle	participle	present
go	go + (past) = went	go + (p.p.) = gone	go + ing = going	go + es = goes
catch	catch + (past) = caught	catch + (p.p.) = caught	catch + ing = catching	catch + es = catches
climb	climb + (past) = climbed	climb + (p.p.) = climbed	climb + ing = climbing	climb + s = climbs
cast	cast + (past) = cast	cast + (p.p.) = cast	cast + ing = casting	cast + s = casts

In Example a all the forms are either singular or plural but they all are nouns. Example

gives the different degrees of the adjectives. Example c shows the five forms of each verb. Here, no new words are formed. All forms of the words are said to be the different inflexions of the words. In English inflexional suffixes include the following seven types:

- (1) The plural suffix: tables, chairs, books, pens, papers.
- (2) The genitive suffix: Mary's, Kamal's, Socrates'.
- (3) The third person singular number present tense suffix: reads, writes, plays, goes.
- (4) The past tense suffix: walked, slept, moved, read, wrote
- (5) The present participle suffix: going, reading, writing, playing.
- (6) The past participle suffix: gone, run, played, written.
- (7) The comparative and the superlative suffixes: bigger, taller, heaviest, smallest.

Class-maintaining and class-changing suffixes

Derivational suffixes are of two types: class maintaining and class changing. A class maintaining derivational suffix is one by the addition of which to the base a lexeme of the same grammatical class (parts of speech) is produced. A class-changing derivational suffix, on the other hand, is one by the addition of which to the base a lexeme of a different grammatical class (parts of speech) is produced. Look at the following examples:

Examples of class-maintaining derivational suffixes are

-dom	boredom, kingdom
-ess	tigress, princess, actress
-ette	cigarette
-hood	'childhood, boyhood, manhood
-let	booklet, rivulet
-ling	duckling
-some	queersome, burdensome
-ship	friendship, kinship, scholarship

Examples of class-changing derivational suffixes are

-ance	acceptance, appearance, assistance
-ate	affectionate, passionate
-ation	affiliation, confirmation, reservation
-ee	absentee, divorcee, employee, payee
-ence	confidence, existence, preference
-er	believer, employer, reader, player
-ish	childish, boyish
-ize	dramatize, nationalize, liberalize

- ment amendment, development, government
- ness bitterness, dryness, eagerness, largeness

In some cases, a suffix may operate both as a class-changing in one word and as class maintaining in another; e.g.,

- ish in childish, boyish (class-changing)
- ish in greenish, reddish (class-maintaining)
- ly in wisely, foolishly (class-changing)
- ly in deadly (class-maintaining)
- al in magical, musical (class-changing)
- al in economical (class-maintaining)

Bound bases

Those are morphemes which serve as roots for derivational forms only and never appear as free forms; e.g.

preclude, exclude, conclude, include—perceive, receive, deceive

In the above words, -elude and -ceivc are bound bases.

Infix

Examples of infix rare in the English language. In English, some words change in their inflection by bringing some variations in the vowels in their middle structure; e.g.,

man—men; goose—geese; mouse = mice

louse—lice; foot—feet; tooth—teeth

Such changes are known as *replacive*, because they involve in the replacement of vowels.

Compounds

In a compound, two or more root elements are justaposed; e.g.

aircraft, fingerprints, textbook, sunrise, grindstone, fallout, breakfast, paperback, carefree, scarecrow

Morph

When a morpheme is represented sometimes by one phonemic shape and sometimes by another or others, we say that the shapes stand in 'alternation'. Each representation is a morph.*

If we analyze a few words for their grammatical significant elements smaller than words, we can see that the same morpheme may have different phonological representations in different words. Take for example, the two words 'walked' and 'moved'. Orthographically or phonologically these words may be segmented as the following. In 'walked' the initial morph is *walk* and the final morph is *-ed*. In 'moved' the initial and final

Morphs are *move* and *-d*, respectively. The final morphemes of these two words are, however, the same: *walk* + [past tense]; *move* + [past tense]. The past tense morpheme has taken two different orthographical shapes in the above words. Thus, a morpheme is the minimal grammatical unit of a language, whereas a morph is its orthographical or phonological shape.

