MODULE 4 ENGLISH PHONEMES AND ALLOPHONES

UNIT 1 PHONEMIC DESCRIPTION BY CONTRAST

CONTENT

1.0 INTRODUCTION

There are a number of ways by which the phonemics of the English language can be identified and described. All the efforts are geared towards making the learning of these phonemes of English easy and pleasurable. As some of these phonemes are non-existent in our indigenous languages, students of English as a second language often have difficulty in mastering some of them. This is the essence many ways have been devised to assist the learning of the phonemes. For the purpose of this study, the following four approaches, often being identified with the classical or traditional phonology, shall be discussed, namely: minimal pairs, allophones, complementary distribution and free variation. But first, what is a phoneme.

A phoneme is the smallest/indivisible and contrastive or significant unit of the sound of a language, which, when replaced with another sound, results in a change in meaning. It is the smallest or indivisible unit of a sound because a phoneme can no longer be subdivided into a smaller unit. For an example,
“can” can be broken to three smaller units namely: /k/+/æ/+/n/; but can you further break the first sound, /k/, into smaller units? No, it is impossible. A phoneme is also described as the smallest contrastive or significant unit of the sound of a language because it has no twin, if you try to replace it in a word, it

gives you another word. This means that the replaced sound changes the meaning of the former word. For another example, "can" is changed to "man" when /k/ is replaced by /m/. The English sounds you have learnt, by description and illustrations, in the previous unit are the phonemes of English.

In this unit, I shall make an effort to discuss more ways of learning the phonemes of the English language that border on comparing and contrasting one phoneme with the other within the environment of the other phonemes.

2.0 OBJECTIVES

You should, by the end of this unit, be able to:

- define and identify minimal pairs of vowel and consonants sounds;
- explain to you how to identify and describe a phoneme through its various other forms called allophones; and
- discuss with examples free variation and complementary distribution in English.

HOW TO STUDY THE UNIT

a. Read this unit as diligently as possible.
b. Find meaning of unfamiliar words in the unit using your dictionary.
c. As you read, put major points down in a piece of paper or jotter.
d. Do not go to the next section until you have fully understood the section you are reading now.
e. Do all the Self-Assessment exercises in the unit as honestly as you can. In some areas where it is not feasible to provide answers to Self-Assessment exercises, go to the relevant sections of the unit to derive the answers.

3.0 MAIN CONTENTS

3.1 THE ENGLISH MINIMAL PAIRS

3.1.1 Definition of Minimal Pairs

As the name implies, I shall discuss pairs of words here, which will introduce to you the pair of phonemes that you have to learn.

Let us consider the following words:

bag	big
hard	heed
pat	fat
deal	seal

In examples a – d above, all the words are similar except for one phoneme in each set of pairs. In (a), the two words are similar in pronunciation except for the short vowels in the words: /æ / and /Ɪ/. In (b), the pair of words is similar but for the long vowels: /a:/ and /i:/; likewise c and d, but for the consonant sounds /p/ and /f/, and /d/ and /s/ respectively which make the pairs of words dissimilar. Thus, a phonemic situation whereby a pair of words is contrasted by only a phoneme in the string of sounds is called a minimal pair. Gimson (1980: 49) describes this as "pairs of words which are different in respect of only one sound segment". Therefore, in the examples a – d above, /æ/ and /Ɪ/, /a:/ and /i:/, /p/ and /f/, and /d/ and /s/ respectively, are minimal pairs.

3.1.2 Mode of Minimal Pairs

Minimal pairs are environmentally contrastive because they are only different within the environment (words) that they occur.

In 3.1a for instance, /æ/ and /Ɪ/ occur in the environment of b – g. Any other sound that can occur meaningfully within this environment belongs to the same set of minimal pairs of /æ/ and /I/.

3.1.3 Examples of minimal pairs of vowels are at medial position are: /^ / and /e/

1. bed and bug. /b**e**d b**^** g/
2. when and one /w**e**n w**^**n/
3. den and done /d**e**n d**^**n/
4. bet and but /b**e**t b**^**t/

Through the minimal pairs, we further identify and describe the English consonants by comparing the similar segments of pairs that are focused on the English consonant sounds.

3.1.4 Examples of minimal pairs of consonants /p f/ at the initial (left) position

1.	pat and fat	/pæt	fæt/
2.	pit fit	/pɪt	fɪt/
3.	peel and feel	/pi:l	fi:l/
4.	please and fleece	/pli:s	fli:s/

You will notice in 3.1.3 and 3.1.4, the contrasting segments are the only different segments of each of the words in a pair. You should by this, thus, increase your knowledge of the English phonemic description by this environmental contrastive approach.

3.2 English Allophones

This section focuses on another environmentally mediated description of a phoneme. It describes how a number of "subsidiary phonemes" can be realised from the same "main phoneme" as a result of the environment that the "main phoneme" has occurred. What I have just referred to as the "main phoneme" remains as the main phoneme; but is capable of generating "subsidiary phonemes" if the circumstances of its use in spoken English constrain it to, when the generated forms are known as allophones.

