MODULE 5   DISTINCTIVE FEATURES

UNIT 1   GENERATIVE PHONOLOGY CONTENT

1.0   INTRODUCTION

Most of the systems of analysing a phoneme that we have used up till now and that we have employed to describe the speech sounds are called taxonomic or phonemic methods. This method of analysing a phoneme is usually attached to the traditional or classical phonologists. This is a legacy of the speech sound analysis inherited from the early day's phoneticians. It is claimed that the phonemic method does not adequately capture the description of a phoneme. It is also argued that the classical description does not tell how and why certain phonemes are realised nor the way they are realised. Lastly, the phonemic method does not explain, clearly enough, why certain realisations are different from the deep structure.

2.0   OBJECTIVES

The objectives of this unit are to explain:

•   what generative phonology is;
•   its major proponents;
•   its modes of representations; and
•   some of its rules.

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

The main contents of this unit will be discussed under the following sub-headings: Child Language, Underlying Representation, Phonetic Representation and Phonological Rules.

3.1   Child Language

A child, acquiring its native language, is said to often have a limited number of vocabulary items but which it uses to make a limitless number of utterances. This is the major factor that motivates the generative grammarians to want to investigate how a child makes infinite expressions from his finite knowledge of the language. The generative linguists also notice that when a child uses a language differently from the adults, they often know the right thing to say but are hindered by some physiological problems. One of such problems is the underdevelopment speech organs, especially in the oral cavity. For instance, a child will insist that the adult (in a Yoruba community) says ${r}\acute{a}r\acute{a}$ meaning 'no' even when he repeats $y\acute{a}y\acute{a}$ (Oyebade, 2004: 10); or l_n meaning 'go' when he says y_n (Jolayemi, 1998: 23). Another example common in the literature is a little girl who introduces herself as Ewika, but gets angry when the guest calls her Ewika. She becomes happy only when the guest calls her Erica, to which she answers, "Yes, Ewika, you siwwy" (siwwy = child language for silly). Thus, it is clear that the child knows the right pronunciation of phonemes even if it says it wrongly. Like the child, the generative linguists notice that even when a statement is wrongfully made by an adult, his hearer is able to understand it. Oyebade (2004:11) gives the instance of a driver who was ordered by the police to take his "car to the par cark", to which the driver adequately obeyed by driving to the car park! Another common example was of a professor of History who queried his student: "You hissed my mystery lesson", to which the student promptly apologised. In spite of this wrong realisation, the student understood that the professor actually meant, "You missed my History lesson"!

From the above, the generative linguists conclude that, to every statement, there must be two structures namely the deep structure or underlying representation and the surface structure or phonetic representation, and that there must be a way of connecting both structures through what they call the phonological rules. These, in essence, are the basic tenants of the generative grammar, specifically to the study of the speech sounds, generative phonology. The major proponents of this theory of analysis especially in the area of phonology are: Halle, (1959), (1962), Chomsky, (1964), Chomsky & Halle, (1968), Postal (1968), Kenstowicz & Kisseberth (1979), Kentowicz (1994), Oyebade (2004) and Jolayemi (2006).

3.2 Underlying Representation (UR)

Underlying representation is said to be the form of language expression, that is abstract and that cannot be measured. This is because the representation is deep within the mind of the owner and it is internal, it lies within the brain and competence of the owner. This is why it is often being referred to as deep structure. It is EVERYTHING that a native speaker knows of his language. At this level of language, everything that has a SIMILAR (invariant) meaning has an IDENTICAL representation. Also, MEANINGS and their forms of REPRESENTATIONS are similar, i.e., there is a one to one relationship. At the underlying level, there are no synonyms. UR resides in the realm of the linguistic competence of the speaker, that is, all that a person has acquired and can generate of his language. It is said to be a kind of representation that is PERFECT i.e. not defective. UR, the generative phonologists say, forms the bank or repertoire from which a speaker draws whenever he wants to use the language. It is my belief that this will become clearer to you as we progress in this unit and illustrate with examples.

