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Theory Of Allophones

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Abstrack *The phoneme theory is a well-known phonological theory from the late 19th century (1870) which aims to find out the abstract representation of the phonemes of a given language. To find out whether a phoneme is a phoneme, a phonemic analysis rule is used that states: (1) mutually exclusive neighborhood of complementary distribution, known as the allophone of the same phoneme, (2) a phone in a minimal pair, known as the different phoneme, like /p/ and /b/,(3) a phone in an environment analogous to, like for example /Z/, (4) a phone as a free variantis not another phoneme, but a variation of a phoneme of /c/ the phonemes /č/ and /čh/ are variations of the phoneme /č/. A prosodic phoneme is recognized by a toneme and a chronoma.Daniel Jones' consonant and vowel analysis rule proved inadequate to solve all consonantrelated problems. Trubetskoy and Jacobson made a breakthrough in analyzing a phoneme by a distinguisher and a contrast. The analyzed componentsare: opposition system, bilateral and multilateral opposition system, prepositional opposition system and emotional opposition including the formation of neutralized phonemes and archiephonemes in German.*

Keywords*:Phoneme Theory, Complement Distribution, Minimal Pair, Analogue Environment*

Abstract Phoneme theory is a well-known phonological theory from the late 19th century (1870) which aims to find out the abstract representation of certain language phonemes. To find out whether a phoneme is a phoneme, the rules of phonemic analysis are used which state: (1) neighbors that are mutually exclusive from complementary distributions, known as allophones of the same phoneme, (2) telephones in minimal pairs, known as different phonemes, such as / p/ and /b/, (3) phonemes in an analogous environment, such as /Z/, (4) phonemes as independent variants are not other phonemes, but variations of a phoneme /c/ the phonemes /č/ and /čh/ are variations of the phoneme /č/. Prosodic phonemes are recognized by pitch and chronoma. Daniel Jones's rules of consonant and vowel analysis proved to be insufficient to solve all consonant-related problems. Trubetskoy and Jacobson made a breakthrough in analyzing phonemes by distinction and contrast. The components analyzed are: opposition system, bilateral and multilateral opposition system, prepositional opposition system and emotional opposition including the formation of neutralized phonemes and archiephonems in German.

Keywords: Phoneme Theory, Complement Distribution, Minimal Pairs, Analog Environment

Introduction

In mastery of English, one aspect of speech that can affect the meaning and intent of speech is the accuracy of pronunciation and the stress of syllables. The aspect of mastery of spoken English speech certainly involves phoneme articulation skills that are different from Indonesian. According to Schane and Bendixen (1992: 1), phonemes are abstract forms of

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language sounds or a group of different sounds that have the same function. For example, the word "know" has two phonemes: the sound /n/, and the series of vowel sounds /oU/. The lexicon of Indonesian and Balinese does not emphasize certain consonant sounds such as: /f/,

/v/, /ʃ/, /ʤ/, /Ɵ/, /ð/ . Both languages also have no phonetic variations on voiceless stop sounds,such as: /p/, /t/, /k/, / will sound ([ph], [th], [kh]) and the syllabic rules /l/ and /n/. They are confused about producing English sounds in the right way like native speakers, especially whenthe sounds are in a sequence of speech that is long

Linguistic studies have long been interested in the sounds in language and how they form complex sound systems. In phonological analysis, phonemes are often used as the basic unit that differentiates the meaning of words in a language. However, in reality, the sounds in language are often inconsistent and can vary depending on the phonetic context. These variations include changes in the pronunciation of sounds, such as adjustments in articulation, intonation, duration, and so on.

Allophone theory is closely related to understanding these sound variations. Allophones refer to phonetic variants that appear in the same language as realizations of certain phonemes. In other words, allophones are variations of sounds that do not affect the meaning of words.

The study of allophones is important because it allows researchers and linguists to understand how the sounds in a language are produced and understood by native speakers. Allophonic analysis also provides insight into sound changes and the evolution of language over time. By understanding allophonic variation, we can see systematic patterns in language that lead to a better understanding of the sound system of the language itself.

In addition, an understanding of allophonic variation also has implications in other fields such as acoustic phonetics, language teaching, and sound synthesis modelling. In acoustic phonetics, allophonic analysis helps in understanding the production of different sounds and the way they manifest in sound signals. In language teaching, understanding allophonic variations is important to teach foreign speakers to pronounce the sounds of the target language correctly. Speech synthesis modeling also relies on knowledge of allophonic variation to produce natural, precise sounds in computer speech synthesis systems.

Thus, a deep understanding of allophone theory is important for researchers, linguists, and computational language scientists in analyzing language sound systems, modeling sounds, and explaining the phonetic variations that exist in language.

Method

In carrying out research or analysis related to allophone theory, a number of methods can be used. The following are some of the methods commonly used in understanding and researching allophone theory:

- Phonemic Analysis:

This method involves identifying and classifying thephonemes inthe language under study. In phonemic analysis, language data is collected and studied to identify the sounds that differentiate word meanings. This involves identifying different phonemes and determining the allophones associated with each.