A morph is the physical form of a morpheme.

Like the phoneme, the morpheme is a basic unit in the expression system. Whereas the phoneme denotes the unit of sound in a word, the morpheme denotes the unit of its structure. And the morph implies the physical form through which the morpheme is represented. In the opinion of George P. Faust, "A Morph can be oversimply defined as an individual linguistic form which is an indivisible unit of meaning" (*Applied English Linguistics*, ed. Harold, B. Allen). According to John Lyons, "When a word can be segmented into parts, these segments are referred to as morphs." However, to be called a morph, a segment should have meaning. For example, the word 'trouble' has one morph, because if we divide it into segments or parts, they may be 'trou', 'rou' or 'trouble', none of which, taken separately, has any meaning. In words like 'went' and 'came' there are two morphemes, i.e. (go) + (ed) or (come) + (ed); but both have only one morph each, because the segment signifying past time (i.e. 'ed') has no meaning by itself.

Each morph signifies a particular morpheme; but each morpheme does not necessarily have a morph. For example/ when we use the word *-fish* in 'the plural, we have one morph but two morphemes (fish) + (iz) even though (iz) may not be represented by a morph.

Morpheme and Syllable

A morpheme and a syllable are two different things. A morpheme may consist of a syllable or a bunch of several syllables. For example, the word 'Calcutta' has only one syllable but two morphemes. Sometime, a word of one syllable may have more than one morpheme. For example, the word 'boys' is monosyllabic, but has two morphemes, i.e. (boy) + (s) denoting plural. A syllable is a unit in the rhythm of a language, and is thus related to speech, whereas a morpheme is a unit in the construction of a word, and is thus related to grammar of a language.

Morpheme and Words

A word is a meaningful element in a speech or utterance. It implies a sound or a combination of sounds or the written form of that sound. It is a unit of a sentence or phrase, and is separated, in the written form from other words in it by a space on either side, though no such space within it, and in the spoken form by a pause on either side. It can serve as a part or the whole of a sentence or as a substitute for it. It is the smallest unit of grammar, and is capable of standing alone as a complete utterance, such as when we say 'Yes', 'Go', 'Sorry' or 'Thanks'. According to C.F. Hockett, "A word is thus any segment of a sentence bounded by successive points at which pausing is possible." (*A Course in Modern Linguistics*)

Being a sound or a combination of sounds, the word is a subject of study in phonology; as an elementary unit of structure or sentence, it is a matter of study in syntax; as a meaningful utterance, it is related with lexicology; and as a group or combination of morphemes, it attracts the attention of morphology. Whereas phonology deals with and

analyses the sounds, of words, syntax studies their combination in sentences and morphology deals with their internal structure which is composed of morphemes.

A morpheme is the smallest meaningful grammatical unit in the structure of a language. It may constitute a meaningful part of a word or the whole of it. A word may have one or more than one morpheme. For example, the word 'tray' has one morpheme, whereas 'disinterestedness' has four morphemes, i.e. dis-i-interest+ed-ness. In fact, as John Lyons opines, words may be regarded as "those structural units which are composed of one or more than one morpheme."

A morpheme is usually smaller than a word of which it is a constituent part, just as a word is smaller than a phrase which consists of two or more words. A word may consist of a single morpheme, as in 'man', 'joy' and 'low', or of two morphemes, as in 'manly', 'joyful' and 'lowly', or three morphemes, as in 'joyfully', 'manliness' and 'lowliness'.

Morphemes are classified as segmental morphemes and suprasegmental morphemes according to their status relative to words, the former category comprising those morphemes that form a part or the whole of a word, and the latter of those that are not a part of it.