3.3 Phonetic Representation (PR)

Phonetic representation is the EXTERNAL manifestation of the INTERNALLY encased UR, which enables the owner of the language to express what he has in his mind to say for the hearer to hear. Because it is an external or outer representation, the generative phonologists also refer to it as SURFACE STRUCTURE. And it is said to be sometimes DEFECTIVE i.e. not perfect because of physiological or psychological factors. PR represents the performance of a speaker, which gives a room for synonyms or alternatives depending on the phonetic context or environment of usage. The main argument of generative phonology here is that a concept at the underlying representation may take different phonetic representations, which tell what actually happen at the surface level. One common illustration in the literature is the concept of NEGATIVE OR NOT. At the UR, i.e. in the mind of the speaker, a negative is a negative or what is not is what is not; the negative has only one concept in the mind. Using the archiphoneme symbol of negation, /N/, the words become iNresponsible iNlegal, iNpracticable, iNbalance, iNtolerance, iNdecision,

iNcompatible and iNgratitude. From here, clearly, the word antonyms have shown an invariant pronunciation of the negative prefixes at UR. However, our knowledge of the English language will prove this to be defective because we base our judgment on the phonetic realisation of the negative prefices. These we realise as: irresponsible, illegal, impracticable, imbalance, intolerance, indecision, iмcompatible and iꞧ) gratitude; perhaps; only intolerance and indecision look similar to the deep structure realisation.

Let us try and map the UR and PR of each of the pair of the words above.

1.   iNresponsible   iNlegal
         ↕▲   ↕
      Irresponsible   illegal

2.   iNpracticable   iNbalance
         ↕   ↕
      Impracticable   imbalance

3.   iNtolerance   iNdecision
         ↕   ↕
      iNtolerance   indecision

4.   iNcompatible   iNgratitude
         ↕   ↕
      Iꞃcompatible   iꞃgratitude

In this sequence 1 – 4, what do you notice?

Let's start with 1. You will notice that when the blade of the tongue is raised close to the alveolar and you somehow allow the waves coming from the glottis to escape little friction such as we have in /r/ and /l/, the antonym prefix is likely to take the form of the first is a negative or what is not what is not, it has only one concept in the mind. But for its external manifestation or realisation in the real world, certain articulatory features often disallow the concept of negative or antonym to be pronounced in a similar way. For instance at the UR, 'not' can only be added to some words to realise their antonyms. Such words are responsible, legal, practicable, balance, tolerance, decision, compatible, and gratitude. But the PR of "not" of these words are non-identical as shown: thus ir-, il-, im-, in-, in. From the above, it is concluded that there is no one to one relationship in what we have in the mind (Underlying Representation) and the way we give expression to it (Phonetic

Representation). But if this is so, how then does a speaker understand himself? Or worst still, how does a person understand another speaker?

3.4   Phonological Rules

Generative phonologists argue that there must be a way to match the underlying representation of language with its phonetic representation. This is the only way we can show that both the speaker and the hearer share the same linguistic background. Also, there should also be a way to explain the differences that exist in UR and PR. To achieve these two needs, the theory has developed some formal rules called the phonological rules.

Let us return to the concept of antonyms in the examples that I gave in 3.3. There, I said that the underlying representations of antonyms or negatives are invariant or identical, while it is nonidentical in the phonetic representation.

Now 2, whose pain is different from 1. You will notice that when a word starts with the voiced/voiceless, bilabial plosive (like /p/ and /b/ the negation sound is the voiced bilabial nasal /m/. Let us jump to example 4, where you will notice that the voiced velar nasal, /ŋ/ is the negation consonant of words starting with voiced/voiceless velar plosive.

Thus, it is possible now to formulate a rule that will explain the differences we observe in UR and PR of most English negations. Let us attempt examples 2 and 4 to generate the basic rule of the generative phonology: Example 2.

iNpracticable,   becomes impracticable   ⎰ in the environment where the root consonant is voiced or voiceless, **bilabial**, plosive /b p/. ⎱
iNbalance   becomes imbalance

But in Example 4.

iNcomplete   becomes imcomplete   ⎰ in the environment where the root consonant is voiced or voiceless, **velar**, ⎱   What all this means is that, when an expression is still on your mind
iNgratitude   becomes imgratitude

(underlying level), negation affix is identical. But when you say the expression into the outer world (phonetic level) the expressions become non-identical. This is because the expression at this level are constrained or controlled by the circumstances in the outer environment of the expression, which may be whether the

root starts with a vowel or consonant sounds. It may also, as the case of 2 and 4 above, be a difference in the places of articulation, where N becomes /m/

(N   /m/) when the place of articulation is bilabial, but /m/ when velar. This is summarised as:

A   B/C – D

This is the basic rule in the generative phonology theory.

