

Level: 2nd year.

Module: Linguistics.

Groups: 02, 03, 04, 06& 07.

Teacher: Miss.Romane.K

Part Two: Generative Linguistics **Noam Chomsky**

Biography: Noam Chomsky (1928 – Present).

Noam Avram Chomsky was born on December 7, 1928 in Philadelphia, Pennsylvania. His parents were William Chomsky, a Hebrew scholar and Elsie Simonofsky Chomsky. His parents first language, Yiddish, was forbidden in their home and Noam grew up reading Hebrew and later taught Hebrew classes. He first attended Oak Lane Country Day School and then later went to Central High School in Philadelphia. He entered the University of Pennsylvania in 1945, where he studied linguistics, mathematics, and philosophy, and in 1955, he earned his Ph. D. He spent four years as a Harvard Junior Fellow, doing doctoral research at Harvard University.



Massachusetts Institute of Technology offered him a position in 1955 and he became a full professor in the Department of Modern Languages and Linguistics in 1961. He was appointed Institute Professor in 1976 and has taught for over 50 years at MIT.

Not only has Chomsky made major contributions to the study of linguistics, but his linguistics work has influenced the teaching of computer languages and mathematics. Some of the historical principles of linguistics that he learned early on from his father set the groundwork for his later theories. The modern spoken Hebrew language was the basis of his research on his Masters. Among his many accomplishments, his greatest contribution is considered to be his work on ***generative grammar***, which developed from his interest in modern logic and mathematical foundations.

Chomsky has been awarded an amazing number of Honorary Doctorate degrees by universities around the world, which include the University of London and the University of Chicago. He delivered the Beckman Lectures at the University of California at Berkeley in 1967 and in 1969 presented the John Locke Lectures at the University of Oxford and Sherman Memorial Lectures at the University of London. Noam Chomsky is currently the Institute Professor Emeritus of Linguistics at the Massachusetts Institute of Technology.

Noam Chomsky may be most widely known for his work in the field of linguistics, but he is also known for his activism and outspoken criticism of United States policies, especially its foreign policy. Chomsky is also said to be "***the most often cited living author***" and "***one of the most respected and influential intellectuals in the world***".

His major linguistic publications are *Syntactic Structures* (1957), *Aspects of the Theory of Syntax* (1965), *The Sound Pattern of English* (1968; with Morris Halle), *Language and Mind* (1972), *The Logical Structure of Linguistic Theory and Reflections on Language* (both 1975). *Language and Responsibility* (1979) links language and politics; Chomsky's political writings include *American Power and the New Mandarins* (1969); *The Fateful Triangle: The United States, Israel and the Palestinians* (1983; and an updated edition, 1999); and *Hegemony or Survival: America's Quest for Global Dominance* (2003).

By around 1950 linguistics had lost touch with other disciplines and become an abstruse subject of little interest to anyone outside it. It was ready for a revolution.

In 1957, linguistics took a new turning, *Noam Chomsky*, a teacher at the Massachusetts Institute of Technology, published a book called “*Syntactic Structures*” which revolutionized the study of Linguistics. However, the book was revised latter on which leads to the publication of “*Aspects of the Theory of Syntax*». Chomsky suggested that Bloomfieldian linguistics was both far too ambitious and far too limited in scope. It was too ambitious in that it was unrealistic to expect to be able to lay down full proof rules for extracting a perfect description of language from a mass of data. It was too limited because it concentrated on describing old utterances that had already been spoken.

A grammar, according to him, should be more than a catalogue of old utterances .It should also take into account possible future utterances. Every person who knows a language must have the grammar of that language inside him somewhere-a store of knowledge, which enables him to produce and comprehend an indefinite number of new utterance. In order to understand Chomsky’s ideas we have to mention the main principles that he followed. Chomsky distinguished between:

1) Competence and performance:

Competence: he defines the competence of the speaker as his “*mastery of the rules, of the system of his language by virtue of which he is able to recognize grammatical deficiencies and ambiguities*”. In other words it is «*the ideal speaker-hearer’s knowledge of his language*». Competence is, as it were, the perfect storehouse of linguistics knowledge.