Portmanteau Morph

Portmanteau morph is a type of morph which represents a togetherness of two or more morphemes. It was F.C. Hockett who used this technical term for the first time. Examples are *be* and *'have'* which may be represented for togetherness in the following way:

- be* *is* (present tense, third person singular)
- are* (present tense, plural number)
- am* (present tense, singular number, used specifically with 'I')
- was* (past tense, singular number)
- were*, (past tense, plural) *have*
- have* *has* (present tense, singular number possessive case)
- have* (present tense, plural number, possessive case)
- had* (past tense, possessive case)

Allomorphs

Look at the following variants of the same morpheme:

cats	/cat/ + /s/	plural morpheme
dogs	/dog/ + /z/	plural morpheme
boys	/boy/ + /z/	plural morpheme
buses	/bus/ + /iz/	plural morpheme

In the above examples, the plural morpheme is realized in 'cats', as /s/; in 'dogs' and 'boys' as /z/; and in 'buses' as /iz/. Similarly, the past tense is realized in 'stopped', 'bombed' and 'wanted' as, respectively, /t/, /d/ and /ɪd/.

Such type of alternative realizations of a morpheme, in both plural number and past tense, are known as **allomorphs**.

An allomorph is a variant of a morpheme. When the same morpheme is represented by different morphs in different situations, it is represented by alternative phonological manifestations, and these manifestations are termed 'allomorphs' or 'morpheme variants'.

A morpheme is the smallest unit in the expression, which has a direct relationship with any point in the content system. To be regarded as allomorphs of a single morpheme, any two items should have the same relationships to the same structure points in the content. Members of the same morpheme, which have phonemic differences among them, are called 'allomorphs'. They consist of like morphs that are in complimentary distribution with all other members of their morpheme. An allomorph is a family of morphs which are alike in two ways: (i) in the allophones of which they are composed: and (ii) in the meaning which they have. For example, the morpheme of plurality, signified by the letter V is represented by three allophones having phonetical and semantical similarity, viz. /s/, /z/ and /ɪz/ in *cats*, *bags* and *stages* respectively.

"When a morpheme is represented sometimes by one phonemic shape and sometimes by another or others, we may say that the shapes stand in *alternation* with each other, or, more briefly, that the morpheme manifests alternation. Each representation is a *morph*; all the morphs which represent some given morpheme are called *allomorphs* of that morpheme. Thus /sɛl/ and /s/.... l/ are both allomorphs of the morpheme (sell," (C.F. Hockett *Course in Modern Linguistics*)

The morphological terms *morph*, *allomorph* and *morpheme* can be regarded as parallel to the phonological terms *phone*, *allophone* and *phoneme* respectively.

The term 'morph' is most significant among these three terms, and has a close relation with the other two terms. As George P. Faust remarks. "Any morph may be called a morph (i.e. an individual linguistic form which is an indivisible unit of meaning), or an allomorph (i.e., a member of an allomorph) or a morpheme (i.e., a member of a morpheme)" (Harold B. Allen (ed.): *Readings in Applied English Linguistics*).

Truncation

Truncation is a process in which a part of the base is dropped before a derivational suffix is added to that. For example:

- philosophy + -er = philosopher
- evacuate + -ee = evacuee
- nominate + -ee = nominee
- humanity + -arian = humanitarian
- vegetable + -arian = vegetarian

Morphophonemics

The ways in which the morphemes of a given language are variously represented by phonemic shapes can be regarded as a kind of code. The code is the morphophonemic system of a language.

The way of representation of morphemes in different phonological shapes in languages is called morphophonemics or morphophonology. It is a kind of code to represent morphemes in phonemic shapes. Morphemes are the abstract units of grammatical analysis which appear in various phonological shapes. Morphophonemics deals with both morphemes and phonology. Lyons "(1968:116) has described it as "a section of linguistic description intermediate between grammar and phonology". It is a term used mostly in American linguistics. In British linguistics, it is called *morphophonology* or *morphonology*.

