

## Generativism

### Noam Chomsky



### Who is Noam Chomsky?

**Avram Noam Chomsky** (born December 7, 1928) is an American linguist, philosopher, cognitive scientist, historian, social critic, and political activist. Sometimes called "**the father of modern linguistics**", Chomsky is also a major figure in analytic philosophy and one of the founders of the field of cognitive science. He holds a joint appointment as Institute Professor Emeritus at the Massachusetts Institute of Technology (MIT) and Laureate Professor at the University of Arizona, and is the author of more than 100 books on topics such as linguistics, war, politics, and mass media. Ideologically, he aligns with anarcho-syndicalism and libertarian socialism.

**Word Etymology:** The term “**generative grammar**” is given by Noam Chomsky, this theory of grammar is undoubtedly the most dynamic and influential and has made

him a “*master of modern thought*” and “Generativism” is the movement or trend which follows the concept of generative grammar”.

What is probably the most radical and important change in direction in linguistic theory has taken place in recent years may be located in 1957 when Noam Chomsky’s « Syntactic Structures » was published, inaugurating the transformational generative phase of linguistics. At that time, linguistics was ready for a revolution. It is necessary to note that the most direct influence on Chomsky in his work is his teacher Harris Zelling. Together (Harris –Chomsky) developed the notion of transformations. Chomsky’s theory was further explored by many linguists such as: D.MC. Cawley, J.R. Rest....

In order to understand the ideas of Chomsky first we have to mention the main principles that he followed in his work :

1-The first thing, we have to bring about, is Chomsky’s distinction between **Competence** and **Performance**. These are the two components of language production in Chomsky’s transformational generative grammar theory.

He defined the linguistic competence of a 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 person’s knowledge of his language system (**understand+ produce** an infinite number of sentences). In other words Competence describes the mental knowledge of a language, the speaker's intrinsic understanding of sound-meaning relations as established by linguistic rules.

In order to illustrate this, Chomsky gave a famous example :

« **Colourless green ideas sleep feriously** ».

In terms of grammar, this is a correct and a well formed sentence : Sub+ V+ C (adv), however; in terms of meaning it can not be interpreted coherently ; If we take for example the sentences :

1- He left the school this morning.

2- This morning he left the school.

3- This left he school morning

The first and the second sentences are the same, their difference stems in their syntactic structure. The third sentence, though words are meaningful, the whole sentence is meaningless. Chomsky's aim is: what makes us arrive to this reasoning?

According to him, it is **Competence**, thanks to which a speaker/listener of a language can arrive to recognize that sentence n°3 as meaningless.

Chomsky also defined **Performance**. The term **linguistic performance** was used by him in 1960 to describe "the actual use of language in concrete situations". It is used to describe both the production, as well as the comprehension of language. Performance is defined in opposition to "competence" which describes the mental knowledge that a speaker or listener has of language.

**Performance** – that is the actual observed use of language – involves **more factors** than phonetic-semantic understanding. Performance requires extra-linguistic knowledge such as an awareness of the speaker, audience and the context, which crucially determines how speech is constructed and analyzed. It is also governed by principles of cognitive structures not considered aspects of language, such as memory, distractions, attention, and speech errors.

According to him performance is the language behaviour that includes *linguistic* and more *linguistic factors*.

**Linguistics** here, means the grammatical rules or the raw materials of language. The linguistic factors means the biological limitations example of pause in speech. The attitudes of the speaker like his personal reaction like to express sadness, the assumption the speaker has about his interlocutors' attitudes for example: the choice of the right

words to touch the heart of someone or the choice of words to convince someone, thus minding about the attitude of the hearer.

Competence and performance had been in a parallel comparison with *langue* and *parole* which we had discussed in previous chapters.

### **Reminder of *Langue* and *parole***

Published in 1916, Ferdinand de Saussure's *Course in General Linguistics* describes language as "*a system of signs that express ideas*". de Saussure describes two components of language: *langue* and *parole*. *Langue* consists of the structural relations that define a language, which includes grammar, syntax and phonology. *Parole* is the physical manifestation of signs; in particular the concrete manifestation of *langue* as speech or writing. While *langue* can be viewed strictly as a system of rules, it is not an absolute system such that *parole* must utterly

conform to *langue*. Drawing an analogy to chess, de Saussure compares *langue* to the rules of chess that define how the game should be played, and *parole* to the individual choices of a player given the possible moves allowed within the system of rules

### **Why such a distinction between Competence and performance?**

Part of the motivation for the distinction between performance and competence comes from speech errors: despite having a perfect understanding of the correct forms, a speaker of a language may unintentionally produce incorrect forms. This is because performance occurs in real situations, and so is subject to many non-linguistic influences. For example, distractions or memory limitations can affect lexical retrieval (Chomsky 1965:3), and give rise to errors in both production and perception. Such non-linguistic factors are completely independent of the actual knowledge of language, and establish that speakers' knowledge of language (their competence) is distinct from their actual use of language (their performance)