4.0   SELF-ASSESSEMENT EXERCISES (SAE)

Attempt the analysis of examples 1 and 3 in 3.4 as done for 2 and 4
With examples, explain the terms (a) Underlying
    Representation
    (b) Phonetic Representation

What is generative phonology?

5.0   SUMMARY

In this unit I have attempted to explain to you:

- What a child language is and its relationship with learning English phonology.

- the type of language that we possess in our mind, which forms our competence in the language from where we draw what we use to express our thoughts (UR). It is most, at times, different from the outer realisation.
- outer realisation (PR) are constrained by many factors that exist within the environment of the sound expression of which are: manner or place of articulation, psychological and physiological.
- the phonological, rules which help us to reconcile UR and PR.

6.0   TUTOR-MARKED ASSESSMENTS

With adequate illustrations, explain the rule:
    A   B/C – D

7.0   REFERENCES/READING LIST

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UNIT 2   MAJOR CLASS AND CAVITY FEATURES

CONTENT

1.0   INTRODUCTION

In this unit, I shall further discuss the workings in the Generative Phonology Theory. Specifically, I shall begin to introduce you to the *phonetic features* of the theory, which Chomsky & Halle (1968: 299) say "represent the phonetic capabilities of man". These features represent some technical terms which you can use to describe the English phonemes that border on manner, place, source and process of articulation.

In doing this, I shall only touch the basics of these features, as recorded by Chomsky and Halle's (1968) *The sound pattern of English* popularly referred to as *SPE*, the major authorities in this area. Together with units 3, 4 and 5, we shall be ready to formulate the distinctive features matrix that you often read or hear, which occupies Unit 6. Also, these distinctive features are usually described by a two point antonym adjectives such as: voiced − non voiced (non voiced is what you normally call voiceless), high-non high (low); round − non round, spread − non spread; open − non open (close); etc. You must take note of these antonymic adjectives from now till the end of this module.

Also, in the continuation of the workings of the generative theory of phonology, I shall further explain more phonetic features within the oral and nasal cavities. (You see that you must learn your organs of speech very well). These cavity features are

derived from the specific organs of speech in the mouth and the nose namely, the tongue, palate, lips and nose.

2.0   OBJECTIVES

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

- define and discuss sonorant as a distinctive feature for the description of the English phonemes;
- define and discuss obstruent as a distinctive feature for the description of the English phonemes;
- identify and describe sonorant and obstruent as distinctive features of the English phonemes;
- explain the phonetic features that border on the organs of speech such as: the tongue, lips and nasal; and
- identify and describe the English sounds produced by theses organs of speech using the terms in the generative phonology theory.

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

Meanwhile, let's start with what is referred to as the major class features namely: Sonorant, and consonantal (obstruent). These are the features that can be used to describe not only the English sound system but all the human speech sound system. This is why they are called the major class features.

Also, in 3.3-3.8 the main contents of the section is the examination of the phonetic features of the sounds produced in the two cavities of sound making namely; oral and nasal cavities. The features to be discussed are: posterior, coronal, tongue body features, lateral, rounding and nasal. But first, let us start up with major class features as explained in 3.1 and 3.2.

3.1   Sonorant Sounds

Sonorant is a term used to describe the activities that take place when the vocal folds are shut and there are continuous vibrations at the larynx. During this process, the sounds that are made are usually voiced and oral. These cover the vowel sounds and the voiced consonant sounds. So all the English vowels such as /ɪ i: æ e ɑ: ɔ: ʊ/ are sonorant sounds. Also all the English voiced consonants such as /b, d, g, v, θ, m, n, j/ are sonorants. The antonymic adjective in the generative theory used to describe the sounds that are not in this category is nonsonorant or obstruent or consonantal, which you call voiceless consonants.

3.2   Consonantal (Obstruent) Sounds

From 3.1, if you are careful, you will notice that the category of sounds here is divided into two: those sounds that are obstructed at the oral cavity but are accompanied by vibrations. These are the voiced consonants that we refer to in 3.1 as sonorants, e.g. /b, d, g, m, n, j/. The rest sounds with obstructions in the month which are not accompanied by vibrations are referred to as obstruent sounds. Examples: /p t k d s ð/. You often call the sounds voiceless consonant sounds. Those sounds that are not in this category are called non-obstruent sounds.