In order to illustrate this, Chomsky gives his famous example “*Colorless green ideas sleep furiously*”. In terms of grammar, this is a correct sentence(S+V+C). However, in terms of the meaning it cannot be interpreted coherently.

Performance: is “*the actual use of language in concrete situations*”. Chomsky attempts to formulate hypotheses about competence by idealizing performance, that is, by dredging away performance accidents such as *hesitations, unnecessary repetition, lack of intention, fatigue, slips of the tongue, false starts*.

Competence and Performance are not exactly equivalents to Saussure’s *Langue and Parole* because Saussure describes langue as a social product or a connection of necessary conventions that have been adopted by a social body. However, Chomsky regards competence as *the property of the mind of the individual* which is developed as part of his general maturation.

Example: 1- Bill ate an orange.

2- An orange is eaten by Bill.

3- Orange Bill was by an eaten.

Sentence 3 is ungrammatical, for it makes no semantic meaning although the units which make of it a meaningless sentence are the same words which make of sentences 1, 2 perfectly meaningful . According to Chomsky, our complete knowledge and mastery of the grammatical rules (*competence*) decides upon the grammaticality or ungrammaticality of sentences.

Chomsky is interested in *competence* and his interest marks the clearest difference between *structuralism* and *TG*. Structuralism was text-based and only interested in language that had actually occurred. *TG* does not use text since it is more interested in what produced the text than in the text itself.

2) Recursiveness: To Chomsky, language is recursive and the individual may use an infinite number of ways to express one idea though he has not been taught all these infinite ways. He explains this statement in that there is *the innate capacity* which covers all the matters about language responsible for such devices. One of them as Chomsky exemplified can be expressed in the following example:

-My uncle's wife's daughter's friend's sister's doll's cotton dress is very beautiful.

Chomsky gave this example to say that language is not what we learn by habit; it is rather what we generate and produce by applying a set of finite or infinite rules. To him, although none taught us to generate sentences in this way, we could do so because language is recursive or flexible and because we master the rules which govern the use of our language.

3) Introspection: Chomsky believes that the speaker of a language knows whether sentences are grammatical or not. This fact emerges from *introspection* (study from the inside) or by "*intuition*".

Eg: -I was surprised by John's refusal to come.

This sentence implies internal relations which are identical to those found in the sentence "John refused to come" although there is nothing in the first sentence which says that the internal relations between John and refusal are the same as those between John and refused.

In addition, the speaker of a language is able to perceive the ambiguity in sentences like: visiting relatives is a nuisance. In this sentence, there is only one surface structure but at least two deep structures according to whether the speaker means *he visits the relatives* or *relatives visit him*.

Surface structure: is the aspect of description that determines the phonetic forms of the sentence.

Deep structure: determines semantic interpretations.

In a sentence like: they asked him to come, it is not explicitly said that the subject of to come is he. The intuition of he will come appears only in the deep structure.

4) Innateness: According to Chomsky, we are pre-programmed to acquire language as we are endowed with a potential energy in our minds responsible for that aim. He opposes the behaviorists' view which holds that at birth our brain is a blank state waiting for impressions and expressions to be recorded there. It is, in other words, a white page on which we later record language of adults by imitation and through the process of stimulus-response. Chomsky does not neglect totally the importance of the social environment which helps us learn the language appropriately by manifesting our capacity to do that. The language acquired, then, will be the same spoken in that social environment.

5) Transformational Generative Grammar: A universal grammar (TG) model has three main characteristics:

1/ It must attempt to make explicit how a finite entity like the brain can operate on a finite set of items (words and structures) and yet generate an infinite set of sentences. The model must parallel the ideal speaker's competence and so it must be capable of generating an infinite set of sentences by the operation of a finite set of rules on a finite set of items. We can give an impression here of how that can be done. Let suppose, for example, that we have the rules:

S → NP+VP

NP → det+N

VP → V+NP

And suppose we have two nouns "boys" and "girls", three determiners «the, some, five», and three verbs "love, hate, trust", then we can produce hundreds of sentences such as:

-Boys love/trust/hate girls.