## Chomsky's linguistic theory

The basis of Chomsky's linguistic theory lies in *biolinguistics*, the linguistic school that holds that the principles underpinning the structure of language are biologically preset in the human mind and hence genetically inherited. As such he argues that all humans share the same underlying linguistic structure, irrespective of sociocultural differences. In adopting this position Chomsky rejects the radical behaviorist psychology of B. F. Skinner, who viewed behavior (including talking and thinking) as a completely learned product of the interactions between organisms and their environments. Accordingly, Chomsky argues that language is a unique evolutionary development of the human species and distinguished from modes of communication used by any other animal species. Chomsky's nativist, internalist view of language is consistent with the philosophical school of "rationalism" and contrasts with the anti-nativist, externalist view of language consistent with the philosophical school of "empiricism" which contends that all knowledge, including language, comes from external stimuli.

## Universal grammar

Since the 1960s Chomsky has maintained that syntactic knowledge is at least partially **inborn**, implying that children need only learn certain language-specific features of their native languages. He bases his argument on observations about human language acquisition and describes a "poverty of the stimulus":

*« an enormous gap between the linguistic stimuli to which children are exposed and the rich linguistic competence they attain. »*

For example, although children are exposed to only a very small and finite subset of the allowable syntactic variants within their first language, they somehow acquire the highly organized and systematic ability to understand and produce an infinite number of sentences, including ones that have never before been uttered, in that language. To explain this, Chomsky reasoned that the primary linguistic data must be supplemented by

an innate linguistic capacity. Furthermore, while a human baby and a kitten are both capable of inductive reasoning, if they are exposed to exactly the same linguistic data, the human will always acquire the ability to understand and produce language, while the kitten will never acquire either ability. Chomsky labeled whatever relevant capacity the human has that the cat lacks the *language acquisition*

*device(LAD)*, and suggested that one of linguists' tasks should be to determine what that device is and what constraints it imposes on the range of possible human languages. The universal features that result from these constraints would constitute "**universal grammar**".

In simpler words :

According to Chomsky, children display “ordinary” **creativity**—appropriate and innovative use of complexes of concepts—from virtually their first words. With language, they bring to bear thousands of rich and articulate concepts when they play, invent, and speak to and understand each other. They seem to know much more than they have been taught—or even could be taught. Such knowledge, therefore, must be innate in some sense. To say it is innate, however, is not to say that the child is *conscious* of it or even that it exists, fully formed, at birth. It is only to say that it is produced by the child’s system of concept generation and combination, in accordance with the system’s courses of biological and physical development, upon their exposure to certain kinds of environmental **input**.

Multiple scholars have challenged universal grammar on the grounds of the evolutionary infeasibility of its genetic basis for language, the lack of universal characteristics between languages, and the unproven link between innate/universal structures and the structures of specific languages.

## **Transformational-generative grammar**

Transformational-generative grammar is a broad theory used to model, encode, and deduce a native speaker's linguistic capabilities. These models, or "formal grammars", show the abstract structures of a specific language as they may relate to structures in other languages. Chomsky developed transformational grammar in the mid-1950s, whereupon it became the dominant syntactic theory in linguistics for two decades. "Transformations" refers to syntactic relationships within language, e.g., being able to infer that the subject between two sentences is the same person. Chomsky's theory posits that language consists of both deep structures and surface structures: Outward-facing surface structures relate phonetic rules into sound, while inward-facing deep structures relate words and conceptual meaning.

#### **Analyses of the main features of Chomsky's definition:**

##### **1-Generativism**

Chomsky believes

**“language to be a set (finite or infinite) of sentences each finite in length and constructed out of a finite set of elements”**. Syntactic Structures (1957).

Chomsky believes that all natural languages in either their spoken or their written form are languages, since:

- a) each natural language has a finite number of sounds in it, and
- b) although there may be an infinitely many distinct sentences in the language, each sentence can be represented as a finite sequence of these sounds. If we take the assumption that human language has the property of **recursiveness** ; then we see that the set of potential utterances in any given languages is infinite in number. Looking at Chomsky's point of view, we see that the essential core of grammar is **innate**, e.g. children from a fairly early age, are able to produce novel utterances which a competent speaker of the language will recognize as grammatically well formed, there must be something other than imitation involved. They must have inferred, learned or otherwise

acquired the grammatical rules by virtue of which the utterances that they produce are judged to be well formed. Thus, generative grammar can be used to produce and understand an infinite range of novel sentences. Chomsky emphasizes that the language faculty possessed by humans is innate and species specific i.e. genetically transmitted and unique to the specie. According to him, there are several complex properties which are universal to all languages and yet, are arbitrary

**2-Poverty of the stimulus (POS)** is the controversial argument from linguistics that children are not exposed to rich enough data within their linguistic environments to acquire every feature of their language. This is considered evidence contrary to the empiricist idea that language is learned solely through experience. The claim is that the sentences children hear while learning a language do not contain the information needed to hone in on the grammar of the language.

