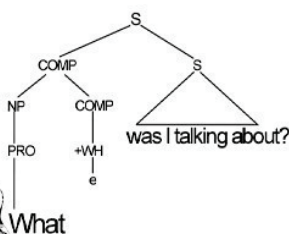
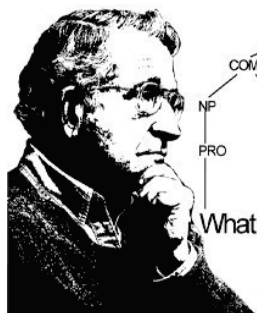




The studies on Language knew an epoch of strong **enhancement** during the early 20th century and later all through its second half. Language turned out to become more and more interlaced with neurobiology, mathematics and computer science, system analysis and even economics.

So, many interdisciplinary contributes have been **gathered** together: they **yielded** an extraordinary new insight upon the role and importance of linguistic studies for the comprehension of human behavior, human mind and human (and animal) society. Chomsky's most relevant work, and starting point for the next international debate on linguistic, was **Syntactic Structures (1957)**. The fundamental tenets of his work can be roughly sketched in following points:



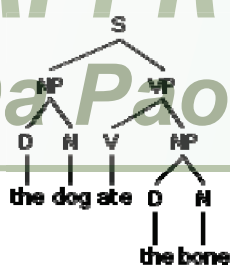
A) the genetic origin of language: grammatical principles **underlying** languages are innate and fixed; they are not the outcome of communicative functions and are not simply learned from the environment, like functionalism and behavioral science (Skinner) tried to explain. Chomsky was very critic against Skinner's behavioristic interpretation of language. Grammar, as Chomsky argues, can be

considered as "**generative**", since it produces an infinite number of **utterances**, including new ones, using a limited set of grammatical rules and a finite set of terms. So many of the properties of a "**generative grammar**" arise from an innate "**universal grammar**" (UG). Hence an "innate" element of cognition means an a-priori structure of mind: pretty the same what **Renè Decartes** and **Immanuel Kant** had long before founded their research on. The direct outcome of these considerations is the postulate of human **creativity** in language.

B) Deep Structure (DS) and Surface Structure (SS): language shows basically two distinct levels of representation: the Deep Structure relates to the **semantic internal relations of a sentence**. This is the very deep **core** of the logical sequences and layers of the verbal utterance. It can be shown as a complicated "**general tree**" of structural elements displaying the

"algorithm" of the sentence. This has mathematical and descriptive power that can contribute to the search for a "**context free**" grammar. The Surface Structure consists of the practical phonological form, that is the utterance itself, like we can hear it, as a result of linguistic individual choice. It may follow "local" grammatical rules, which are typical of a certain language. He later changed these concept and started talking about a **Logical Form (LF)** and a **Phonetic Form (PF)** (1990': Chomsky's

new theory of "**Minimalism**").



C) TGG: "Transformational Generative Grammar": a generative grammar needs laws of "transformation" which can explain and show how language can **skip** from deep structure to surface structure. Transformations are very complicated **devices**: they constitute a sort of mathematical model for analyzing every uttered sentence.

D) Competence VS Performance: here Chomsky holds back to past concepts of "Langue" and "Parole" (De Saussure, 1916). Competence means the knowledge human own for building understandable sentences with grammatical sense: this is formally ruled by laws and constructs. Performance is, instead, the way we behave and daily "perform" our language skills, as "native speakers" when speaking ordinary and natural language. The "performed" solution are simply endless, and testify the impact of human creativity on language. Again, from a standardized limited set of rules and terms we come to an endless number of possibilities for the use of language. A variety of linguistic "games" become possible (Wittgenstein) when choosing a way instead of another one.

One of the most important of Chomsky's ideas is that most of the human ability to create and understand language is **innate**: babies can have a large body of prior knowledge about the structure of language in general, but need just to **learn** the features of the language they are exposed to, in order to start creating language!

***Noam Chomsky (1928-)** Born in Philadelphia. American linguistic philosopher, cognitive scientist and radical political activist. His profile resembles slightly that of the famous Bertrand Russell (1872.1970). Professor at **MIT (Massachusetts Institute of Technology)**. Known as one of the most important founders of modern linguistic and a major authority in analytic philosophy. Involved, like B. Russell, since the early 60' as a political dissident and an anarchist, he depicts himself as a libertarian socialist. Author of more than 150 books; he received worldwide attention for his views, despite being typically absent from the mainstream media. He is also the eighth most cited source of all time, and is considered the "most cited living author".