3.2 What Allophones Are

3.2.1 Description of Allophones

Let me break "allophones" into two, co-joined by -o-. Then, you have "all" – o- "phones". Let me add a 'y' to the first of the two words. Then, you have, "ally" -o- "phones." From your dictionary meaning, you would probably have known that an ally is someone who supports you and is very close to you, not in terms of distance, but in terms of understanding and similarity of interests. With such an ally (often used for countries of common interests) you will always have one common denominator. Keep that at the left side of your mind so that you do not forget. Now, let us turn to "phones". This should not be difficult for a 300L student of English Language: The smallest speech sound unit; and "phoneme", the smallest speech sound unit of a language; as already described of a phoneme.

You may have examples of both the vowel and consonant

sounds: [ʧ t s]. Keep that at the right side of your mind so you do not forget. Lastly, let me add an 'f' to the co-joining 'o' to give you 'of'. This finally results to "ally of phone". According to my own thesis of simplification, "ally of phone" may have been said to have formed "allophone". Your difficulty of defining an allophone may now have been reduced if you would remember this. Thus, an allophone is a phoneme that shares similarities of pronunciation with a common denominator – a phoneme. More technically, allophones are phonemes, which share a variety of pronunciations with a common phoneme. These varieties are determined by phonetic circumstances such as types of words, morphemes or positions. Ashby and Maidment (2005:189) define an allophone as "A speech sound considered as a positional variant of a phoneme". This means that allophones are variants of a phoneme. A phoneme changes into variants because of the position it occupies in a word or adjourning words, which calls for a slight difference in pronunciation. Such positions may be (i) if the sound occurs at the initial position and (ii) if it occurs at the middle of a word (iii) if it occurs at the end of a word; and (iv) the type of sound (vowel or consonant) that bounds it at the right or left hand.

From the above, I can further explain to you that the allophones are variants of a phoneme realised according to the phonetic environments. They are mutually exclusive, occurring in complementary distribution. Let me exemplify this summary with the phoneme, /t/ and some of its variants (allophones).

/t/ {
- /t^h/ aspirated as in teach
- /t/ unaspirated as in water
- /t^n/ nasalize as in tin
- /t^w/ labialised as in twice
- /t^-/ unreleased as in great

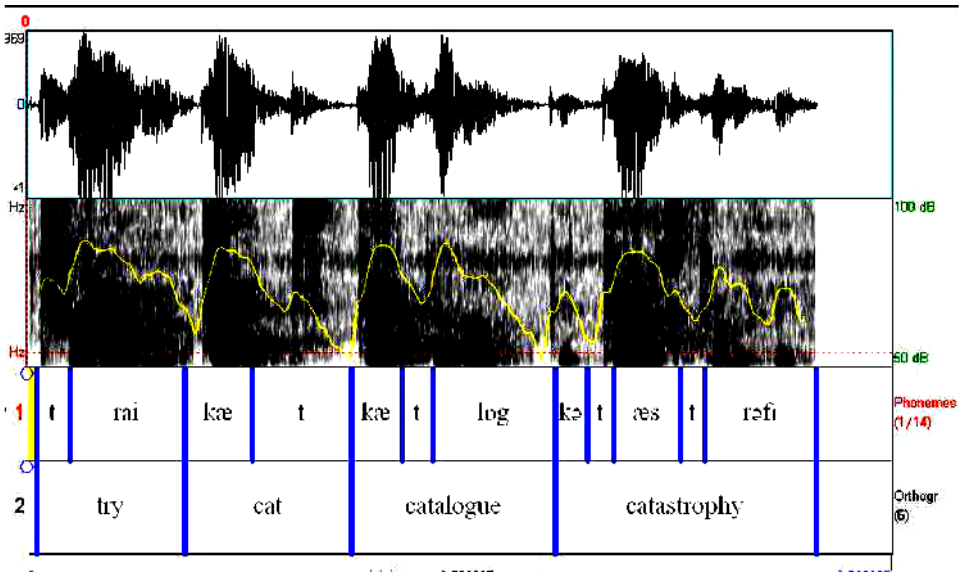
It is clear from the above example that the phoneme we realise as /t/ has, among its variant realisations: /t^h t $_t$n tw and t^-/. All these variants are called the allophones if /t/. Although they are allophones of the same phoneme, yet, they do not replace each other without sounding awkward. This is why they are said to be mutually exclusive, that is, there distributions are not completely similar in phonetic environments (Ashby and Maidment, 2005:139).