The POS is often used as evidence for universal grammar. This is the idea that all languages conform to the same structural principles, which define the space of possible languages. Both poverty of the stimulus and universal grammar are terms that can be credited to Noam Chomsky, the main proponent of generative grammar. Chomsky coined the term "poverty of the stimulus" in 1980. However, he had argued for the idea since his 1959 review of B.F. Skinner's *Verbal Behavior*.

**3-Language acquisition** is the process by which humans acquire the capacity to perceive and comprehend language (in other words, gain the ability to be aware of language and to understand it), as well as to produce and use words and sentences to communicate.

**4-Language Acquisition Device(LAD):** A child gets **input** which is processed and then transformed into an **output that** is produced, but the output produced is **far better** in quality and quantity— this difference between input and output points to the presence of the genetically endowed language system and the presence of **UniversalGrammar (UG)**.



Moreover, Chomsky asserts that UG represents the universal rules present in all human languages e.g. presence of structure, head, nouns etc. The arrangement of the rules may differ from language to language but the type of rules are similar. The grammar of a language is thus a model of the internalized grammatical competence (or I-Language) of a native speaker of a language.

**5-Creativity:** Creativity is an underlying concept in Chomsky's definition which is a peculiarly human attribute that distinguishes men from machines and animals. However, it is **rule-governed creativity**. The utterances produced have a certain grammatical structure: they conform to identifiable rules of well-formedness or grammar, i.e. language is described by a particular grammar as the set of all the sentences it generates. The set of sentences may be, in principle, either finite or infinite in number. For example, the sentence:

"This is the man that married the girl who lives next to my ..., can be finite if we look at it as it is or it can be expanded by making proper insertions in the place of the ellipsis( ...). However, there are certain practical limitations upon the length of any sentence that has ever been uttered or will be uttered in a language ( in this case English). But the point is that no definite limit can be set to the length of sentences in a language because we may create an infinite combination of sentences that are rule governed. Therefore, it must be accepted that, in theory, the number of grammatical sentences in a language is infinite. Alternatively, the number of words in the vocabulary of a language e.g. English is presumably finite. There is considerable variation in the words known to the different speakers of a language, and there may be a difference between the 'active' and 'passive' vocabulary of every individual.

Analyzing Chomsky's definition the assumption can be made that the number of distinct operations that are involved in the generation of sentences in a language is finite in number. If the grammar is to consist of a finite set of rules operating upon a finite

vocabulary and is to be capable of generating an infinite set of sentences, it follows that some of the grammatical rules must be applicable more than once in the generation of the same sentence, making language recursive.

Furthermore, according to Chomsky the syntactic description of sentences has two aspects; surface structure and a far more abstract deep structure. Generally speaking surface structure determines the phonetic form of a sentence, while deep structure determines semantic interpretation. The rules that express the relationship of deep structure and surface structures in sentences are called '**grammatical transformations**'; hence the term 'transformational generative grammar'. A grammar, then, must consist of three components: **a syntactic component**, which generates the syntactic description each of which consists of a **surface structure** and a **deep structure**; **a semantic component**, which assigns a semantic interpretation to a deep structure; a phonological component, which assigns a phonetic interpretation to a surface structure.

**6-Innatism:** Creativity also leads us towards the issue of innatism. Chomsky was of the view that human beings are genetically endowed with the capacity to form certain linguistic concepts which are rule governed, rather than others due to the notion of the innate system for language learning

## **STRENGTHS & WEAKNESSES**

Thus we see that Chomsky's definition of language as a set of sentences, finite or infinite in length... is highly mathematical. The sentences that will be produced will be limited in length; furthermore, the element through which this set is constructed is limited but the language produced as a result of combining various elements will be unlimited. This definition takes into account numerous design features specific to the human language, such as productivity, arbitrariness and stimulus-freedom. Chomsky has also widened the sphere of linguistics giving a new dimension to the nature of language by highlighting the structural properties of language that govern not only its acquisition but also its use.

Chomsky's definition gives somewhat concrete answers to many questions; foremost being : what is language? His work also sheds light on the process of language acquisition for it is his belief that there are such structural properties that are so abstract, so complex and so highly specific to their purpose that they could not possibly be learned from scratch by infants. Such abstract structural properties must be known to the infant prior to and independently of his experience of any natural language, and used by him in the process of language acquisition. This approach to language makes Chomsky a rationalist, believing that we are born with innate abilities. Despite opening a new avenue in the field of Linguistics and channelizing the thoughts and ideas of Linguists, this particular definition of language can be said to be failing to identify some key notions such as the use and purpose of language. The definition mainly focuses on the structural properties of language without taking into account the communicative function of either natural or unnatural languages, furthermore, it does not elaborate the nature of the elements, or their sequences. Another aspect of the definition that needs elaboration is the use of the word 'set'. What exactly is meant by equating sentences with mathematical notions?