From the above, it can be concluded that the human speech sounds may be referred to as sonorant e.g. /ɪ i:æ b, j/ or non-sonorants such as /k, t, , s/, which are obstruent.

3.3   Posterior

This is a palate feature. You will recall from your previous knowledge that the palate is the long, wide, slippery region at the upper part of inside of your mouth. It is often called the roof of the mouth, which begins at the root of the upper teeth and stretches through the velum to the inside your mouth. If you really like to take a tour of the palate and other organs of speech, you can find and read chapter three of Ashby and Maidment (2005: 33 – 50). But in summary, the beginning of the palate is called the alveolar, then, you climb a hill called the alveolar ridge, which lands you at the hard palate. From there you travel a little over the hard palate region and get to the soft palate or velum. This further stretches inwards your mouth until you get right to the end of the journey at which point is called uvula. The area between the soft palate and uvula is called the posterior region. Any sound produced with a constriction or obstruction of free flow of air at this particular region is called a posterior sound. Can you try to pronounce: kind, guide and hide? While doing so, take a particular attention of where the first consonant of each of the words is produced. If you get it, then you are in the posterior region and those sounds are of

course posterior sounds. Any sound that does not fall into this category of sounds is described as non-posterior or anterior such as the bilabials, alveolars and dentals.

3.4   Coronal Sounds

Coronal is the feature used to describe the sounds that are produced with the flat part of the tongue called the blade. This starts from the tip of the tongue to almost half of the tongue. You must know that the tongue is said to be at the neutral position when it is not moving up nor down. This occurs when the tongue is at the resting position such as when you produce the English sound of /e/ as in "bed". Any other sound that involves the movement of part or the whole of the tongue is a coronal sound, which may be a sonorant or an obstruent. You will notice that many English sounds are coronal, but all bilabials and labio-dentals are non-coronal, like any other sound not produced with any part of the tongue. To know the examples of the English sounds that have the coronal feature, try and roll your tongue in your mouth and produce the English sounds that involve the movement or the use of the tongue. This experiment will yield coronal sounds such as: /θ ð s ∫ l n r z t d k/.

3.5   Tongue Body Feature

This is another coronal feature that involves the movement of the whole of the tongue. It is a directional feature that describes the direction of the movement of the tongue. The moves from the neutral position towards the roof of the mouth in which case we say that sound produced is a high sound. If the tongue moves to the opposite direction, we say that it is a low sound, thirdly, when the body of the tongue is retracted or pushed towards the back of the oral cavity, we say that sound is back. Any sound that does not fall into any of these three categories is described as non-high, non-low or non-back respectively. Practice the movement of the tongue into these three directions and note which of the English sounds will fall into each of the three categories.

3.6   Lateral Feature

This is another coronal sound, because it involves the use of the tongue. But the process of producing a lateral sound involves the tip of tongue gummed to the anterior region (palato-alveolar). While at this point, the air coming from the lungs is allowed to escape out of the mouth through the two narrow spaces by the two sides of the tongue. One main example of lateral in English is /l/ as in 'lie'. There are not many examples in English. Any sound that falls outside this category is called a non-lateral sound.

3.7   Rounding Feature

The phonetic feature called rounding depends solely on the two lips, when they partially or wholly form the letter "O". At this time, the lips may be partially closed or half-open. There are no many sounds in English that have the rounded feature, just a few soronants such as /ʊ,u:ɒ,ɔ:/a number of and glides such as /aɪ aʊ ɔɪ j w/. All other sounds not in this category are described non-rounding or non-rounded.

3.8   Nasal Feature

Nasality is a feature of mainly the nose as this is the chamber or cavity which a nasal sound undergoes during production. For all other sounds, the velum is raised, thereby, allowing the air from the lungs to escape through the oral cavity – the mouth. But in the articulation of the nasal sounds, the velum is lowered thereby shutting the path that goes into the mouth so that the air coming from the lungs can only escape through the nose. This is how such sounds are named nasal – because they pass through the nostril and not the mouth. There are only three known nasal sounds in English: /m/ with a supporting closure by the two lips (bilabial), /n/ with a supporting closure between the alveolar and the tip of the tongue, and /ŋ/ whose supporting closure at the post velar. All other sounds outside this category are non-nasals.