3.2.1 Graphical Presentation of Allophones

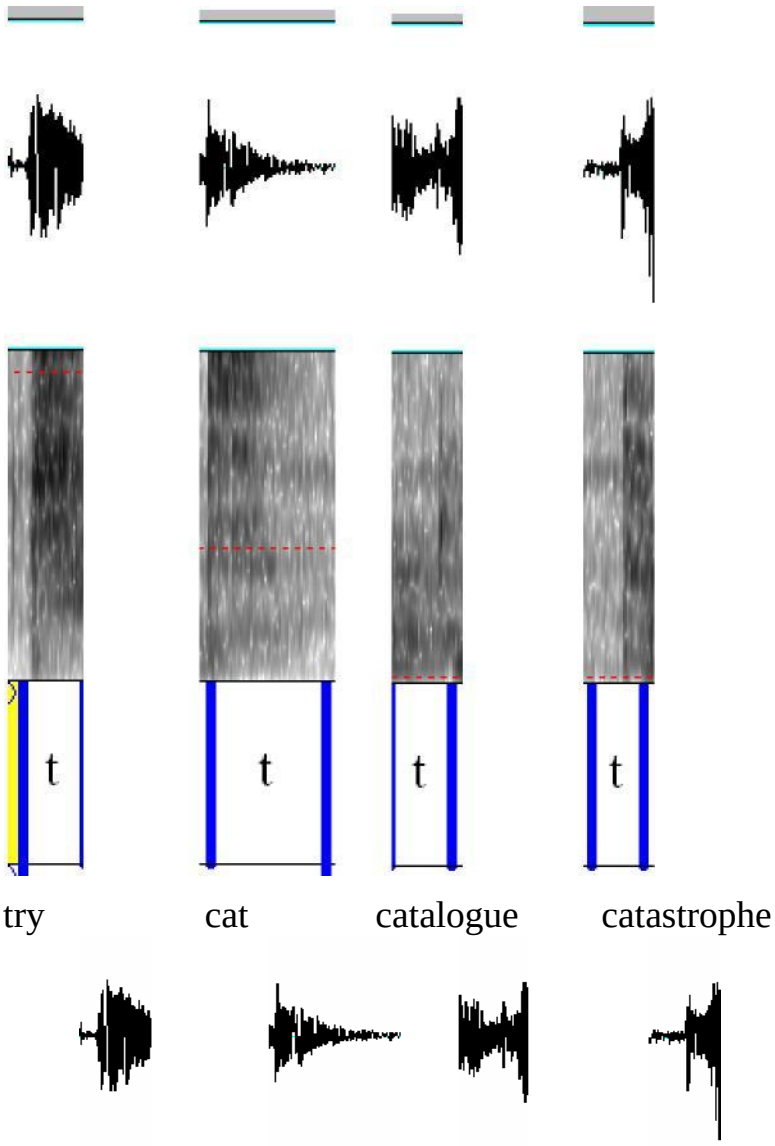
There is a way we can prove to you the existence of allophones of the same phoneme so that you do not only "say" them but you can also "see" them. This is what we call acoustic evidence used to accompany our theoretical explanation. One way we can achieve this is to analyse the speech of a person with the aid of a linguistic programme; this one is called PRAAT. You shall get

to learn more of PRAAT in the future if you are really interested. But it is suffice that I make my explanation to you more clearly using the programme.

Let us, again, take the example of the voiceless plosive fricative of an English word /t/; and illustrate with these four words, namely, try, cat, catalogue and catastrophe. When you have analysed each of the words with PRAAT, the picture you get are as represented below.



If you concentrate your attention on the waveforms that appear at the top of the Object, on the first four /t/, you will see that they are dissimilar. Let me cut them out for you to study more closely so that you can be sure that they are not really similar.



try cat catalogue catastrophe

/trai/ /kæt/ /kætəlɔg/ /kætæstrəfɪ/

For the purpose of the graphical presentation of allophones, I have acoustically analysed each of the four words with PRAAT version 5.0 as done by Jolayemi (2006: 141-157). The outcome of this are these 2 PRAAT Objects which you see above, one showing the four words, the other isolating the occurrences of /t/ showing four allophones of /t/. At the top of the first window object is what is called the oscillogram, which shows some diagrams we call the waveforms that represent the sound energy of what is pronounced. While below the object is the spectrogram of the four words, which, again indicates the acoustic sound energy of the words. The four words that I have acoustically analysed were pronounced by me, whose pronunciation is not close to a native speaker's but which can be considered that of the Educated Nigerian English (ENE) and who has had the opportunities of trainings in phonetics and phonology, and teach English phonetics and phonology to University students for about two decades.

3.3 Explication of Graphical Presentation of Allophones

I shall often refer you to the analysis in 3.2.1 as I continue this discussion of allophones.

The acoustics of /t/, like most plosives, involves (a) a silent period (b) the closure point (c) the burst period and (d) another silence. This is the ideal realisation of /t/, which is not often so in English speech making. Let us take the first word:

3.3.1 try /trai/

Because, it is at the initial position (begins the word), we are able to have a period of silence in preparation for the closure of the tip of the tongue and the alveolar. But if you practice to pronounce the word, you will realise that you are unable to burst the /t/ as /r/, another alveolar sound, takes its position.

Because, we are unable to burst the /t/ as a result of the succeeding consonant, this time /r/ let's call this type of /t/ as /t/r/. As proof of this look at the first waveforms that could not burst (as compared with the second).

3.3.2. Cat /kæt/

/t/ in this word occurs in a reverse position to /t/ in example 1. It is preceded by a vowel and which sound does not compete with the position of articulation with /t/, we are able to have a period of silence for enough breadth to close the articulators. And because there is no impeding sound after is able to burst and have a period of silence, thereby taking a full course of /t/. You can see evidence of this in the acoustic representation of /t/ in the second word. Because it has taken its full course of pronunciation, let's call this /t/ as /fuʌlt/.

3.3.3. Catalogue /kætəlɔg/

The /t/ in this word begins with a silence and has an opportunity to close. It is not able to burst at all but ends up in a lateral position of the succeeding consonant /l/. You will soon be introduced to a concept called assimilation process. This is what can be said to have happened to the burst of /t/ in catalogue as it has been assimilated by lateral position of the succeeding /l/ giving us lateralised /t/. Thus let's represent this type of /t/ as /t^{l}/. By the way, do not forget that the second vowel in this word /ə/is usually swallowed up in speech, giving catlogue /kətəlɒg/ instead of catalogue /kætɒlg/.