## **CONCLUSION**

Conclusively, we see that through this definition Chomsky has challenged the traditional behaviourists, shifting the focus of linguistic study from an empirical to a rational point of view. He believes that an innate ability present in the mind helps humans acquire language and master the structural properties present in language. The basic principles or the universal rules of grammar (UG) are inbuilt in our brains, we just need to set certain parameters and arrange the different elements of language ( finite or infinite) to produce utterances or sentences finite in length but infinite in combination. Chomsky's definition also helps linguists understand the complexities of the phenomenon of language. However, there is much that needs elaboration. Perhaps the most crucial aspect of Chomsky's theory that needs clarification is unlocking the Language Acquisition Device

and understanding the working of UG, that how, why and what are the universal rules and properties of language present in our competence, properties that help us produce unlimited language following set principles.

### **Additional Reading:**

### **Generativism and Language Teaching /Learning:**

Many theories about the learning and teaching of languages have been proposed. These theories, normally influenced by developments in the fields of linguistics and psychology, have inspired many approaches to the teaching of second and foreign languages. The study of these theories and how they influence language teaching methodology today is called applied linguistics. The grammar-translation method (18th, 19th and early 20th century), for example, is an early method based on the assumptions that language is primarily graphic. That the main purpose of second language study is to build knowledge of the structure of the language either as a tool for literary research and translation or for the development of the learner's logical powers, and that the process of second language learning must be deductive, requires effort, and must be carried out with constant reference to the learner's native language. The audiolingual approach, which was very popular from the 1940s through the 1960s, is based in structural linguistics (structuralism) and behavioristic psychology (Skinner's behaviorism), and places heavy emphasis on spoken rather than written language, and on the grammar of particular languages, stressing habit formation as a mode of learning. Rote memorization, role playing and structure drilling are the predominant activities. Audiolingual approaches do not depend so much on the instructor's creative ability and do not require excellent proficiency in the language, being always railed to sets of lessons and books. Therefore, they are easy to be implemented, cheap to be maintained and are still in use by many packaged language courses (especially in Brazil). Beginning in the 1950s, Noam Chomsky and his followers challenged previous assumptions about language structure and language learning, taking

the position that language is creative (not memorized), and rule governed (not based on habit), and that universal phenomena of the human mind underlie all language. This "Chomskian revolution" initially gave rise to eclecticism in teaching, but it has more recently led to two main branches of teaching approaches: the humanistic approaches based on the charismatic teaching of one person, and content-based communicative approaches, which try to incorporate what has been learned in recent years about the need for active learner participation, about appropriate language input, and about communication as a human activity. Most recently, there has been also a significant shift toward greater attention to reading and writing as a complement of listening and speaking, based on a new awareness of significant differences between spoken and written languages, and on the notion that dealing with language involves an interaction between the text on the one hand, and the culturally-based world knowledge and experientially-based learning of the receiver on the other. There have been developments such as a great emphasis on individualized instruction, more humanistic approaches to language learning, a greater focus on the learner, and greater emphasis on development of communicative, as opposed to merely linguistic, competence. Opposed to Structuralism we have Generativism with its founder Noam Chomsky who tackles the study of language from a formal perspective contrasting any other linguistic trend that privileges empirical data inductively. He is inspired by models which are, on the one hand, mathematical and, on the other psychological, considering language as a chiefly innate faculty with its autonomous organisations which must be studied according to strictly deductive methods. The generative theory has, however, in almost 40 years, undergone to continuous change of results and a significative re-orientation which have slowly changed its order and main categories: from the "standard" theory at the end of the years "60 – 70" to the so-called theory of "Principles and Parameters". Chomsky's antipathy to rhetoric, exemplified by his statement that "the best rhetoric is the least rhetoric," as

symptomatic of a wider condition in linguistics, namely a reluctance to consider linguistic discourse as an object of self-reflexive scrutiny. Chomsky's work is shaped by a continual flight from rhetoric and reflexivity, by the desire to arrive at a language-independent explanation of language. This denial of rhetoric proceeds in large part through adoption of a distinctively "ocular centric" rhetoric that privileges transparency and immediacy, and effaces the linguistic and rhetorical dimensions of knowledge production. He considers what a more reflexive, rhetorically self-conscious linguistics might look like. He provides three examples of emerging research in linguistics that are rhetorically self-conscious and attend to the figurative, persuasive and formative aspects of disciplinary discourse. His theory considers "strong" and "light" forms of rhetorical self-consciousness, and describes the possible implications