The following are examples in English for the application of the morphophonemic rules.

Plural Morphemes

- (1) If a noun ends in a voiceless sound except /s/, /f/ or /t/, the plural morpheme at the end is uttered as /s/, e.g.
 cats /kæts/ peaks /pi:ks/
 caps /kæps/ roofs /ru:fs/
- (2) If a noun ends in a voiced sound except /z/, /r/, or /d/, the plural morpheme is uttered as /z/, e.g.
 dogs /dc:gz/ cows /kauz/
 beds /bedz/ homes /heumz/
- (3) If a noun ends in /s/, /r/, /f/, /z/, /t/, or /d/, the plural morpheme is read as /iz/. e.g.
 language /længwidz/ horses /hc:siz/
 brushes /brv:fiz/ prizes /praiziz/

There are also some exceptions to these pluralization rules:

- (1) Consonant at the end of the base is changed before the application of the plural morpheme, e.g.
 bath /ba:θ/ baths /ba:ðz/
 path /pa:θ/ paths /pa:ðz/
 half /ha:f/ halves /ha:vz/
 knife /naif/ knives /naivz/
 house /haus/ houses /hauziz/
- (2) Plural nouns are formed by changing the vowels; e.g.
 foot /fu:t/ feet /fi:t/
 mouse /maus/ mice /mais/
- (3) Some nouns have no change in their plural number; e.g.
 deer, aircraft, sheep, series
- (4) Some nouns have their plural forms with the addition of /en/ or /n/ with or without a change in the base; e.g.
 ox oxen
 child children

Genitive Morphemes

In the case of genitive morphemes the same morphophonemic rules, as for the plural morphemes, are followed, but there are some exceptions to these rules, for example,

- (1) If the proper noun ends in /z/, the genitive morpheme is realized as /iz/ or as zero, e.g.

Dickens Dickens'(s) /dikins/ or /dikinzi:/

Forbes Forbes'(s) /fɜ:biz/ or /fɜ:biziz/

- (2) In some cases the genitive suffix has a zero realization:

- (i) In a number of fixed expressions, e.g.

For Jesus' sake

For goodness' sake

- (ii) In Greek names of more than one syllables, e.g.

Sophocles' plays Socrates' disciple

Androcles' friend Euripides' tragedies

- (3) If the plural nouns end in '-s' the genitive suffix is realized as zero:

boys' hostel teachers' quarters

employees' union officers' mess

Third Person-Singular Number-Present Tense (TSP) Morpheme

The same morphophonemic rules of the plural morpheme are followed in this case.

Past Tense and Past Participle Morphemes

- (1) The verb ending in a voiceless sound, except /t/, is realized as /t/ in past tense or past participle, e.g.

stopped /stɒpt/ missed /mɪst/

rushed /rʌʃt/ walked /wɔ:kt/

- (2) The verbs ending in a voiced sound, except /d/, is realized as /d/ in the past tense or past participle, e.g.

played /pleɪd/ cried /kraɪd/

bombed /bɒmd/ hugged /hʌvd/

- (3) If the verb ends in /ə/ or /d/, the past tense or the past participle morpheme is realized as /ɪd/, e.g.

guided /gaɪdɪd/ parted /pɑ:tɪd/

guarded /ga:dɪd/ hunted /hʌntɪd/

The following verbs do not come under the above mentioned morphophonemic rules:

burst	burst	burst
cut	cut	cut
begin	began	begun
do	did	done
go	went	gone
bring	brought	brought
sit	sat	sat
come	came	come

Negative Morpheme

The negative morphemes are mostly prefixes except *less* (suffix). The rules of its phonological realization are as follows:

- (1) If a word begins with /l/, the negative morpheme /il/ is prefixed, as:

legal	illegal
logical	illogical

- (2) If a word begins with /m/, /p/ or /b/, the negative morpheme /im/ is prefixed, as:

mobile	immobile	proper	improper
mature	immature	possible	impossible

- (3) If a word begins with /r/, the negative morpheme /ir/ is prefixed, as:

regular	irregular
relevant	irrelevant
rational	irrational

- (4) If a word begins with /k/ or /g/, the negative morpheme /in/ is prefixed, as:

capable	incapable
complete	incomplete
comparable	incomparable
gratitude	ingratitude

- (5) If a word begins with /f/ or /v/, the negative morpheme /in/ is prefixed, as:

formal	informal
famous	infamous

- (6) If a word begins with /t/, /d/, /s/, /dʒ/ or /n/, the negative morpheme /in/ is prefixed, as:

tolerable	intolerable
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transitive	intransitive
solvency	insolvency
dependent	independent
justice	injustice

(7) If a word begins with a vowel, the negative morpheme /in/ is prefixed, as:

active	inactive
offensive	inoffensive

(8) In some words the suffix /-less/ is added as a negative morpheme, as:

help	helpless
worth	worthless

Word Formation

Word formation is a significant area of linguistic studies. There are nine processes by which new words are formed in English, they are:

1. Compound formation, 2. Duplication, 3. Derivation, 4. Back formation, 5. Conversion, 6. Clipping, 7. Acronymy 8. Blending, and 9. Multiple formation. We shall study these in detail below.

Compound Formation

In compound formation, two roots are joined together to make a longer word; e.g.

book-review, she-goat, myself, anybody, playground, everlasting, psycholinguistics, sociolinguistics

The unit of meaning obtained by combining two or more free forms (simple or complex) is called a COMPOUND. This simple description is put forward only as a 'working definition' because, in English; a compound is intricately associated not only with meaning but also with distinctions of stress, juncture and phoneme modification; and is, therefore, extremely difficult to define. In writing, a compound is usually indicated by writing the free forms as a single word or by joining them with a hyphen. In speech this is usually done by putting the primary stress on the first member of the compound. But it should be remembered that this is only a general tendency. As already indicated in the discussion on stress, the native speakers often change the stress pattern to emphasise one or the other of the members or to maintain the regular rhythm of their speech (e.g.. to avoid having too many stressed syllables very close together). Similarly, the writing system is also not very-consistent in this respect. For instance, the same collocation ice cream may be written as *ice cream*, *ice-cream* or *icecream*, depending upon the individual taste of the writer. In such cases, the only practical guide will be a good dictionary and a familiarity with the English rhythmic pattern.

Types of Compounds

As already mentioned, a compound may consist of two or more members. In some compounds these members form part of a larger construction and are therefore connected

according to the rules of English Syntax. Such compounds are usually known as **SYNTACTICAL COMPOUNDS**. In others, the members are simply placed side by side and are not connected by any syntactic rules. Such compounds are called **JUXTAPOSITIONAL COMPOUNDS** (*Juxtapose* means 'to place side by side.')

Syntactical Compounds

- (i) Verb + Noun: pick-pocket, tell-tale, lack-lustre, kill-joy; etc.
- (ii) Adjective + Noun: blackboard, common sense, free-lance; etc.
- (iii) An-ing form + Noun: humming-bird, drinking-water, opening-song; etc.
- (iv) Adverb + An-ed form (past participle): far-fetched, inborn, wide-spread, etc.
- (v) Verb + Adverb: farewell, breakdown, lock-up; etc.
- (vi) Preposition + Noun: afternoon, overboard, under-graduate; etc.
- (vii) Possessive + Noun: hair's-breadth, sportsman, foolscap; etc.
- (viii) Phrase Compounds: forget-me-not, mother-in-law, man-of-war; etc. (members regularly hyphenated).