- Allophonic Analysis:

This method focuses on identifying and analyzing allophonic variations in language. Language data is collected and analyzed to identify the context in whichcertain allophones occur. This could involve an analysis of the changes in certain sounds in a given context, or an analysis of the distribution of allophones in words or phrases in a language.

- Perception Method:

This method involves a psycholinguistic experiment to understand the speaker's perception and understanding of allophonic variations. In this method, speakers are given different sound stimuli and asked to identify differences or similarities in meaning. Thismethod helps to understand how speakers perceive and distinguish allophonic variations.

- Acoustic Method:

This method involves the acoustic analysis of sound recordings to understand the acoustic differences between allophones in a language. Measurements such as frequency, duration, and amplitude can be used to analyze acoustic differences between allophonic variations. This method helps in understanding the differences in the production ofthese sounds in certain contexts.

- Computational Method:

This method involves computational modeling and computational analysis of data. In this method, language data is collected and analyzed using algorithms and computer programs that have been developed. This method can be used to identify phonetic patterns and rules in allophonic variations, as well as to model and simulate the production of these sounds.

In research on allophone theory, a combination of the above methods is often used to gain a more comprehensive and detailed understanding of the sound variations in language. The method chosen depends on the research objectives, the type of data available, and the research

questions to be answered.

Sounds and Phonemes

In linguistic studies, sound is the smallest unit in the sound system of language that can distinguish the meaning of one word from another. These sounds can be vowels, consonants, or a combination of the two. For example, in English the /p/ sound in "pen" has a different meaning from the /b/ sound in "ben".

Phoneme is a more abstract concept in phonological analysis. Phonemes are the basic units that differentiate the meaning of one word from another. Phonemes can be realized by different allophones, which means that there are phonetic variations in the pronunciation of the same phoneme. For example, in English, the phoneme /t/ can be realized as an allophone [t], [t^h], or [ɾ] depending on the phonetic context.

Difference between Phonemes and Allophones

The main difference between phonemes and allophones lies in their role in distinguishing meanings. Phonemes are the basic units that differentiate word meanings. If there is a change in the phoneme, then the meaning of the word also changes. On the other hand, allophones are phonetic variations of phonemes that do not affect the meaning of a word. Allophones are specific phonetic realizations of phonemes in a particular context.

For example, in English the phoneme /t/ can have several allophones such as [t], [t^h], or [ɾ]. The sound [t] comes at the beginning of a word, as in "top", [t^h] comes after the consonant /s/ as in "stop", and [ɾ] comes after a vowel as in "water". Despite these variations, the words still have the same meaning.

Functions and Purpose of Allophones

Allophones have important functions and purposes in the sound system of language. Some of the main functions of allophones are as follows:

1. Phonetic adjustment: Allophones allow for more convenient and efficient phonetic adjustments in the production of speech sounds. For example, in English, the pronunciation of/t/ can change to [t^h] after the consonant /s/ to ease the transition between the two sounds.
2. Indicates dialect and sociolect variations: Allophones can also indicate dialect and sociolect variations within a language. Each language variety may have different phonetic preferences or rules for realizing certain allophones. For example, in American English the sound /r/ can

be realized as [ɹ] or [ɻ], whereas in British English it is often realized as [ɹ].

3. Studying the sound system of a language: Allophonic analysis helps in studying and understanding the sound system of a language in more detail. By identifying and analyzing allophonic variations in a language, researchers can uncover systematic patterns and phonetic rules that govern the pronunciation of these sounds.

4. Describing phonological changes: Allophones can also describe phonological changes in language over time. Through the allophonic changes that occur in languages over generations, we can trace the phonetic changes that underlie language evolution.

Allophone Classification

In allophone theory, the sound variations in language can be classified into several categories which help in understanding the patterns and contexts in which these allophones are used. Hereare four general classifications in allophone theory:

- Variational Allophones:

Variational allophones refer to the naturally occurring variations of sound between speakers of different languages or in different dialects. This variation can occur in different pronunciations, such as emphasis, intonation, or the use of certain different allophones in the same context. An example is the pronunciation of the sound /r/ in American English and British English, where they have different allophonic realizations.

- Lexical Allophones

Lexical allophones occur when sound variations affect the meaning of words directly. In these cases, different allophones can be used to distinguish words that have different meanings. An example is in Spanish, where the pronunciation of the sounds /b/ and /v/ influences the meaning of words. The sound /b/ is used in the word "bueno" which means "good", while the sound /v/ is used in the word "vino" which means "wine".

- Morphemic Allophones

Morphemic allophones occur when sound variations are related to changes in morpheme or grammatical forms. In this case, allophonic changes can occur as part of the grammatical process in the language. For example, in English, the -s ending in plural nouns hastwo allophonic realizations, [s] and [z], depending on the previous phoneme. The sound [s] is used after a voiceless phoneme like /p/, /t/, or /k/ as in the word "cats", while the sound [z] is used after a voiced phoneme like /b/, /d/, or /g / as in the word "dogs".