3.3.4. Catastrophe /kætæstrəfɪ/

If you will try and pronounce "try" noting the manner and position of /t/ there and pronounce "cata". If you are able to pronounce *cata* correctly almost swallowing the vowel between "c" and "t', you will realise something like /kæt/, which is similar to what a native speaker will probably say. Therefore, the occurrence of an open vowel sound immediately after this /t/ has enabled us to now act only a full realisation of /t/ but also a long and almost aspirated /t/. Let's, therefore, represent this in this same manner as IPA, /t^h/.
In summary, you can clearly and unequivocally realise that the phoneme /t/ has grown about four variants, namely /t^r/, /fullt/, /t^l/ and /t^h/. All these phonemic variants of /t/ are called allophones.

4.0 SELF-ASSESSMENT EXERCISE (SAE)

/trai//kæt/ /kætəlɔg/ /kætæstrəfɪ/

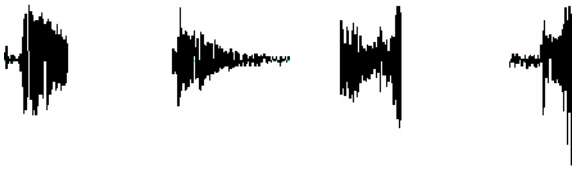
i. Define minimal pairs. ii. Write two examples of minimal pairs each of vowel and consonant sounds, different from those in this unit.
ii. Explain what allophones are using English sounds.

5.0 SUMMARY

You have learnt, in this unit, what allophones are especially to the users of English as a second language. You have also seen several examples of allophones, both in free variation and complementary distribution. I also tried to bring the topic closer to your understanding by giving graphical illustrations that you can "actually see", using PRAAT.

6.0 TUTOR-MARKED ASSIGNMENT (TMA)

Explain the four figures below and show how each represents an allophone of the English (t)



/trai/ /kæt/ /kætəlɔg/ /kætæstrəfɪ/

7.0 REFERENCES/FURTHER READING

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UNIT 2 ENGLISH SOUND CHANGE I

CONTENT

1.0 INTRODUCTION

We are moving to another environment mediated topic for the determination of the behaviour of allophones. In this section, I will discuss the allophones that occur at free variation, and those which are in complementary distribution. I will also explain to you the importance of studying the behaviours of allophones in English language sound system, especially, as 2nd language learners of English.

2.0 OBJECTIVES

By the end of this unit you will be able to:

- define free variation;
- identify allophones that are at free variants;
- gain more knowledge of the behavioural pattern of allophones;
- define complementary distribution;
- discuss what complementary distribution is;
- give examples of allophones that are in complementary distribution; and
- explain the importance of the studies of allophones in the English phonology.

HOW TO STUDY THE UNIT

a. Read this unit as diligently as possible.
b. Find meaning of unfamiliar words in the unit using your dictionary.
c. As you read, put major points down in a piece of paper or jotter.
d. Do not go to the next section until you have fully understood the section you are reading now.

e. Do all the Self-Assessment exercises in the unit as honestly as you can. In some areas where it is not feasible to provide answers to Self-Assessment exercises, go to the relevant sections of the unit to derive the answers.

3.0 MAIN CONTENTS

3.1 Free Variation in English Sound System

While discussing the previous section, I gave an example of a word cat (example 3) suppose I say "the cat", I have a choice to fully release the last consonant of the phrase /t/ or to stop at the last closure of the articulator of the phoneme, and not release or burst it. In that case, I have pronounced two different types of /t/, one released, the other not released. This can be expressed thus:

/t/ → /released t/
/t/ → /unreleased t/

When you are in a phonemic environment where two different allophones can replace each other without altering the meaning of the word, the allophones are said to operate as free variants. Let us consider more examples.
Do you notice that /k/ in the following words have shades of phonemic pronunciation?

kill, card, king, kin

Try to pronounce the words several times. What do you notice? You may use your mirror to try and see the points where the tongue strikes the velar. You can equally notice the shape of your lips and jaw, and how wide or close they are at the inception of each of the words.
Having done all this, you would then have noticed that:

a. the pronunciation of /k/ in each of the words have been influenced by the succeeding vowels.

b, the points of contact of the articulators recede into the mouth as each word is pronounced, such that /k/ in "kill" is closer to the middle of the mouth, while /k/ in "kin" is farthest from the middle of the mouth. All the allophones of /k/ in these environments are considered to be at free variation to one another.

3.2 Complementary Distribution

Unlike the previous Unit of the Module, where two allophones can appear in the same environment, as free variation, there are other allophonic environments. An

example is /l/ in "clearly". You would notice the pronunciation of the two occurrences of /l/ in "clearly". The preceding consonant /k/ of the word has debilitated the full realisation of the first /l/, whereas the second is fully realised. In comparison, with the realisation of /l/ in "lowly", the two occurrences of /l/ in "lowly: are fully realised, are therefore the same phoneme, not allophones. But the case of /l/ in "clearly" has exhibited an allophonic environment where the two allophones cannot co-occur in the same environment. This is because they have exhibited a distinctive allophonic pronunciation. Such allophones of the same phoneme but which cannot occur in similar phonemic environment are said to be in complementary distribution to each other.