4.0   SELF-ASSESSMENT EXERCISES (SAE)

  i.   List two major classes of the phonetic features
 ii.   (a)   What are sonorant sounds?
        (b)   Give five (5) examples in English words
iii.   (a)   What are consonant sounds?
        (b)   Give five (5) examples of English words.
 iv.   List all the organs of speech mentioned in this unit.
  v.   With many examples in English, discuss the coronal sounds.
 vi.   What do you understand by rounding?
vii.   When the velum is lowered, some specific sounds are about to be produced, with examples from English, what phonetic feature is called such sounds?

5.0   SUMMARY

In this unit, I have attempted to introduce you to some terms in the generative phonology. These terms are the phonetic features realisable in the human speech sounds including the English sound system. Specifically, I have discussed the two major class features and the major cavity features namely:
•   the sonorant sounds, which are the vowel sounds and the voiced consonants sounds,

- the voiceless consonant sounds, which are mainly referred to as obstruent.
- the posterior region sounds produced anywhere the palato-alveolar region such as /k g h/
- the coronal region where sounds are produced by the movement of the tongue such as /e , t d, θ/
- the tongue body movements where sounds are produced at the high, low and back positions such as /i: ŋ k/ respectively;
- the feature that allows the air escape at one or the two sides of the blade of the tongue while its tip remains stuck to the alveolar; lateral such as /l/ and its allophones
- rounded feature which is produced by the rounding of the two lips such as /u/; and
- nasals because the air that forms them escape through the nose. The three examples in English are /m, n, m/.

6.0   TUTOR-MARKED ASSESSMENT

i.   Some sounds are said to be both sonorant and consonant. With copious examples in English, discuss why they are so described.
ii. With the aid of copious illustrations from the English language, discuss the cavity phonetic features.

7.0   REFERENCES/FURTHER READING

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UNIT 3   MANNER OF ARTICULATION FEATURES

CONTENT

1.0 INTRODUCTION

This unit is another step into further discussion of the phonetic features of the generative theory, which borders on manners of articulation. This unit will be discussed under the following sub-topics: continuants, release features and the feature of tense.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

• identify and discuss sounds that are referred to as continuants;
• identify and explain types of releases; and
• explain with exemplifications from English the phonetic feature described as tense.

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   Continuants

As the name of this feature implies, continuant sounds are produced with a continuation of the flow of the air from the larynx to the vocal tract and out of the mouth. In producing such sounds, there is no constriction or blockage at the vocal cavities significant enough as to block or stop the outflow of air. This means that no speech organ comes into contact while the air passes out of the mouth; so, the air *continues* to flow out unimpeded. Such sounds produced in this manner are called "approximants" by Ashby and Maidment (2005: 57 – 58), which they explain "have no complete closure anywhere on the midline of the vocal tract" and, they continue, "Air passes freely over the centre of the tongue and exit without turbulence" (p. 58). All vowel sounds have the feature "continuant". A good number of consonants also carry the term, especially those that leave a narrow space for the air to pass out. Examples of continuant consonants are: /s ʃ z f v r ð θ/ Glides such as /j w/ are also continuants. It goes without saying, thus, that sounds that do not fall in this category are non-continuants or stops, because they are produced with some sorts of obstructions in the oral or nasal cavity that *stops* the free flow of the air.

3.2   Release Features

Before something can be said to be released, it implies that that thing has been firmly or partially held or obstructed or hindered. This takes your mind back to the antonym of 3.1 which I called non-continuant or stop. These sounds described to have the release features are non-continuants.

There are two features of release, which Chomsky and Halle (1968: 318) describe as "instantaneous release" and "delayed release". These I will simplify as sudden release and gradual release, respectively. The instantaneous release sounds have the process of building up pressure behind the obstructed region by disallowing the air from escaping. When the pressure becomes high enough, the obstructing organs are parted instantaneously or suddenly. This abrupt release of the pent-up pressure often causes a sound like a slight ex*plosion*, from where *plosive* sounds are derived (sounds like an explosive). I am sure that examples of these sounds are already on your mind. Wait till we get to 4.0 when I will demand them from you.

The counterparts of the sounds described above do not build up pressure behind the obstructing area. But they slightly disallow the air to flow out freely; this is why they take the feature of delay or gradual release. As the saved air does not have enough pressure to burst out when the organs are parted and for an explosion, the air in this instance passes out with a little disturbance that causes some turbulence.

