

# PSYCHOLINGUISTICS

## A. The concepts of Language and Linguistics

Linguistics is the study of human language (Langacker 1973:5) is clear enough for students to understand that linguistics is a science as the term is completed with the bound morpheme-s. The primary object is human language signifying that language is human specific and human species. It is only human that uses language as a means of communication.

Meanwhile another linguistics definition is given by Hartmann and Stork who define it as a field of study the object of which is language.

Furthermore, they said: "Linguists study language as man's ability to communicate, as individual expression, as the common heritage of a speech community, as spoken sound, as written text etc". (1973:132).

### A.1. Branches of Linguistics

Since psycholinguistic is one of the branches of linguistics it is worth mentioning what branches of linguistics are.

First, *sociolinguistics*, a close neighbour of psycholinguistics, can be defined as the linguistic study dealing with the functioning of language in society. It refers to collective term for the applications of research techniques and findings from linguistics and various social sciences to the study of language in society." (1973:211). *Sociolinguistics* has to do with the study of language from the viewpoint of how social, regional, individual and historical aspects influence the language and its use in society which is specifically called *speech community*. According to this view language develops along with culture and time. Since human culture develops, language also develops.

Another branch of linguistics is grammar which is a linguistic description of language. Grammar is a set of rules or statements how language works. In other words it is a guideline how language should be used.

Still another of linguistics is phonetics that is the analysis of speech sounds with respect to their articulation, acoustic properties and perception (1973:5).

Phonetics, furthermore, is the study of speech processes, including the anatomy, neurology and pathology of speech, the articulation, classification and perception of speech sounds. (1973:174).

Quite often do people get confused with phonology which is the study of phonemes and their variants in a language. In this context, Hartmann and Stork say “Phonology is the study of speech sounds of a given language and their function within the sound system of that language. Historical linguistics or diachronic linguistics is the study of language history. All living languages change through time, however imperceptibly, added Langacker (1973). The opposite of this is synchronic linguistics which is the study of language at one point in time.

Anthropological linguistics, however, is the investigation of language as part of the study of their associated cultures like what Hartman and Stork say :”Anthropological linguistics is the use of special research techniques from the fields of anthropology and linguistics to study the languages of speech communities which have no writing system and literary tradition. (1973:15)

Finally, applied linguistics is an attempt to put the insights resulting from linguistic research to practical uses, particularly in the teaching area (Langacker 1973:5) Still another discipline which is related to language and psycholinguistics is neurolinguistics. That is an understanding of how language is represented and processed in the brain. Although the study of the relationship between brain and language is still in its infancy, much has already been learned about which parts of the brain are involved in various aspects of language production and comprehension. (O’Grady et.al. 1987:416).

## **A.2. The definition of psycholinguistics**

Psycholinguistics is a relatively new subject of linguistics due to the fact that it involves not only language study but psychological aspects as well.

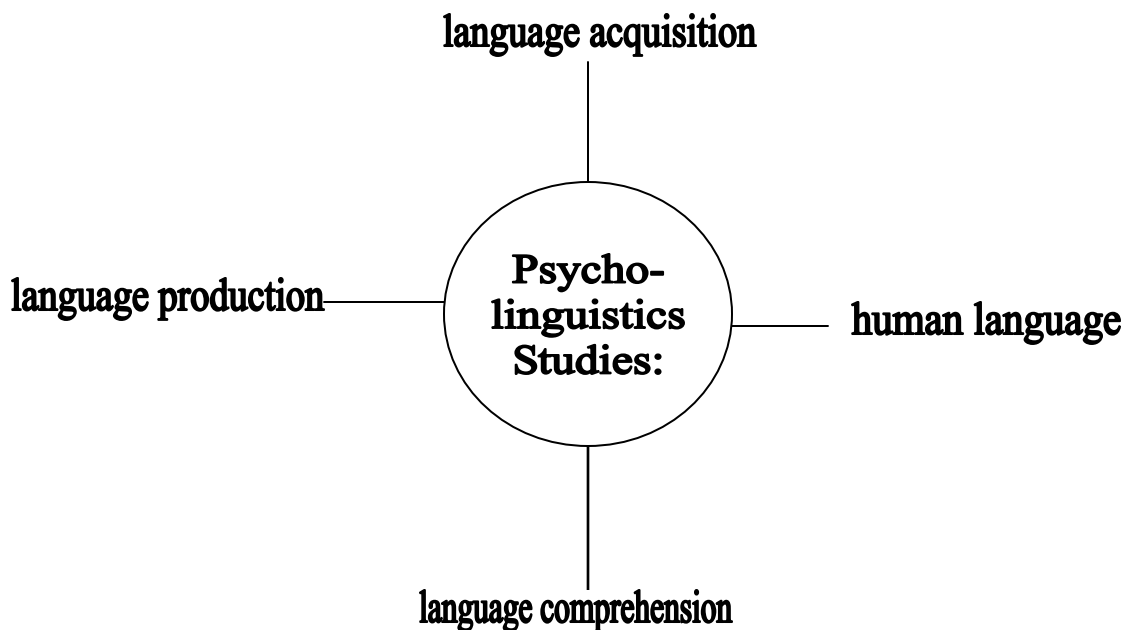
Psycholinguistics is the study of language acquisition and linguistic behavior as well as the psychological mechanism responsible for them. Now compare this definition with the one given by Hartmann and Stork, saying:” psycholinguistics refers to the efforts of both linguists and psychologists to explain whether certain hypotheses about language acquisition and language competence as proposed by contemporary

