The Distinctive and Symbiotic Relationship between Phonology, Phonetics and Morphology

Abah, Akogwu James
Department of English and Literary Studies
University Of Nigeria, Nsukka
talk2apostlejames@gmail.com
08069451845 (Correspondent Author)

and

Emodi, Livina N.
Department of English
Anambra State University
Igbariam Campus
livinaemodi@yahoo.com

Abstract

Language itself is purely human and non-instinctive method of communicating ideas, feelings and thoughts through a set of produced symbols which expose people to communication study. Many people look at language as a mere medium of communication without inquiry into what constitutes the building block for such discourse. Hence, this paper highlights the importance of linguistics in human endeavour with special attention given to the relationship between phonetics, phonology and morphology in their differences and similarities; thereby, attaching pedagogical relevance to the study. Four research questions are employed here using descriptive survey design to guide this study. The understanding of the aforestated concepts will solidify one’s knowledge about language generally and its properties.
Introduction

The concept of language, simply put, is the system of rules and principles of human communication. Perhaps, the most significant and distinctive defining characteristics of language as a method of communicating ideas, emotions, feelings, and desires by means of vocal sound symbols are its humanness and non-distinctiveness (Agbedo 1). It is important at this point to make an attempt at capturing the sound and structure of language as a means of human communication. Therefore, we shall attempt to answer these cogent questions:

(i) What is phonetics? (ii) What is phonology? (iii) What is morphology? (iv) How does morphology relate to phonetics and phonology?

Many renowned phoneticians and philologists have defined phonology differently but it is evident from their definitions that their different viewpoints of the term remain the same. Schane says, “phonology is concerned with the sound structure of language; generative phonology is a theory of this structure.” (xv) Crystal sees phonology as, “a branch of linguistics which studies the sounds of languages. (365). He further maintains that, when we talk about the sound system of English, we are referring to the number of phonemes which are in a language and how they are organized. In the light of this, Yule posits phonology as:

essentially the description of the systems and patterns of speech sounds in a language. It is in effect, based on a theory of what every speaker of a language unconsciously knows about the sound patterns of that language. Because of this theoretical status, phonology is concerned with the abstract or mental aspect of the sounds in a language rather than with actual physical articulation.
of speech sounds. . . that serves as the consonant basis of the variations in different physical articulation of the sound type in different context. (154).

Similarly, Fromkins, Rodmans, and Hyams state that, “phonology refers both to linguistics knowledge that speakers have about the sound patterns of their language and to the description of that knowledge that linguistics try to produce”. (256)

It is evident from the ongoing that phonology studies sounds in language and the way in which they are combined to create meaning. It aims to describe the sounds (phonemes) that are distinctive in a language. It is also concerned with the system of rules (constraints) that determine how the sounds of a language combines to influence one another. It emphasises the study of the way sounds functions in a language, including phonemes, syllable structure, stress, accent and intonation. Therefore, it is appropriate to say that phonology describes the way sounds functions within a given language or across language to encode meaning.

The term, ‘phonology’, was used in the linguistics of a greater part of the 20th Century as a cover term unifying phonetics. Phonology is sometimes called linguistic phonetics or functional phonetics. Roach is of the opinion that the general theory about speech sounds and how they are used in language is regarded to as phonetics and phonology (1). Hyman quoted in Adeyemi, (5) sees phonetics as “the science of speech sounds and it deals with actual sounds of languages as they are produced in their raw form”. To him, the aim of phonetics therefore, is to provide the set of features or properties which can describe all sounds used in human languages.

Wikipedia also holds this view that phonetics is concerned with the physical properties of speech sounds or signs (phones): their physiological production, acoustic properties, auditory
perception, and neurophysiological status. Yule adds that phonetics is “the general study of the characteristics of speech sounds.” (41) More so, Adeyemi further clarifies the distinction between phonology and phonetics as: “phonetics studies the properties of human sounds while phonology is primarily concerned with the sound system of a language; phonetics provides the raw materials which are used for describing speech sounds; whereas phonology studies the way these speech sounds form systems and patterns in human languages. A phonological study goes a step further to illustrate how the sounds of human languages are used to convey meaning (6).