Another example to illustrate the term "complementary distribution" is the word "nine". While /n/ is clearly heard in the first occurrence, the second occurrence is faintly heard; and neither can be interchangeably used, lest one sounds funny. This is why O'Connor (1982: 177) has defined complementary distribution as "Allophones which never occur in the same environment".

3.3 Importance of Allophonic Study in English Phonology

As hinted at the beginning of this module, the knowledge of the existence of the allophones of the English phonemes is a big step to learning the English phonology. One major insight into this study is our knowledge that allophones of a phoneme can never be confused with another phoneme. This is because, by the nature of allophones, they are not capable of changing the meaning of a word. The moment there is a change in meaning should they be interchanged, then the sounds are not allophones but indeed different phonemes. For example in "boat" and "goat" /b/ and /g/ can never be thought of as allophones as they have given rise to entirely two different words.

Also, allophones cannot change the syntactic class of a word. For instance, /z/ in "sneez" and "sneezes" /sni:z/ and /sni:ziz/ cannot be said to be allophones. It is merely a repetition of the same phoneme /z/. Furthermore, our knowledge of many allophones of many English phonemes increases our ability, as users of English as a second language to speak English more correctly. This is because, as our awareness and identification of allophones of phonemes increase, so is our consciousness of appropriate use in run-on utterances. Although many allophones can occur as free variants, we often sound odd when we mix them. We even sound odder when we mix the ones at complementary distribution. Although we may be intelligible to the other users of English across the world, we may certainly not be acceptable. Lastly, your knowledge of the allophonic discrimination further enhances your knowledge of phonemic description of English.

4.0 SELF-ASSESSMENT EXERCISE (SAE) I

i. Define free variation
ii. Explain, with illustrations, how /d/ in "my card" can form a set of allophones that are in free variation.
iii. Give 2 more examples of phonemes, which are at free variation.

SELF-ASSESSMENT EXERCISE (SAE) II

i. Complementary distribution is defined as phonemes that never occur in the same environment. True or False.
ii. Give two examples of words and indicate the allophones in each word that you think are in complementary distribution.
iii. With 2 examples each, compare and contrast free variation and complementary distribution.
iv. With detailed examples, what is the importance of the study of allophones using examples of the English sounds?

5.0 SUMMARY

In the unit, I have explained to you what free variation is. It is described as two different phonemes that can replace each other in the same environment without constituting a hindrance to the meaning of the word where they have occurred, and which the native speakers of English do not consider incorrect. Also, in this unit, you have learnt that complementary distribution is the study of allophones whose distribution cannot be permitted to replace each other.

6.0 TUTOR-MARKED ASSIGNMENT (TMA)

a. What do you understand by free variation?

b. With detailed examples, discuss complementary distribution.

7.0 REFERENCES/READING LIST

Ashby, Michael & Maidment, John. (2005). *Introducing Phonetic Science*. Cambridge: Cambridge University Press.

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UNIT 3 ENGLISH SOUND CHANGE II

In English, as many other languages, speech sounds in utterances often behave differently when they form a word, even though words are used to make utterances. The main reason for this different behaviour is the inherent need to maintain internal cohesion and rhythm. This is one significant difference in the written and oral forms of a language. In a language like English, the need to maintain a constant timing (or rhyming) scheme, referred to as metrical system technically often give rise to a number of processes that make a phoneme take on a different behaviour in an utterance or a connected speech. This is often being referred to as phonological processes. Oyebade (2004: 60) defines this as "sound modification's mediated by the need to maintain euphony in a language or to rectify violations of well-formedness constraints in the production of an utterance". In this module, we shall attempt to discuss such phonological processes as: assimilation, deletion, elision, insertion, coalescence and liaison. We shall illustrate each of these with examples drawn from the English language.

CONTENTS

1.0 INTRODUCTION

In this Unit, you will be taken through some sensitive parts of the English sound system that often betrays proficiency in the English phonology, especially as users of English as a second language. They are an orally mediated system, which clearly delineate the written English from the spoken. They are parts of the phonological processes that manifest at connected speech level.

2.0 OBJECTIVES

By the end of this unit, you will be able to:

- define and discuss phonological processes that affect changes in the sounds of English;
- discuss various sound change processes in the English phonology; and
- give examples of phonemes that are changed by phonological processes.

HOW TO STUDY THE UNIT

a. Read this unit as diligently as possible.
b. Find meaning of unfamiliar words in the unit using your dictionary.
c. As you read, put major points down in a piece of paper or jotter.
d. Do not go to the next section until you have fully understood the section you are reading now.
e. Do all the Self-Assessment exercises in the unit as honestly as you can. In some areas where it is not feasible to provide answers to Self-Assessment exercises, go to the relevant sections of the unit to derive the answers.