linguistic theories (e.g. : transformational generative grammar) have a real basis in terms of : perception, memory, intelligence, motivation, etc. (1973:189)

In this regard, Dan Isaac Slobin in his book, psycholinguistics (1979:2) comments that” .....psycholinguists are interested in the underlying knowledge and abilities which people must have in order to use language in childhood. I say “underlying knowledge and abilities” because language, like all systems of human knowledge, can only be inferred from the careful study of overt behavior.”

For this reason, language can be divided into two facets; *competence* and *performance*, the first term refers to everything the native speakers must have to understand the grammatical sentences, including those which have never been heard before. This is the so called *innate ability* parallel to underlying knowledge and abilities. The latter refers to the demonstration of the ability in actual communication.

Meanwhile Evelyn Marcussen Hatch in her book, Psycholinguistics (1983:1) expresses her concept as follows :”Psycholinguistics is defined traditionally as the study of human language, language, language comprehension, language production, and language acquisition. “This idea can be represented by means of Tony Buzan’s main concepts as shown in his radiant thinking scheme:



Radiant thinking is an idea of developing concepts proposed by the British neurologist, Tony Buzan. It was he who developed way of thinking following the form of human's braincells called neurous of which branches are called dendrites. Each of these neurons may develop into 20,000 branches or dendrites when human makes use of his neocortex fully.

In experts opinion, the science that has to do with human brain, called neuroscience, still pertains to the psycholinguistic area particularly when related directly with language directly with language analysis. In his book, therefore, Buzan comments: "Understanding the radiant nature of reality gives us insight, not only into the nature of understanding but also the nature of misunderstanding, and consequently helps us to avoid many of the emotional and logical traps that bedevil our attempts to communicate.: (1993:69)

In his earlier part Buzan discusses more about the definition of the Mind Map. "The Mind Map is an expression of Radiant Thinking and is therefore a natural function of the human mind. It is a powerful graphic technique which provides a universal key to unlocking the potential of the brain. The Mind Map can be applied to every aspect of life where improved learning and clearer thinking will enhance human performance. The Mind Map has four essential characteristics. The subject of attention is crystallised in a central image. The main themes of the subject radiate from the central image as branches. Branches comprise a key image or key word printed on an associated line. Topics of lesser importance are also represented as branches attached to higher level branches. The branches form a connected nodal structure." (1993:59)

Back to psycholinguistics, its main facets are: psychology and linguistics. Linguists see language learning, language comprehension, and language production as rule governed behavior.

Linguists who become psycholinguists expect to verify underlying linguistic relationships psychologically as well as biologically. They provide data on: language acquisition, language use that support to give grounds or reconsider their descriptions of underlying relationship. Psychologists, on the other hand, turn to psycholinguistics in the hope that will assist them to have a better understanding of human cognition.

Psycholinguistics has to do with human mind which is the most accessible and the most in accessible object of study (Isaac 1978:2). Psycholinguistists, according to him, are interested in the mental process that is involved in using language and in learning to speak. In order to study these processes, we must bring together theoretical and empirical tools of both psychology and linguistics.

