THE DIFFERENCES OF PBL BETWEEN TRADITIONAL PHONOLOGY AND GENERATIVE PHONOLOGY

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ABSTRACT

There are the main differences between traditional phonology and generative phonology in terms of methodologies, depth and scope, which can be applied to the design and interaction in PBL teaching. Generative phonology or modern phonology is more advanced than traditional phonology, but most learners can't understand the generative phonology, so their differences can help the students understand phonology and know their nuances. The definition of phonology, the research scope and methodologies of phonology , the contrasts between traditional phonology and generative phonology from the three respects of methodology, depth and scope, which play the instructive significance on the teaching and the future of phonology.

Keywords: Phonology, Generative phonology, Methodology, Phonetic.

1. INTRODUCTION

1.1. Historical Review and Definition of Phonology[(John *et al.*); (Jef Verschueren, 1999)]

In the modern history of linguistics, Saussure, one of the founders of structural linguistics, studied the sound absolutely and abstractly. His distinction between langue and parole leads to distinct disciplines that study sounds and their linguistic function. The former studies sounds in speech acts from a physical point of view, and the latter focuses on the distinctions between the abstract phonemes from their functions within the linguistic system. He believed that phonetics would describe the actual sounds produced when one utters the form, but the form of a word, e.g. "bed", as a unit of English does not depend on the nature of these actual sounds but on the distinctions which separate "bed" from" bet", "bad" ,"head", etc. it is just phonology that is the study of these functional distinctions. Take the sound /i/in "lend" and "peel" in English for example, there's a phonetic difference. Another example is the difference between two vowels in "feet" and "fit" is used to distinguish signs. The difference plays a very important role in the

phonological system of English in that it creates a large number of distinct signs.Before the period of Saussure Neogrammarians believed" the sound changes cannot allow the exceptions" in their animism[i](泛灵论), which is an absolute point of view. After the period of Saussure[ii], American structuralists like Sapir[iii] proposed the same concepts as allophones which showed that linguists began to observe the truth of language keenly.

The important turning point appeared when the school of Prague[iv], whose theories belong to early functionalism linguistics. Functionalism linguists, however, find that mere formal description of language is insufficient. Therefore, they attempt to explain linguistic phenomena from a functional point of view. They aim is not simply to describe language but also to explain it; not simply to show what language is but also why language is what it is.

One of the most outstanding contributions of the Prague School is the distinction they drew between phonetics and phonology. Following Saussure's distinction between langue and parole, they argued that phonetics belonged to parole whereas phonology belonged to langue. On this basis, they developed the notion of phoneme as an abstract unit of the sound system as distinct from the sounds actually produced. To determine these phonemes, they employed, for example, commutation tests, by which significant features of sounds bringing about changes in meanning, e.g. bat, bet, bit, could be established.

Trubertzkoy[v]is the most influential scholar in the Prague School to study the connection between phone and phoneme. His most complete and authoritative statements of principle are formulated in his *Principles of Phonology* published in 1939.Trubetzkoy followed Saussure's theory in his discussion of the phoneme. He said, phonetics belongs to parole, and phonology belongs to langue. As a founder and a leading scholar of the Prague School, he had his own particular approach to the study of phonology. He regarded the approach as the study of the function of speech sounds and because of this emphasis he and other Prague linguists are called functionalists. Besides this distinction, Trubetzkoy defined the sphere of phonological studies. He studied the interindependent relations between phonemes and the method of studying phonological combinations, so Trubetzkoy, so Trubetzkoy developed Saussure's theory.

To sum up, the most outstanding contribution of Prague School is the method to study phonology from the aspects of sound and meaning, in other words, in terms of functions of sounds.

In linguistic history, behaviorist Bloomfield didn't consider the meaning when he studied phonology. But Chomsky, who believed the innate theory ,in his *The sound Pattern of English* regards the phonology as part of syntax in" generative phonology". He found the phonological rules studied by the inner structure in the sentences. Firth's Prosodic phonology combines phonetics with grammars .Halliday's phonology relates forms to phonetic entities, for example, the relation between grammar and intonation, the grammar and stress and so on.

In 21th century there are most of changes in concrete phonetic alphabet, which influence the signs of phonology such as the KK IPA different from traditional IPA.

From the linguistic history on which we discussed, we define phonology as the science of speech sounds and sound patterns .One goal of phonology is to describe the differences among these speech sounds. And another goal is that of stating the general principles which determine the characteristics of all sound systems.

Phonology has both a physical and a psychological aspect of studying. The physical aspect is embodied in the study of phonetics, and the psychological in the study of naturalness. The information absorbed from phonology has applications in a number of areas, both practical and theoretical. Among these are applications to psychology, philosophy and the teaching of foreign languages.

1.2.   The Contrasts between Traditional Phonology and Generative Phonology in Methodology

The traditional phonologists used the method of description of absolute speech sound, which is abstract, but modern phonologists use the experimental method to measure the relative concept of speech sound. In other words, traditional phonological rules are absolute, while modern phonological rules are generative rules drawn from the different from context. In essence, traditional phonologists describe the isolated speech sound from subjective angle, and generative phonologists pay more attention to the real speech sounds in actual context.

In the early decades of this century, many traditional phonologists assumed that speech is composed of a series of isolated sounds which are combined into larger units ,can be attached to meanings. They also believed that the correct understanding of nature of speech sound is a basic ability of speaker.

One of the traditional methods of phonological analysis is the formation and testing of hypotheses. Suppose, for example, that we describe the relationship between wanted and want. They do not have identical meaning and have only partially similar phonetic shapes though they have the same basic meaning. We at first should have the hypotheses that in the past time "We wanted to do something". Traditional phonologists try to describe the "ed"absolutely that in the past environment, the verb is added "ed" without variations.