3.0 MAIN CONTENTS

3.1 Assimilation

3.1.1 Definition and Discussion of Assimilation

This is the process whereby a phoneme changes from it normal pronunciation in isolation or in a word to another phoneme that is close to it in manner or place of articulation in a continuous utterance. Assimilation process is a function of the connected speech or what we regard as the colloquial speech. Our use of the English language in the spoken form motivates a phonemic continuum that abridges phonemic realisation of an utterance. As a result, partly of time exigency and phonetic cohabitation, contiguous phonemes exercise some sort of influence on each other. This influence causes a sound to change from it original form or when it is used in citation – in isolation. Some other conditions that motivate this change, as said, are: (a) The phoneme is no longer used in isolation (b) the phoneme is not just used in a word where it occurs (c) The word in which the phoneme occurs is used in an utterance – phrase or sentence (d) the phoneme that is assimilated shares some phonetic features with the phoneme that has assumed or assimilated it (e) the phoneme changes because of the articulatory properties or features (manner and place) of the contiguous (next or immediately succeeding) phoneme. Let me exemplify, with the assimilation of /n/ by /m/ in "Nine boys." Nine will be pronounced /nain/, the second consonant /n/ maintaining its normal sound as alveolar nasal in the word. But in the phrase "Nine boys," the pronunciation of the second /n/ changes to the bilabial nasal /m/ conditioned by

the bilabial plosive /b/ of "boys" that is contiguous to /n/ at the right hand, although it not a plosive sound. Thus, the initial phrase written as "Nine boys" is expected to be pronounced as /naimbɔiz/; where /m/ has assimilated /n/. In a similar manner, "Ten men" /ten/ and /men/will become /tɛmɛn/, /m/ assimilating its nasal counterpart /n/. Another instance is the assimilation of /t/ by /k/ in "cat game". Here, the phrase, when pronounced individually, will be /kæt/ /geim/ but when as an utterance becomes /kækgeim/.

Gimson (2001: 281) identifies three main types of phoneme assimilation. They are called progressive or perseverative assimilation, regressive or anticipatory assimilation and coalescent assimilation. A phoneme is said to have undergone the progressive or perseverative assimilation process when the pronunciation of the phoneme is conditioned by the immediate successful phoneme i.e. the phoneme by its immediate right. Gimson describes the process as when "one phoneme markedly influences the following phoneme". Let me make this thesis clearer by an illustration. The commonest one, I can give you is the change in pronunciation that occurs to the voiceless velar plosive /k/, which changes to nasal voiceless velar plosive/k/. The assimilation occurs in words as: blink, stink and pink.

As the name implies, regressive or anticipatory assimilation is a process where the succeeding phoneme constitutes the factor that causes the change in the previous one. In other words, the phoneme at the right hand side influences the realisation of the immediate left hand sound. This condition is described by Gimson, on the same page quoted above, as "features of one phoneme are anticipated in the articulation of the preceding phoneme"; and these are, by far, the most common of the processes of assimilation. Let me illustrate this type of assimilation with /n/, which changes to /1/ under the influence of the voiceless velar plosive, /k/. This occurs in words such as tank, think, bank and thank. /tæŋk/, /θɪŋk/ and /bæŋk/ and /θæŋk/. In each of these words, you will notice, /n/ changes to /ŋ/ because of the anticipatory articulation of /k/, which indeed, precedes /n/.

The third type of assimilation that I have mentioned is the coalescent assimilation, which Gimson says occurs when "a fusion of forms takes place". This process causes a sound to change by merging two contiguous phonemes into another phoneme different from the two coalesced sounds. A typical example is televise + ion. In the interaction between /s/ and /ɪ/, that occurs while turning the verb to the noun form, results in /ʒ/, which gives /telɪvɪ ʒn/ or / telɪvɪ ʒən/. I shall give you more examples at the appropriate time of my discussion of coalescence.

3.1.2 Copious Examples of Assimilation

This is another aspect of the English sound system that often presents difficulty to the second learner of the language. Therefore, let me direct you to a website on the internet where you source for more copious examples of assimilation. The site is: www.wikiemedia.com., from where I have made the summary below.

1. /t/ changes to /p/ before /m/, /t/ or /p/ e.g. basket maker, mixed bag, cigarette paper
2. /d/ changes to /b/ before /m/, /b/ or /p/ e.g. good morning, blood bank, blood pressure
3. /n/ changes to /m/ before /m/, /b/ or /p/ e.g. iron man, open book, chicken breast
4. /t/ changes to /k/ before /k/ or /g/ e.g. short cut, fat girl
5. /d/ changes to /g/ before /k/ or /g/ e.g. cold cream, had gone
6. /n/ changes to /1)/ before /k/ or /g/ e.g. town crier, Action Group
7. /s/ changes to /ʃ/ before /ʃ/ or /j/ e.g. nice shoes, this year
8. /z/ changes to /ʒ / before /ʃ/ or /j/ e.g. rose shop, his young
9. /θ/ changes to /s/ before /s/ e.g. bath seat, both sides

Like it was to me the first time I was taught the assimilation process in English at my undergraduate days, I am certain, some of the processes above will sound to you rather strange, and indeed impossible or incorrect. That is the way it sounds to every other learner of English as a second language studying assimilation in English, perhaps, for the very first time: “strange, impossible and incorrect”. But that is what the native speakers say. So, it is you that actually sound strange, impossible and incorrect when you speak English like written English. This is why native speakers often describe our speech as “bookish”! What I am trying to say is that this is one aspect of the English phonology that requires great effort to learn. You must be conscious and conscientious at it, too, so that your manner of speaking in English will not be said to be bookish.

3.2 Deletion

This section discusses a phonological process of deletion, which is another important sound change in connected speech.