Linguists are engaged in the formal descriptions of an important segment of human knowledge – namely, the structure of language. The structure includes speech sounds and meanings. Psycholinguistists want to know how language structures are acquired by children and how they are used in the process of speaking, understanding and remembering.

## **B. Human language versus Animal communication**

We learn nothing conclusive about the origin of language by examining the various ways in which animals communicate. Some animal communication takes place through fixed systems of signals, but this similarity to human language is such a vague and general one that it can hardly be taken as indicating any special relationship to language. Indeed, the organization of natural animal communication system is radically different from that of human language.

Systems of animal communication reflects one of two basic organizational schemes. Under one scheme, signals vary continuously along one or a small number of dimensions. For instance, some scholars believe that bees are able to communicate fairly precisely the location of a food source by means of a dance done in the hive. The distance of the source from the hive is indicated by the frequency with which the dancing bee makes turns: the longer, the distance, the less frequent the turns. The direction of the source, with respect to the position of the sun, is indicated by the angle of the straight portion of the bee's dance. Bees can, therefore, transmit an unlimited number of messages. However, they are unlimited in a rather trivial sense, for every message is a variant of the single message schema. "there is nectar at distance X from here in direction Y." Human language has aspects similar to this, but they are rather peripheral.

In the second type, the animal controls a small, finite number of discrete signals, each of which conveys a specific message. Higher primates (monkeys) such as gibbons

and chimpanzees, are credited with having such a system. One type of cry may indicate impending danger, another the desire for food, love and soon, up to may be a couple of dozen separate signals. With this type of scheme there is a strict numerical limitation on possible messages, a limitation that is lacking in human language. If you try to write down all the sentences of English or of any other human lang, you will soon come to realize the futility of the task. You could go on writing forever without exhausting the supply of well formed sentences – each of which has its own particular meaning.

Human language is thus crucially different from both varieties of animal communication. A human speaker controls an unlimited set of discrete signals; animal communication involves either a limited set of discrete signals. This difference alone would appear to be much more impressive than the sole similarity we have noted (namely that, like human language, some animal communication relies on fixed systems of signals) and it casts doubts on the notion that human and animal communication might be directly related.

Recently it has been suggested that normal language change, together with the tremendous intellectual growth that has marked the evolution of the human species, is sufficient to explain the development of human language from a primitive communication system of the kind displayed by the other higher primates. However, no evidence has been adduced that such a development actually took place; nor has it been demonstrated that change and conceptual growth alone are sufficient to account for the great structural sophistication of language as we know it.

We may observe a number of other differences between language and natural systems of animal communication. One of these is the vastly greater structural complexity of the signals of a human language. A bee's dance or chimpanzee's cry has virtually no internal structure or grammar other than that involved in the actual physical production of the signal. Every sentence of a human language, however, displays structure on at least two other levels.

First, it consists of a linear string of words, each of which has a more or less definite individual meaning and each which consists of a sequence of sounds drawn from the small inventory of sounds used systematically in the language. Second, every

sentence has a complex grammatical structure. There is no counterpart to either of these levels of structure in systems of animal communication.

Another difference is that learning is much more important as a factor in human language than in animal communication. Human languages have very much in common, but they differ from one another on many specific points. Regardless how much of human language is innate, the learning task is considerable. Just mastering the collection of words to be found in a small German dictionary is a sizable task. The communicative dance of bees, by way of contrast, must be innately specified virtually in its entirety, and there is nothing to suggest that the situation is radically different with respect to other systems of animal communication.

Finally, we may observe that animal communication systems are closed, whereas human languages are open-ended. As long as bees communicate, they will only be able to exchange variants of the same message – in what direction the nectar is and how far away. Apes cannot communicate freely about anything for which they do not have a specific signal, and even in these cases the possibilities are extremely restricted. People on the other hand can talk about anything they can observe or imagine. Moreover, what they can say on any given topic is almost unlimited. The greater flexibility stems in large part from the complex grammatical structure of human languages. What's more, new items are constantly being added to the lexicon of a language. Words and fixed phrases are continually being coined and borrowed from other languages to meet the changing communicative needs of speakers. There is no counterpart to this in natural animal communication.

Our conclusions regarding the relation between language and animal's communication are not appreciably altered when we turn from natural animal communication systems to artificial systems devised by man.

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