Progressively, it may not be out of place to further x-ray the relationship between phonetics and phonology. As Wikipedia maintains, it postulates that phonetics and phonology are two branches of linguistics that deals primarily with the structure of human language sounds. They are closely related but clearly different from each other in the following ways: Phonetics focuses on the physical manifestation of speech sounds and on theories of speech production and perception while phonology deals specifically with the arrangement of these sounds so produced. It is also concerned with systems of rules that determine how the sounds of a language combine and influence one another. Phonetics, on the other hand, examines the general principles and procedures of production of human speech sounds especially those that can be described as phonological universal. Phonetics therefore, studies how these sounds are produce without reference to a specific language. Moreover, phonology examines the sound inventory of a given language. Phonology therefore, is language specific. Phonology draws upon the findings of phonetics (though different) according to different theories of phonology; but unlike phonetics, it does not deal with the phonic medium as such. That is why it is called functional phonetics.

It is very important to note that the knowledge of phonology helps the teacher and the students of English as second language to know the sound inventory of the English language.
This will further help them to identify those sounds that are in the target language (the English language) but are not in the learner’s language. When this is done, the learner studies these sounds and understands them. This will in turn help him in proper articulation of these sounds. For instance: (a) the inter-dental fricatives \Ø\ and \:\; (b) the central vowels \:\, \:\ and \:\; and (c) the diphthong \ei\.

It is very pertinent to note that both phonetics and phonology study sound systems in a language(s).

On the other hand, Morphology as captured by Ndimele is the study of internal structure of words(1). Similarly, morphology can be traced to Greek origin and it is a make-up of ‘morph’ meaning ‘shape, form’ and ‘ology’ which means the study of something. The term is used in both linguistics and biology but we are going to stick to morphology in linguistics, as the scientific study of forms and structure of words in a language (Wikipedia). If morphology is the study of internal structure of words, we then need words in every aspect of our lives as building blocks for the construction of sentences that will bring about a meaningful utterance among human beings. More so, morphology is the identification, analysis and description of the structure of the morphemes of a given language and other linguistic units, such as root words, affixes, parts of speech, intonation\stress, or implied context (words in a lexicon are the subject matter of lexicology). What is studied in morphology is the morphemes like how we study phonemes in phonology. A morpheme may be a word or a part of a word. At the same time, a morpheme may be a free or a bound morpheme.

Ndimele (1) notes that free morphemes are morphemes which can occur in isolation without necessarily having to be attached to another grammatical unit. He further maintains that they are of two types; the lexical morpheme which have independent dictionary meaning of their
own and the second is functional or grammatical morphemes which does not have independent
dictionary meaning of their own. Below are examples of bound and free morphemes

<table>
<thead>
<tr>
<th>Bound</th>
<th>Free</th>
<th>Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Un-</td>
<td>Happy</td>
<td>Ly</td>
</tr>
<tr>
<td>Trans</td>
<td>Form</td>
<td>Ation</td>
</tr>
<tr>
<td>Im</td>
<td>Possible</td>
<td>Ly</td>
</tr>
</tbody>
</table>

Bloomfield (222) quoted in Agbedo (85) states that morphology can be classified into inflection
and derivation morphology. He then refers to inflection as the outer layer of the morphology of
words formation, and derivation as the inner layer. This implies that the latter is concerned with
the relationships of different words and with the ways in which vocabulary items can be built
from some elements, as in Un-speak-able; while the former deals with the forms of one word that
it takes up depending on its grammatical functions in a sentence. It is crucial to note at this point
that phonology and morphology work pari passu. Therefore, we shall look at how they interact.