- Complementary Allophones

Complementary allophones occur when certain allophones occur in a specific phoneticcontext and do not overlap with one another. In this case, each allophone is used in a specific context and there is no free variation between them. An example is in Arabic, where the sound /p/ occurs only in the context of loan words, whereas the sound /b/ is used in the native wordsof that language.

Allophone analysis

In allophone theory, allophonic analysis is an important step in understanding the sound variations in language. This analysis involves identifying and mapping allophones that appear in different contexts. The following is an explanation of allophone analysis methods and a case study of allophones in English.

Allophone Analysis Method

The allophone analysis method involves collecting language data and identifying allophones that appear in a particular context. Following are the general steps involved in allophone analysis:

a. Data collection: Language data is collected through voice recordings, direct observation, or written sources. This data includes words, phrases, or sentences that are relevant for allophone analysis.

b. Identification of phonemes: The phonemes in a language are identified by comparing words that have different meanings based on the sounds they occur. These phonemes are the focus in allophone analysis.

c. Identification of allophones: Once the phonemes are identified, the allophones associated with each phoneme are identified in various phonetic contexts. Allophonic changesthat occur in a given context are recorded and analyzed.

d. Allophone distribution analysis: The distribution of allophones in words or phrases is analyzed to identify consistent patterns. For example, certain allophones may appear only at the beginning of a word, in the middle of a word, or at the end of a word.

e. Interpretation of the results of the analysis: The results of the analysis of allophones areused to identify the phonetic and phonological rules governing the use of these allophones. The implications of the results of the analysis can also be discussed in the context of a wider

language sound system.

Case Study 1: Allophones in English

As a case study, we will look at allophonic variations of the English /t/ sound. The sound /t/ can be realized as several allophones, depending on the context. Here is an example of usingthe allophone /t/ in English:

[t] in "top": The /t/ sound is pronounced as [t] at the beginning of a word, as in "top".
[t^h] in "stop": The sound /t/ is pronounced as [t^h] after the consonant /s/, as in "stop".
[ɾ] in "water": The sound /t/ is pronounced as [ɾ] after the vowel, as in "water".

In allophone analysis, we can identify those allophones and analyze their distribution.For example, [t^h] appears only after a consonant /s/, while [ɾ] appears only after a vowel. This indicates the existence of phonetic and phonological rules governing the use of these allophones in English.

The Role of Allophones in the Sound System of Language

Allophones have an important role in the sound system of language. They are variationsof sounds used by speakers of a language in different contexts. The following is an explanationof the role of allophones in the sound system of language:

- Allophones as Phoneme Realization

Allophones act as concrete realizations of phonemes. Phonemes are abstract sound unitsthat differentiate meaning in language. Allophones, on the other hand, are concrete variants of phonemes that appear in a particular phonetic context. In the sound system of language, allophones provide the realization of sounds that differentiate the meanings of words. For example, in English the phoneme /t/ has several allophones such as [t], [t^h], and [ɾ], each of which is used in different contexts to differentiate the meanings of words.

- Functions of Allophones in Communication

Allophones function in communication to help speakers produce and understandlanguage appropriately. They provide important phonetic nuances in the pronunciation of words. In communication, the use of appropriate allophones allows the speaker to convey the message clearly and understand the message received. For example, in French, the use of allophones [k] or [tʃ] in the pronunciation of the word "quatre" (four) influences understandingof the

meaning of the word.

- Allophonic Changes in Different Languages

Allophones also have a role in studying the sound changes in language over time and the differences between different dialects or languages. In different languages, certain allophones may undergo changes in pronunciation or have different allophones in the same context. For example, the sound /r/ in American English and British English has a different allophonic realization. This suggests that allophonic changes can occur over time in languagesand that allophone differences can identify different variations of a dialect or language.

Conclusion

In conclusion, it can be concluded that the concept of allophones has an important rolein the sound system of language. Allophones are sound variations that appear in different phonetic contexts and become concrete realizations of phonemes in language. Through analysis of allophones, we can understand the pattern of distribution of allophones and identify the phonetic and phonological rules governing the use of these allophones.

An understanding of allophones has significant implications in linguistics and phonology. In linguistics, this understanding helps in analyzing sound variations in language, understanding the sound system of language as a whole, and identifying dialect variations and sound changes in language over time. In the field of phonology, an understanding of allophones helps in the development of phonological theories and deepens understanding of the relationship between sound and meaning in language.

Several studies that can be explored in the context of allophones include allophonic changes, dialect variations, and allophonic interactions. Further studies in this field can provide deeper insights into sound changes in language, differences and similarities in speech sound systems, and the influence of allophone-allophone interactions in complex pronunciation contexts.

Overall, an understanding of allophones is important in understanding the complexity and flexibility of human language. Allophones play a role in forming meaning, facilitating effective communication, and assisting in learning the variety of sounds in a language. By continuing to explore the concept of allophones, we can further expand our understanding of the sound system of language and contribute to the development of knowledge in linguistics and phonology.

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