Juxtapositional Compounds

- (i) Noun + Noun: horse-race, race-horse, icecream; etc. (The first member qualifies the second).
- (ii) Noun + Noun: shoe-maker, taxpayer, screw-driver; etc. (The second member usually stands for 'doer' or 'instruments').
- (iii) Noun + -ing form: bird-watching, fault-finding, day-dreaming; etc.
- (iv) -ing form + Noun: playing-card, dressing-gown, working-girl; etc.
- (v) Adverb + Noun: after-thought, insight, forefinger; etc.
- (vi) Adverb + Verb: output, underline, over-hear; etc.
- (vii) Noun + Adjective: home-sick, sky-blue, knee-deep; etc.
- (viii) Noun + Verb: way-lay, manhandle, back-bite; etc.
- (ix) Adjective (Noun) + Noun (Usually take -ed suffix): bare-footed, narrow-minded, two-rupee; etc.

Duplication

Duplication is a process in English in which new words are formed by repeating an item with a change in the initial consonant or in the medial vowels; e.g.

helter-skelter, hob-nob, Hip-flap, dilly-dally, tick-tock, zig-zag, ping-pong

Bauer (1983:213) describes such words as *ablaut motivated compounds*.

Derivation

A new word can be formed by adding a prefix or a non-inflexional suffix to a base or by inserting an infix into a root. This process is known as derivation, and it may be in three

ways: prefixation, suffixation and infixation. Some linguists use the term 'affixation' in place of derivation. Examples are:

a	+ sleep	asleep	— prefixation
de	+ centralize	decentralize	— prefixation
play	+ er	player	— suffixation
book	+ let	booklet	— suffixation

Back Formation

In back formation, a new word is formed by deleting the suffix or what erroneously looks like a suffix at the end of the word; e.g.

editor	edit
television	televise
burglar	burgle
contraception	contracept

Conversion

The usual device for changing the word-class (part of speech) of an item is addition of suffixes. But this can sometimes be achieved without this device. The process of derivation whereby the word-class of an item is changed without the addition of derivational suffixes is known as CONVERSION. In this process the same word is used as different parts of speech, and this is usually indicated by word-stress, inflectional suffixes and other syntactic devices. The following are some of the examples of conversion.

- (i) Verb to Noun: The man is a *cheat*.
- (ii) Noun to Verb: He *elbowed* his way through the crowd,
- (iii) Adjective to Noun: Our school subscribes to one *daily* and three *weeklies*.
- (iv) Adjective to Verb: The boy *dirtyed* his hands with soot,
- (v) Auxiliary to Noun: A good dictionary is a *must* for every student of English.
- (vi) Affix to Noun: I do not believe in any *isms*.
- (vii) Uncountable to Countable Noun: Two *teas*, please,
- (viii) Proper to Common Noun: There are two *Mohsins* in our class.
- (ix) Intransitive to Transitive Verb: Whenever I ask him a question, he *runs* his fingers through his hair.
- (x) Transitive to Intransitive Verb: His new book *sold* well.
- (xi) Intransitive to Verb of Incomplete Predication: He *fell* flat.

Clipping

In clipping, a word is made smaller without any change in its meaning or the grammatical class; e.g.

(1) memorandum	memo	(2) telephone	phone
microphone	mike	aeroplane	plane
laboratory	lab	omnibus	bus

photography	photo	(3) influenza	flue
vegetarian	veg	refrigerator	fridge
examination	exam	pyjama	jams
		spectacles	specs
		mathematics	maths

Acronymy

Acronymy is a process of word-formation in which a word is formed of the initial letters of a group of words. This is a type of abbreviation known as *acronym*. This is the manifestation of a widely felt human desire for economy of efforts.

In English acronyms are of three types:

- (1) The sequence of initial letters pronounced as words; e.g.

UNESCO United Nations Educational, Scientific and Cultural Organization

NATO North Atlantic Treaty Organization

LASER Lightwave Amplification by Stimulated Emission of Radiations

BASIC Beginners' All-Purpose Symbolic Instruction Code

- (2) The sequence of initial letters which are pronounced as sequence of letters; e.g.