-Girls love/hate/trust boys.

-Some boys love/hate/trust girls.

-The five girls hate/trust/love the boys.

These sentences give a limited idea of the productive quality of even the simplest model.

2/ Since the model attempts to describe the ideal speaker-hearer's linguistic knowledge and intuitions, it must be explicit and self-sufficient. Its rules alone must allow us to decide whether a structure is acceptable or not.

3/ the model must have three components: *a phonological component, a syntactic component, and a semantic component* so that it parallels the speakers to associate noise and meaning.

The phonological component deals with phonemes and with the permissible combination of phonemes. The semantic component deals with meaning and the interpretation of meaning. It is with regard to his treatment of syntax that Chomsky's approach differs most fundamentally from the other models. TG is explicit about the fact that native speakers recognize two levels of structure. A speaker realizes that:

-John is easy to please.

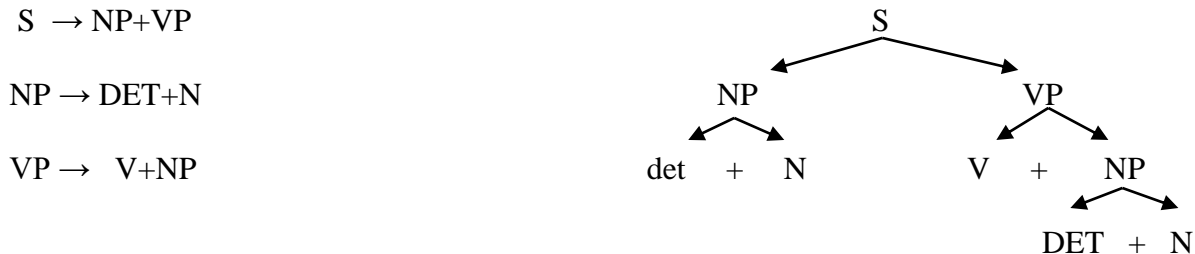
-John is eager to please.

May look alike but are different at some level in that the first implies: someone pleases john , and the second: john pleases someone.

Similarly, a native speaker recognizes that although: John loves Mary looks very different from Mary is loved by john; in terms of surface. They are fundamentally very similar.

To account for the two levels that a speaker intuitively recognizes, a TG model splits the syntactic component into two parts: *A base subcomponent* and *a transformational component*.

The base subcomponent generates (assigns a structure to) the deep underlying pattern so that we can represent it by means of a *tree diagram* (also called a “labelled bracketing” and a “phrase marker”) thus:



Transformational subcomponents works on a phrase marker and so generates a surface structure. Again, a brief example may help. The structure: *DET+N+V+DET+N* underlies thousands of transitive sentences such as: -The cat swallowed the mouse (internal sentence)

The transformational subcomponent accounts for the transformation of such a sentence into such variants as:

- The mouse was swallowed by the cat.
- The mouse was swallowed.
- The swallowing of the mouse (by the cat).

*Transformation rules allow the grammarian to explain:

-Deletion: A+B+C=A+B. / John ran away and Mary ran away= john and Mary ran away.

-Addition/insertion: A+B=A+B+C. / go away= you go away.

-Permutation: A+B+C=A+C+B. /call john up= call up john.

-Substitution: A+B+C=A+D+C. / john arrived and peter went in= on john’s arrival peter went in.

In brief then, a **TG grammar** aims to pair a given string of noises with a given meaning by means of syntactic component. The following diagram indicates how this may be done and stresses that a **TG model** is neutral with regard to production and reception. The arrows work both ways because a speaker can associate meaning with noise or noise with meaning. The ultimate aim of **TG** is the understanding of language, of the universals common to all languages, and although this understanding of the human mind.