**Relationship between Morphology and Phonology**

The relationship between morphology and phonology is an intimate one, both
synchronously and diachronically for example allomorphic variation of affixes is frequently
determined by phonological context, and affixation itself often imposes phonological
requirements. It could be recalled that morphology is the study of word formation. Phonology
helps in the study of word formation. Moreso, the noun has different ways of realizing plurality.
The basic way of expressing plurality in writing is by adding the suffix ‘s’ to the regular noun.
Other nouns realise their plurality differently by adding ‘es’ and others that ends in ‘f’ changes to
‘es’, as follows:
<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bun</td>
<td>Buns</td>
</tr>
<tr>
<td>Leaf</td>
<td>Leaves</td>
</tr>
<tr>
<td>Bus</td>
<td>Buses</td>
</tr>
</tbody>
</table>

The allomorphic variation of affixes is frequently determined by phonological context and affixation itself and often imposes phonological requirements. These plural markers therefore, are usually pronounced as \(s\) or \(i\) in realising the correct pronunciation for these plural sounds. It is clear that final sound segment is responsible for that. Examples:

a. \(s\) pronounce the plural marker as \(s\) after a voiceless sound except the hissing sounds (sibilants: \(s, z, \zeta\)) as in
   - lips \(\text{lips}\)
   - stops \(\text{st}z\text{ps}\)
   - roots \(\text{ru}ts\)
   - parts \(\text{pa}ks\) etc
b. \(z\) pronounce the plural marker \(z\) after voiced sounds; that is, all vowels and voiced consonants except hissing sounds as in
   - dogs \(\text{d}gz\)
   - girls \(\text{g}3lz\)
   - boys \(\text{b}iz\) etc
c. \(iz\) pronounce the plural marker as \(iz\) after hissing \(s, z, \zeta, 3, \zeta, d\) as in:
The Past Tense Marker

The past tense form of the verb is usually expressed in writing by adding the suffix ‘ed’ to the regular verb. The past tense marker may be pronounced as \(\text{d}t\) or \(\text{id}\).

a. \(\text{d}\) pronounce the past tense element as \(\text{d}\) after voiced consonant or vowel as in:
   - begged \(\text{begd}\)
   - played \(\text{pleid}\)
   - agreed \(\varnothing \text{gri:} \text{d}\)

b. \(\text{t}\) pronounce the past tense element \(\text{t}\) after voiceless consonant as in:
   - passed \(\text{pa:st}\)
   - asked \(\text{æskt}\)
   - fixed \(\text{fikst}\)

c. \(\text{id}\) pronounce the past tense element as \(\text{id}\) after \(\text{t}\) or \(\text{a}\) as in:
   - lifted \(\text{liftd}\)
   - mended \(\text{men di}d\)
   - waited \(\text{weitid}\)

From the above illustrated examples, we can see clearly that the sounds when added to words change the pronunciation, and new words entirely are formed. This makes phonology and morphology to live a hair and head-like type of life.
As earlier stated, the effect of the knowledge of phonology on morphology in the field of study is an intimate relationship between the two. It can be best described and illustrated using the concept called morphophonology (also morphophonemics or morphophonology). This is a branch of linguistics which studies the interaction between morphological and phonological or phonetic processes. Its chief focus is the sound changes that take place in morphemes (minimal meaningful units) when they combine to form words. Morphophonological analysis often involves an attempt to give a series of formal rules that successfully predict the regular sound changes occurring in morphemes of a given language. Such a series of rules convert a theoretical underlying representation into a surface form that is actually heard. The unit which the underlying representations of morphemes are composed of is sometimes called morphophonemes. The surface form produced by the morphophonological rules may consist of phonemes (which are then subject to ordinary phonological rules to produce speech sound or phones) or else the morphophonological analysis may bypass the phoneme stage and produce the phone itself.

A speaker’s knowledge of the phonology of English helps since the morphological formation of cluster of consonant is determined by some phonological rules. The phonology of English allows a cluster of a number of consonants in word - initial and word final positions but there are constraints in the sequence of these consonants especially in initial position of a word. These “constraints are called phonotactics of a language and are obviously part of every speaker’s phonological knowledge” (Yule 57). From kim et al affirms that: “a speakers phonological knowledge include information about what sounds can occur at the beginning of a word, what sound can occur at the end of a word, and what sounds can appear next to each other within a syllable. By this as earlier stated, it is in line with Spencer, Andrew and Zwicky in the
Handbook on Morphology that phonology guides syllabication. For example, native English speakers know that the final sound of the word “ring” which we represent as [ŋ] cannot occur at the beginning of a word.