EEC European Economic Community

FTCD Fellow of the Trinity College, Dublin

GA General Assembly

UNO United Nations Organization

BBC British Broadcasting Corporation

WHO World Health Organization

VIP Very Important Person

- (3) Abbreviations formed from letters taken from the same word; e.g.

TB Tuberculosis

TV Television

Blending

Blending is a process of word formation in which a new word is formed by combining the meaning and also the sound of the two words. The words formed by this process are called *blends* or *portmanteau* words, e.g..

- (1) First part of the first word is blended with the terminal part of another word; e.g.

Oxford + Cambridge Oxbridge

television + broadcast telecast

motorists' + hotel motel

breakfast + lunch

brunch

- (2) Two words used as bases are made to overlap each other in spelling or in pronunciation, or in both; e.g.

American + Canadian

Amcricanadian

balloon + lunatic

balloonatic

slang + language

slanguage

Multiple Formation

In multiple formation, two processes of word formation are applied one after the other, each of them being obligatory; e.g.

handkerchief

hanky

nightgown

nighty

underwear

undies

These words are a result of the two processes of word formation: clipping and derivation. Word formation applying only one of the processes is not acceptable; e.g.

handkerchief

hank (only clipping)

underwear

vind (only clipping)

To make them acceptable, the derivational suffix 'y' should be added.

Multiple formation is, however, not confined to clipping and derivation above. We can also apply other cases of word formation where it is obligatory to apply two processes one after the other. For example, the scientific word 'poromeric' has been formed in the following way:

porosity + polymer + -ic = poromeric

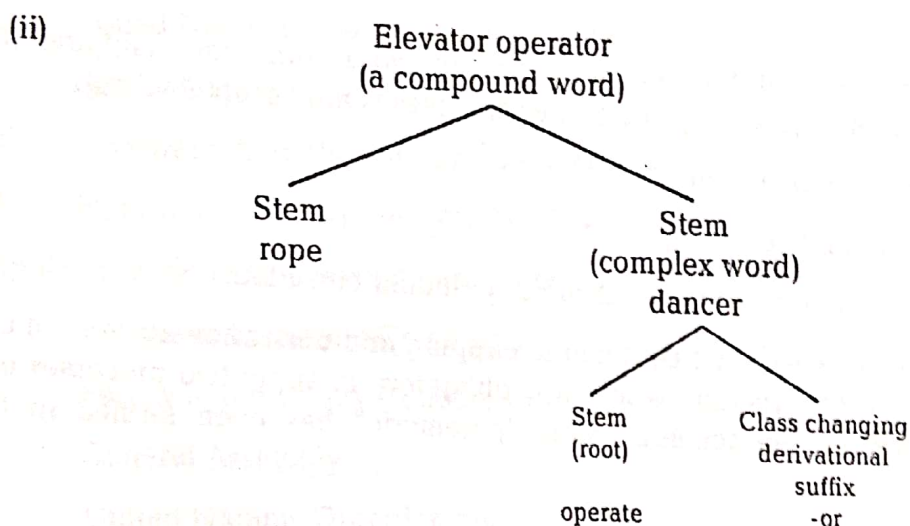
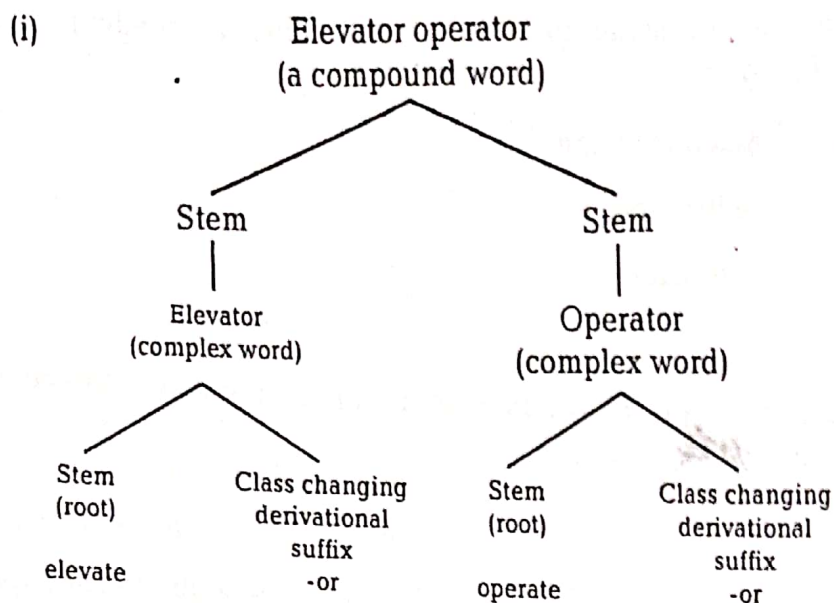
If the initial part of the word 'porosity' is blended with the terminal part of 'polymer', we coin the intermediate form "poromer", which is not acceptable as a word. So, we have to apply the process of derivation by adding the suffix -ic to this intermediate form in order to coin the word 'poromeric'.