This is a phonological process that omits a phoneme in a sequence of words at the boundary positions i.e. between two contiguous words. When such omission involves a consonant, which often happens, we call the process deletion. This is because a hitherto consonant at the boundary of two words has been completely deleted such that we do not hear it pronounced in the sequence of the words. It is an essential part of the spoken connected speech which makes it, as said earlier

distinct from the written or "book English". It also marks a characteristic of a rapid use of the language.

In obedience to the English phonological rules, certain consonants from a sequence of certain words are deleted. Let's take some examples from Gimson (1980: 293 – 294).

1. /t/ deletion in a sequence of continuant sounds preceding it. Examples of such continuants are /s/, /f/, /s/ preceding /t/ or continuant /s, f, ʃ+t/ in this case, /t/ will be deleted. For example, /t/ is deleted in words such as "next day" to give /nɛks dei/ instead of /nekst dei/; "last chance" is pronounced /læs tʃæns/ instead of /læst tʃæns/, and /lɛf ta:n/ is pronounced instead of /1ɛft ta:n /.
2. /d/ deletion in a sequence of continuants such as: /n/, /l/, /z/, /ð/ and /v/. When such sounds precede /d/ before joining another word, /d/ is deleted in the environment. Therefore "thanked me" becomes /θæŋk mɪ/ and not / θæŋk mɪ/, and "picked one" becomes /pɪk wʌn/ and not / pɪk wʌn/.

In the two instances above, /t/ and /d/ have been omitted. These are just few instances of the phonological process of deletion in English.

3.3 Elision

In this section, I am going to discuss another phonological process involving omission of a phoneme in colloquial English so that you will be able to define and discuss elision with good illustrations; and more importantly, is able to use them in your daily speeches in English.

Unlike deletion in the previous section, which involves consonant sounds, elision is a phonological process involving the omission of a vowel sound in a sequence of sounds at the boundary juncture of an utterance. The commonest elision occurs to the weak forms of the vowel sounds in English. For example the initial and final weak /ə/ in /ənʌθə mæn/ can be elided in a rapid speech when saying "another man", giving /nʌθmæn/. Even at the word level without a boundary with another word, certain vowels which occur at the orthographical level are elided at the phonological level. An example of such a word is found immediately after the comma in the last sentence above, "certain". Does it ever occur to you, as a learner of English as a second language, that what looks like a diphthong /ei/ in "certain", which most of us pronounce as /sɜ:tein/ is actually /sɜ:tn/? What looks like a diphthong has been completely elided here and we can find no vowel between /t/ and /n/! To be sure, check your pronouncing dictionary. If you will say the following correctly, you will find that the vowels at the initial position of the second words are elided: (i) not alone (ii) run along.

3.4 Insertion

In this section, I will continue the discussion of the phonological processes that cause sound change by explaining, this time, not a process of omission, but indeed, of insertion. This is the term used to refer to the phonological process that inserts a phoneme in continuum of a word. More common in English language is the insertion of a vowel between a consonant clusters. In English, it is often not acceptable to allow a realisation of certain consonant clusters in a word. Another technical term that is used to describe the insertion of a vowel sound is epenthesis. Let us consider one epenthetic vowel that occurs in two instances: /i/. In the past tense formation of: board, plead and guide, which would have been realised as boarded /bɔ:dd/, pleaded /pli:dd/ and guided /gaidd/ respectively, a high vowel /i/ has been inserted between the cluster of two alveolar plosives. This is to make it acceptable in the English phonological formation giving us: boarded /bɔ:did/, pleaded /pli:did/ and guided /gaidid/ respectively.

The same sound /i/ serves as a cluster breaker, in the plural forms of some other words. Let us use Oyebade's (2004: 74) examples: fox, box, church, judge and ash. But for the epenthetic /i/ inserted between the cluster of two sibilants of the root and plural morpheme, the words would have been unacceptably rendered as: foxs, boxs, churchs, judgs, and ashs.

3.5 Coalescence

My objective in this section is to define and discuss coalescence as a phonological process, which often causes a change in the sound system of the recipient utterance. It is an elaboration of what has already been discussed in 3.1 of coalescence. I also aim at assisting you to learn to use the process of coalescence in your daily connected speech.

If you remember the contents of section 3.1 of this unit where assimilation process was discussed, you can easily transfer your knowledge to quickly grasp this new topic. In the process of assimilation, one phoneme assumed the position of another different phoneme, and the assimilated phoneme disappeared altogether. You would also notice from the illustrations that the last sound of the preceding word was always assimilated by the first sound of the succeeding word. But in this case, the process of coalescence makes the two contiguous boundary phonemes to disappear or merge into a new phoneme altogether. The two adjoining phonemes can, therefore, be described to have coalesced into another phoneme.

In English, there are many examples of C + V coalescence. In other words, the consonant (C) of the root of a word and the first vowel (V) of the suffix merge to form another phoneme, as these examples show:

i. /t/ in inflate /infleɪt/ and /ɪ/ in -ion suffix merge to /ʒ/ in inflation /infleɪʒənI.
ii. /s/ in oppress əprɛs and /ɪ/ in -ion suffix merge to /ʒ/ in oppression /əprɛʒən.
iii. /d/ in persuade /pəswɪd/ coalesced to /ʃ/ in persuasion /pəsweɪʃn/.
iv. /z/ in diffuse /daɪfju:z/ coalesced to /ʒ/ in diffusion /daɪfju:ʒn/.