There are other purely phonological rules that can apply in principle to any morpheme in the English language to be specific and this application makes some changes in the morphological features of a word. These phonological rules describe the changes that occur in sounds when they are brought together. In fissional languages, the morphemes alter their phonetic shape to accommodate the sound of adjacent morphemes. These types of changes can be classified on phonological grounds. These rules may be classified according to the type of phonetic change that occurs.

(1) **Feature deletion or additional rules**: Lengthening of English consonants before voiced obstruent.

(2) **Dissimilation rules**. (the feature deleted is present in adjacent segment). This type of rule refers to processes whereby two neighboring sounds become less similar. An example is the rule of fricative dissimilation. This rule always caught my interest because Igbos, like speakers of many other languages, cannot easily pronounce the ‘th’ sounds. In learning the ordinal numbers, the numbers ‘fifth’ and ‘sixth’ always present a pronunciation challenge. It is difficult to pronounce two fricatives next to one another when one of them involves the ‘th’ sound that does not exist in Igbo or one's language. As a result, fifth is pronounced as [flft] and sixth as [slkst]. The second fricative becomes a stop, which makes it more dissimilar and easier to pronounce. This can also be referred to as elision.
(3) **Segment deletion or additional rules:** (a whole sound is added or subtracted) French, also English: autumn, antumnal; athlete\“athlete”, Adding schwa between sibilants when adding the English plural ending like in boxes.

(4) **Assimilation.** Assimilation rules (the feature added is present in an adjacent segment). Assimilation means when a sound changes one of its features to be more similar to an adjacent sound. This is the kind of rule that occurs in the English plural rule — the -s becomes voiced or voiceless depending on whether or not the preceding consonant is voiced. For example, the English plural -s may be pronounced as [s] (in "cats"), [z] (in "cabs"), or as [əz] (in "buses"); these forms are all theorized to be stored mentally as the same -s, but the surface pronunciations are derived through a phonological rule. This is a phonological rule operating on morphology to bring about some changes when two phonemes occurs in sequence and some aspects of one phoneme is taken or “copied” by the other. Another example is nasalization. This means that in isolation, you would probably pronounce /i/ and /ɛ/ without any nasal quality at all. However, in saying words like “pin” and “pan”, the anticipation of forming the final consonant will make it “easier” to go into the nasalized articulation in advance and consequently the vowel sounds in these words will be precise transcription /i/ and /æ/. This isa very regular feature of English speaker’s pronunciation. So regular, in fact, that a phonological rule can be stated in the following way: “any vowel becomes nasal whenever it immediately precedes (or is after) a nasal”

\[
\text{Cons} \begin{cases} + \text{voc} \\ (\text{nasalized}) \end{cases} + \text{nasal.} \quad \text{Yule 59; Fromkin, Rodman and Hyams 283.}
\]

**Conclusion**
In conclusion, one has to note that phonology has greater influence on morphology than morphology on phonology. The phonological rules that determine some morphological features of words in English are the morphophonemic rules and their applications are being concerned to specific morphemes like past tense markers and plurality markers. There are other purely phonological rules that can apply in principle to any morpheme in the language. These rules reveal the activity of phonology in an even more striking fashion than even the morphophonemic rules. The point of investigating the phonological processes (only a very small number of which have been explored here) is not to arrive at a set of rules about how a language (English) should be pronounced, but to try to come to the understanding of the regularities and patterns in phonology which underlie the actual use of sounds in language as well as the impact or how the knowledge of phonology affects the study of morphology. Note again, it is the formation or combination of sounds that give rise to morphology. Generally and in a nutshell, language acquisition begins with phonology.
WORKS CITED


Ndimele, Ozo-Mekuri First Course on Morphology and Syntax. Port Harcourt: M &J Grand Orbit Communications Ltd, 1999. Print,