Structure of Words

Considered from the point of view of their morpheme constituents, there are mainly three types of words:

- (i) Simple Words: They consist of a single free morpheme followed, or not, by an inflectional suffix, e.g. play, plays, stronger.
- (ii) Complex words: They consist of a base and a derivational affix, e.g. goodness, enable, boyhood, determination.
- (iii) Compound words: They consist of two (or more) free stems which are independent words by themselves, e.g. over-ripe, happy-go-lucky, elevator-operator.

A morphological analysis of a few more words will further clarify the position:



Phonological Semantic and Syntactic Considerations

In the determinations and identification of morphemes all these considerations help a great deal. When a person learns as morpheme, he has to tie together three kinds of information: phonological, semantic, and syntactic. Morphs like meet and meat will have the same phonological representation /mi:t/, they have to be distinguished on the basis of meaning and usage. Some morphemes are semantically empty, 'to', for example in, I want to sleep, has no obvious meaning. A morpheme is not fully defined by its semantic and phonological properties alone. It also has syntactic properties, some syntactic representation that determines how it functions with respect to the grammatical processes of the language. Rat, for example, can function only as a noun, and never say, as an adjective or as a verb. Thus the sentences that fat rat jumped upon the table is a grammatical construction but that the rat fat jumped upon the table is not a grammatical sentence. Therefore, morphemes are "bundles of semantic, phonological, and syntactic properties".

Points to Remember

A systematic study of morphemes is known as morphology.

A morpheme is a minimal, meaningful unit in grammatical system of a language.

3. Some morphemes can stand on their own as independent morphemes. Such morphemes are called free morphemes. The morphemes which cannot stand on their own as independent words are known as bound morphemes.

4. The most important method of word formation is affixation i.e., by adding a prefix or a suffix to a base word.

5. Some other methods of word formation are reduplication, clipping, acronyms, blend formation'.

6. An allomorph is a conditioned form of a morpheme. The negative morpheme 'in', for example, can become il/im/ir depending on the following consonant. For example; illegal, immoral, irrespective.

7. When the whole form of the root is replaced by a new form, it is called suppletion.

Review Questions

1. What does morphology study?

2. What do you understand by the term morpheme? How does it differ from a phoneme?

3. Define the term 'morph', 'allomorph', 'morpheme'. Give suitable examples to illustrate these concept.

4. What are free and bound morpheme? Give examples.

5. What are simple, complex and compound words?

6. What do you understand by affixation? Explain, giving copious examples.

7. Distinguish class changing suffixes from class maintaining suffixes.

8. What are the different ways of word formation? Elaborate with examples.

9. Discuss inflection and derivation.

10. Change of accent can bring about a change in meaning. How? Give examples.