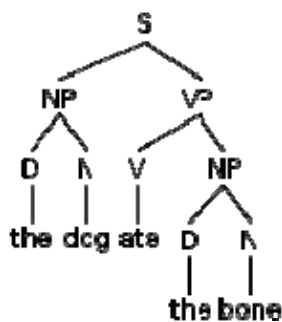
Notes for the Lecture

- His approach to the study of language emphasizes "an innate set of linguistic principles shared by all humans" known as universal grammar, "the initial state of the language learner," and discovering an "account for linguistic variation via the most general possible mechanisms."
- Chomsky against Behaviorism (USA) and Structuralism (France). Behaviorist tend to dissolve the division line between animal and human, since language is viewed as a learning process from experience.
- Against Skinner linguistic behaviorism. Chomsky published a widely influential review of [B. F. Skinner's](#) theoretical book *Verbal Behavior*. In this review and other writings, Chomsky broadly and aggressively challenged the [behaviorist](#) approaches to studies of behavior and language dominant at the time, and contributed to the [cognitive revolution](#) in psychology
- He has since become an outspoken [political commentator](#) and a dedicated activist; he is a self-declared [anarcho-syndicalist](#)^[11] and a [libertarian socialist](#), principles he regards as grounded in the [Age of Enlightenment](#)^[12] and as "the proper and natural extension of [classical liberalism](#) into the era of advanced industrial society."^[13] In February 1967, Chomsky became one of the leading opponents of the Vietnam War with the publication of his essay, "[The Responsibility of Intellectuals](#)",^[30] in *The New York Review of Books*. This was followed by his 1969 book, *American Power and the New Mandarins*, a collection of essays that established him at the forefront of American dissent. His far-reaching criticisms of U.S. foreign policy and the legitimacy of U.S. power have [made him a controversial figure](#): largely shunned by the [mainstream media](#) in the United States.
- He is also the eighth most cited source of all time, and is considered the "most cited living author".^{[14][15][16][17]} He is also considered a prominent cultural figure,^[18] while his status as a leading critic of [U.S. foreign policy](#) has made him controversial.
- Jewish bitter experience in contrast with catholic neighborhood in Philadelphia, since early 30'.
- 1957 book *Syntactic Structures*, one of his best-known works in linguistics.
- **Curiosity**: Chomsky has received death threats because of his criticisms of U.S. foreign policy.^[35] He was also on a list of planned targets created by [Theodore Kaczynski](#), better known as the Unabomber; during the period that Kaczynski was at large, Chomsky had all of his mail checked for explosives.
- Perhaps his most influential and time-tested contribution to the field, is the claim that modeling knowledge of language using a [formal grammar](#) accounts for the "productivity" of language. In other words, a formal grammar of a language can explain the ability of a hearer-speaker to produce and interpret an infinite number of utterances, including novel ones, with a limited set of grammatical rules and a finite set of terms.
- Cartesian, Innatism, Rationalism, Kantian A-Priori in Linguistic. LAD Language Acquisition Devices. UG Universal Grammar: inner body of universal linguistic knowledge. Parameter Settings: local acquisition of linguistic rules (German, English...), overlapping UG.
- The grammatical principles underlying languages are innate and fixed, and the differences among the world's languages can be characterized in terms of *parameter settings* in the brain (such as the pro-drop parameter, which indicates whether an explicit subject is always required, as in English, or can be optionally dropped, as in Spanish), which are often likened to switches. (Hence the term principles and parameters, often given to this approach.) In this view, a child learning a language need only acquire the necessary [lexical](#) items (words, grammatical [morphemes](#), and idioms), and determine the appropriate parameter settings, which can be done based on a few key examples.
- Chomsky has argued that many of the properties of a generative grammar arise from an "innate" [universal grammar](#). Proponents of generative grammar have argued that most grammar is not the result of communicative function and is not simply learned from the environment (see [poverty of the](#)

stimulus argument). In this respect, generative grammar takes a point of view different from cognitive grammar, functional and behaviorist theories.

- Deep Structure-Surface Structure. Innateness.

Essentially, the tree model works something like this example, in which S is a sentence, D is a determiner, N a noun, V a verb, NP a noun phrase and VP a verb phrase:



The resulting sentence could be *The dog ate the bone*. Such a tree diagram is also called a phrase marker. They can be represented more conveniently in text form, (though the result is less easy to read); in this format the above sentence would be rendered as:

[S [NP [D The] [N dog]] [VP [V ate] [NP [D the] [N bone]]]]

According to him, the grammar of a language is a statement of what it is that a person has to know in order to recognize an utterance as grammatical, but not a hypothesis about the processes involved in either understanding or producing language.

The deep structure represented the core semantic relations of a sentence, and was mapped on to the surface structure (which followed the phonological form of the sentence very closely) via *transformations*. Chomsky believed that there would be considerable similarities between languages' deep structures, and that these structures would reveal properties, common to all languages, which were concealed by their surface structures. However, this was perhaps not the central motivation for introducing deep structure. Transformations had been proposed prior to the development of deep structure as a means of increasing the mathematical and descriptive power of context-free grammars. Similarly, deep structure was devised largely for technical reasons relating to early semantic theory. Chomsky emphasizes the importance of modern formal mathematical devices in the development of grammatical theory:

But the fundamental reason for [the] inadequacy of traditional grammars is a more technical one. Although it was well understood that linguistic processes are in some sense "creative", the technical devices for expressing a system of recursive processes were simply not available until much more recently. In fact, a real understanding of how a language can (in Humboldt's words) "make infinite use of finite means" has developed only within the last thirty years, in the course of studies in the foundations of mathematics.
—Aspects of the Theory of Syntax

*The concept of **POVERTY of STIMULUS**; how can a baby learn a lot only by hearing his mother???*
Answer: UG!