They cause some [fff] or [sss] sound. Some examples of this in the English sound system are: / ð θ ʒ ʃ s z/

3.3   Tense Feature

Let us start this subsection with a little practical exercise. I want you to pronounce the English /t/, that, is using the very tip of your tongue to strike the alveolar ridge. Do this about five times. The second exercise: pronounce /d/ as you will pronounce it in the two occurrences in the word did. /did/. Do this five times. Repeat the first exercise and note what happens to your organs of speech at the vocal tract: tongue, palate and even your lips, jaws and your chest. Now repeat the second exercise and note the same organs above. You would notice that in the first exercise, you used up muscular effort and tensioning of the muscle. But in the second exercise, the muscles are a little relaxed, somehow. Thus, any sound that follows the same muscular *tens*ion as /t/ above attracts the phonetic feature of *tense*, while the one that re*lax*es the muscle as /d/ non-tense or *lax*. Note that vowels too can be tense or non-tense. Compare these pairs: /ɪ iː/, /ʊ uː/ and /ɒ ɔː/. Practise them like we did for /t d/.

4.0   SELF-ASSESSMENT EXERCISES (SAE)

Let me conclude this unit by asking you the following questions:
ia.   What are continuants?
ib.   Give 5 examples in English
ii.   Why will you describe some sounds that bear the feature of release as explosive-like? Give 5 examples of such sounds from the English consonant system.
iii   Let us say that the notations + means positive or present in, and − means negative or absent in. Complete this table.

S/N.	Sound	Tense	Nontense
	ɪ	-	+
	iː		
	ˈʊ		
	uː	+	-
	ɒ		
	ɔː		
	t		
	d		

Take a particular note of this question, as it prepares you for another topic later.

5.0   SUMMARY

In this unit, you have learnt and can identify and discuss:
* the continuant sounds such as the vowels, glides and some consonant sounds;
* the release types of sounds such as /b t d/ which have instantaneous or sudden mode of release, and /s z ʒ/, which have delayed or gradual mode of release;
* tense and non-tense sounds, which involve muscular tension such as /t/ and non-muscular tension or lax such /d/.

6.0   TUTOR-MARKED ASSESSMENT

Draw a table like 4.0.3 using 3 sounds each of the features of continuant, release and tense. Fix the present (+) or absent (-) notation of each feature in each of the 9 sounds you selected.

7.0   REFERENCES/FURTHER READING

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UNIT 4   DISTINCTIVE FEATURES

CONTENT

1.0   INTRODUCTION

We have now arrived at the final destination of this module, which has been entitled "Distinctive Features", and which happens to the title of the module. (I will often use the abbreviation DF in the discussion). It is the hallmark of the generative phonology theory: sometimes referred to as the distinctive features theory, which often gives the students of linguistics the nightmare. This should not necessarily be so to you, if you would come along with me slowly and steadily. Welcome on board!

2.0   OBJECTIVES

At the end of this unit, which rounds off this module, you should be able to:

*   define what DF is;
*   intelligently discuss DF; and
*   build a DF matrix.

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   Distinctive Features

Let's start our journey from the dictionary entries of "distinct" and "distinctive". Out of the several entries on "distinct", one is the closest to what we need here, which is: "clearly different or of different kind" (Horby, 2004: 338). And on the same page, on "distinctive" he says: "having a quality or characteristic that makes something different and easily noticed". From here, it is not difficult, then, to say that DF are a set of characteristics that makes one thing different from another one.

I often thrill my students to list the names of everyone offering the course in order to compare who among them is: light skinned, chocolate, tall, short, male female, etc. By the time the exercise is complete, they would have written the characteristics that make each of them different from another!

Welcome from my class to the generative phonology theory, which believes that the phoneme of a speech sound can best be described by the total elements (features) that make it distinct or different (distinctive) from the other phonemes. This is what the theorists have referred to as the distinctive features. As you would have then noticed, all we have discussed in Units 1 – 4 are features that that can make one phoneme distinct from the other. These, as already discussed, may be: manner of production, place of production and the organs of production. Even the manner of how the organ of articulation has moved or is placed may constitute shades of different realisations of phonemes. Let us take for instance the coronary sounds, which involve the tongue. DF theory will describe if the tongue at the production of the phoneme is: high, low, retracted (back), anterior, posterior, tip or flap. These are the various features that are said to be present or absent in a sound when contrasted with another sound.