In the 1940s and 1950s experiments with speech spectrography and speech synthesis show that speech is better described as a continuum of sound; individual speech sounds were still seen as the basic units of language. In other words, in the processes of production and perception of speech, these distorted basic units are adopted to their context, so the traditional understanding of speech is that speech withy few segments pronounced clearly is far simpler than spontaneous conversational speech. It is the limitation of traditional phonology.

Traditional phonologists have given us a great deal of useful information about nature of speech which is somewhat absolute. But they can not deal with the details of speech sound and the connection among spontaneous speech. From above interpretations, the following questions are

raised: What are the rule and principles of combination of the speech sounds？How is the abstract

representation of speech converted into concrete actual speech in the context?

Generative phonologists' new philosophical method differs from the traditional phonology in several ways. But their theories can answer those problems.

Modern or generative phonologists observe and understand the real speech sounds in the context from the angle of language functions. They defined the phonology as the component of a grammar made up of the elements and principles that determine how sounds vary and pattern in a language.

Especially their theories on allophones, syllable and segment prove that speech sounds are changed with different contexts which produce many principles. Phonetic variation is a system of similar segments which are conditioned by the phonetic context or environment. In fact, every speech sound we utter is an allophone of the same phoneme. The different phones occur in different linguistic contexts and represent the same phoneme; they are called the allophones of that phoneme. When two or more allophones of one phoneme never occur in the same linguistic environment they are said to be in complementary distribution., For example, is an English phoneme which is phonetically realized or pronounced as either or [p] or [ph],[p] and [ph] are the allophones of the phoneme. So we can say traditional phonologists describe the isolated and abstract phoneme in the flow of utterances. And modern phonologists study the allophones in the phonological context in addition to the syllables and suprasegments. One reason that syllables are treated as units of phonological structure is that they are relevant to station generalizations about the distribution of allophonic features such as voiced, voiceless or velar and so on. The suprasegmental features such as stress, pitch, juncture and terminal contours are above the phonemic features. These features only can be sensed in the spoken context.

All of the theories on allophones, syllables, and suprasegments prove the generative phonology in the context. With the introduction of transformational grammar came the generative phonology which establishes series of universal rules for conversing for the phonemic representation into phonemic representations into phonetic representations. So the generative phonology focuses on the process of conversion from abstract to concrete and vice versa. The phonemic features and suprasegmental features make further evident for generative phonology because they can help summarize the phonological rules.

Generative phonology has the most outstanding advanced method. It combines the morphology and syntax with phonology. Some linguists would say that it is the phoneme [t] that occur finally in both Rad and Rat in German, and account for the change of [d] to [t] in this relation, which describes the intermediate between morphology and phonology, namely so-called morphophonemic. This is a typical approach of generative phonology.

Another typical approach of generative phonology is the combination between phonology and syntax. There are also some phonology rules that depend on certain Kinds of syntactic information. Take some stress patterns of English for example. The stresses are determined by the syntactic category of the form to which the rules apply. A point case is the compound of greenhouse and the syntactic phrase of green house. The primary stress is assigned to the first word in the compound. The primary stress is assigned to the last word in the phrase. So the meanings are different. The former means a place to grow flowers, the latter means a house that is green.

The combination of phonology with morphology and syntax prove the advanced approach of generative phonology for combination of speech sound with meanings which is a creative finding. The recent methods adopted by modern phonologists involve the physics or mathematics and non-linear.

The different methodologies between traditional phonology and generative phonology decide the different depth and breath of their researches. Of course, traditional depth and breath in phonology are more limited than generative.

1.3. Their Advantages and Disadvantages

Traditional phonology shows their descendents about the problem how to convert the simple kind of speech into the more complex patterns of everyday connected speech sounds. But it can't explain the actual speech sound occurred in different spoken environment.

Generative phonology lessens the gap between what the phonologists knows about speech and how we people actually use the speech in real life. The phonological rules are internalized into people's linguistic competence through their combination with morphology and syntax. A point case is children's language acquisition Children can master their mother tongue from one-word phase to one-sentence phase because of their internalized rules in different actual environments.

The most advantage of generative phonology can help people generate the different utterances in different context, in other words, it can relate the abstract speech to the actual world.

2. CONCLUSION

Generative phonology is largely dominated by the theory in Chomsky and Halle's SPE. A significant development in phonology is the appearance of nonlinear phonology. In nonlinear phonology the focus on phonological structure has replaced the formal role of phonological rules.

All in all, generative phonology is more advanced than traditional phonology from those ways. Especially the study of phonological structure instructs effectively on the teaching of foreign language.

3. ACKNOWLEDGEMENTS

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[i] The term Animism is derived from the Latin *anima*, meaning "soul". In its most general sense, animism is simply the belief in souls. In this general sense, animism is present in nearly all religions. In a more restrictive sense, *animism is the belief that souls inhabit all or most objects; it attributes personalized souls to animals, vegetables, and minerals wherein the material object is - to some degree - governed by the qualities which comprise its particular soul*.

[ii] Ferdinand de Saussure , called Forefather of Modern Linguistics , **made clear the object of study for linguistics as a science.**

[iii] Edward **Sapir** , one of American anthropologists , once produced a hypothesis on the relation between language and culture with Benjamin Whorf

[iv]The **PragueSchool** ，the functional linguistics in structuralism school ，is best known for its contribution to phonology and the distinction between phonetics and phonology.

[v]、Prince **NikolaySergeyevichTrubetskoy** (or **Nikolai Trubetzkoy**) (April 15, 1890 – June 25, 1938) was a Russian linguist whose teachings formed a nucleus of the Prague School of structural linguistics.