You will observe that the alveolar consonants, /t s d z/ have merged with a front high vowel /ɪ/, which is produced at the palatal region of the mouth. The resultant coalesced consonants, /ʃʒ/, we are not surprised, are palato-alveolar.

A few other examples of some English phonemes coalescing into another one are:

v. /ə/ and /əʊ/ to become /ɜ:/ in "go away" əʊg ʊ weɪ/, which becomes ge away /gɜ: weɪ/ and
vi. /aɪ/ and /ə/ in "try again" /trai əgeɪn/ coalesce to /a:/, and become tra gain /tra: geɪn/ (Gimson, 1980: 293).

3.6 Liaison

This is the last phonological process, which we know also leads to a sound change in English, we shall learn in this course on the phonology of English. This discusses the process that involves linking of two words where the first ends in a vowel and the second starts with a vowel in connected speech. At the end of the topic, you will be able to define and discuss liaison as a phonological process; identify liaison phoneme in connected speech; and used liaison in your speech.

You would probably be familiar with the word "liaise" as you often hear in "liaison officer". What this officer does, in the practical sense, is to go between one person and the other. He is a kind of officer that operates in the middle of two people or organisations; he is commonly referred to as "middle man" in Nigerian. In English, there exists such "middle men" in the guise of some phonemes, which I can suggest to you for the purpose of explanation to call "middle phonemes". This is because, as earlier said, such phonemes liaise between one two words in connected or rapid speech.

Liaison, as a phonological process, partly seems to bear some relationship with insertion, which, as you have learnt, inserts a phoneme to break the occurrence

of clusters. But in this case, for most native speakers of English, a necessary /r/ is inserted between the boundaries of two words that have vowel conjunctions. In other words, /r/ is said to liaise between the boundaries of the vowel conjunctions, the first of which ends in a vowel and the second begins with a vowel. The inserted /r/ is said to liaise the two words, making the speech smooth to speak.

Let's examine this example:

i. My father and mother are far away

Ordinarily, this will transcribe as:

/mat fa:ðə and mʌðə ə fa: aweɪ/.

Using the phonological process of liaison, it is now transcribed or pronounced as:

/mai fa:ðə ænd mʌðə ə fa: r əwei/.

In the example, the inserted /r/ serves as a liaison phoneme. Let us consider another example of this nature:

ii. higher and higher, which is transcribed as /haiə ænd haiə/, but which becomes /haɪə r ən haiə/, because of the liaising /n/.

4.0 SELF-ASSESSMENT EXERCISES (SAE) I

i. What is assimilation in English phonology? Differentiate between progressive and regressive assimilation.
ii. By transcription, demonstrate how you will pronounce: (a) 4th semester (b) these sheep (c) in concert (d) good cake (e) 1st Class.

SELF-ASSESSMENT EXERCISES (SAE) II

i. Define deletion.
ii. What group of phonemes does deletion mainly concern?
iii. Apart from the examples given above, write out three (3) more examples.

SELF-ASSESSMENT EXERCISES (SAE) III

i) not alone (ii) run along.

Transcribe the above two examples to show how you would say them.

SELF-ASSESSMENT EXERCISES (SAE) IV

i. a. Define the term insertion?
   b. In what way is it related to epenthesis?

ii. Transcribe the last five words in 3.0 used as illustrations in this unit to reflect their acceptable pronunciation.

SELF-ASSESSMENT EXERCISES (SAE) V

i. Define coalescence.
ii. Differentiate between assimilation and coalescence.
iii. With the aid of 2 examples, discuss coalescence as a phonological process.

SELF-ASSESSMENT EXERCISE (SAE) VI

What is liaison as a phonological process? Give 3 examples.

5.0 SUMMARY

In this unit I have:

- defined assimilation as the phonological process that causes a sound change whereby a contiguous phoneme is assumed by its neighbour.
- discussed the two types of assimilation, namely progressive and regressive assimilation,
- explained a phonological process called deletion which mainly deletes the consonant sound at word boundary of some contiguous words.
- discussed another phonological process involving the vowel sound, which is called elision, as a source of sound change in colloquial English.
- defined and discussed insertion - a consonant cluster breaker using a vowel sound.
- explained that the term “epenthesis” is another term for insertion.
- discussed a phonological process that involves the merging of two different phonemes to result into another entirely different phoneme, but one that shares the manner and place of articulation with the coalesced phonemes.
- define and discuss liaison as a phonological process.
- identify liaison phoneme in connected speech.
- use liaison in your speech.

6.0 TUTOR-MARKED ASSIGNMENT (TMA)

a) With two illustrations briefly discuss what you understand as assimilation, as phonological processes that affect sound change in English.
b) Differentiate between deletion and elision as phonological processes.
c) “Pipe builder /paip bju:ldə/" becomes "pi builder /pai bju:ld.ə/". Discuss.

d) My grand ma used to tell me that she didn't like, for her breakfast, "buredi".
What would you think she was trying to say? Explain the process that transformed this word.

c. Write a paragraph of three sentences in English.
   i. Transcribe the paragraph in the "bookish" method.
   ii. Transcribe the paragraph obeying the principle of phonological process of coalescence.

7.0 REFERENCES/FURTHER FREADING

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