Acoustically, the theory lays great emphasis on the modes of the generation of the waves or air that makes up each phoneme from the lungs to the larynx, and the minute details of the movements of the vocal folds (they call it cords). This, you must note, is one great credit for the generative phonologists ahead of the other previous theorists. It is through this that we have the terms such as sonorant, vocalic and obstruent

3.2   +/- Binary Notations in Generative Theory

Another major operation of the generative theory is the employment of the negative and the positive annotations. These are used to indicate the absence or presence of a feature in the sound being described. The theory in its inception has believed the binary (two) nature of the sound system meaning one of two features of things. This

has assisted the generative phonologists to develop a highly formalised phonetic theory around the binary features. This means that for a given phoneme, there must be or not be a specific feature, which by its presence of absence has made it to be distinct from another one which has the feature or does not have the feature. Thus, as shown in the previous units of this module, there are binary features such as: high/non-high, coronary/non-conorary, sonorant/non-sonorant, obstruent/non-obstruent, nasal/non-nasal, etc.

The + annotation is the mathematical sign used to show that a sound has the particular feature in question; and the − annotation indicates that the sound in question does not possess the feature being indicated. In other words, + means the presence of a particular feature, and − means the absence of a particular feature. Thus, we can turn the binary examples in the last paragraph to: +high -high, +coronary -coronary, +sonorant - sonorant, +obstruent - obstruent, and +nasal −nasal. I think we should be ready now to build our DF matrix, the type that I have introduce to you in the last unit.

3.3   Distinctive Features Matrix (DFM)

This is the last section of this model where we need to apply all the theory we have learnt in Units 1-4 of the module. A matrix is an arrangement of symbols or numbers in columns and rows in order to describe or express a set of given information. In order to describe a set of phonemes in a very accurate way, the generative theory has found a valuable outlet in building a distinctive features matrix. It is an expression of the presence or absence of certain features in certain phonemes, which make the phonemes different from the others. The set of features being used to distinguish sounds, sometimes forms the row while the sound being distinguished or described forms the column, or vice versa.

Let us try and describe a set of phonemes by building its DF matrix: Let us examine just three features: coronary/non-coronary: high/non-high, back/non-back, obstruent/non-obstruent, and sonorant/non-sonorant. In doing this, let us describe the phonemes in "seat" /si:t/

	s	i:	t
coronary	+	+	+
high	-	+	-
back	-	-	-
obstruent	+	-	+
sonorant	-	+	-
-			
-			
-			

We can go on and on to enlarge the matrix. This, the generative phonologists argue, is the best way to describe a speech sound.

You may see more matrices in works with interest in generative phonology such as: Chomsky & Halle (1968: 128), Clark & Yallop (1990: 156) and Jolayemi (1999: 77 & 2006: 33).

4.0   SELF-ASSESSMENT EXERCISES (SAE) I

ia.   What are continuants?
ib.   Give 5 examples in English
ii.   Why will you describe some sounds that bear the feature of release as explosive-like? Give 5 examples of such sounds from the English consonant system.
iii.   Let us say that the notations + means positive or present in, and – means negative or absent in. Complete this table.

S/N.	Sound	coronary	high	back	obstruent	sonorant
	iː					
	ˈʊ					
	ɒ					
	ɔː					
	d					

SELF-ASSESSMENT EXERCISES (SAE) II

  i.   What are distinctive features?
 ii.   List 5 experts that have contributed to the theory of generative phonology.
iii.   What advantages does this theory have over the others in phonemic description?

5.0   SUMMARY

In this unit, I have:

*   Defined what DF is.
*   Discussed DF.
*   Explained how to build a DF matrix.

6.0   TEACHER-MARKED ASSESSMENTS

1.   As a follow-up to your assessment in Unit 4.6, complete the DF matrix below built from the first three phonemes of NOUN, which is transcribed as /ɔn ʊn/, using the features in 3.3

	n	ŋ	ʒ
coronary	+	-	+
high	+	-	-
back			
obstruent			
sonorant			

2.   Use the features in 4.6 to describe the three phonemes in Question 1 above.

7.0   REFERENCES/READING LIST

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