US professor of linguistics. In *Syntactic Structures* (1957), he developed the concept of a transformational grammar, embodying his theories about the relationship between language and mind, and an underlying universal structure of language. Chomsky argued that the human capacity for language is partially innate, unlike supporters of behaviourism. His ideas greatly influenced psychologists concerned with language acquisition. Chomsky is a consistent critic of US imperialism, and his political works include *American Power and the New Mandarins* (1969).

Avram Noam Chomsky (1928-) is an American linguist, anarchist, political theorist and activist, a leading thinker of our times, and, according to the *New York Times*, arguably the most important intellectual alive. Chomsky's approach to linguistics has become known as the Chomskyan revolution and has earned him the title of “father of modern linguistics.” Chomsky's works have influenced linguistics, anthropology, and political science, among other disciplines. This entry will focus on Chomsky's contribution to linguistics, which has exerted a strong influence in other disciplines including anthropology.

**Biography and Scholarship**

Noam Chomsky was born in Philadelphia, Pennsylvania, on December 7, 1928. He was the first of the two children of William Chomsky and Elsie Simonofsky, Lithuanian and Russian émigrés, respectively. The Chomskys were Hebrew teachers. They were scholarly and politically active, involving their children in their passions, including the revival of Jewish language, cultural activities, and Zionism. Chomsky grew up to become a public intellectual and activist.

In 1945, Chomsky enrolled in the general studies program at the University of Pennsylvania as an undergraduate. Most accounts of Chomsky's life note his aversion to institutional structures, especially instructional adherence to standardized and structured curricula, which he believes stifles creativity and independent thinking. His scholarship and politics would eventually be dedicated to advocacy for creativity and freedom. In 1947, Chomsky met Zellig Harris, a linguistics professor at the University of Pennsylvania, who inspired him professionally and politically. According to Chomsky, Harris introduced him to linguistics by giving him the page proofs of his work *Methods in Structural Linguistics* to read. Subsequently, he enrolled in linguistics, studying with Harris while also studying philosophy and mathematics. Through Professor Harris, Chomsky joined a student organization called Avuka, which consisted of young Zionists who identified with Kibbutzniks.

In 1949, Chomsky received his BA degree in linguistics, philosophy, and logic, and he married Carol Schatz, with whom he later had two daughters and a son. In 1951, Chomsky received his MA in linguistics and began conducting research for his PhD at Harvard, where he became a junior fellow of the Harvard
University Society of Fellows. With this prestigious position, Chomsky became financially secure, joined the intellectual elites of the time, and was able to completely devote himself to research. In 1955, Chomsky received his doctorate from the University of Pennsylvania, after submitting only one chapter of his dissertation, titled *Transformational Grammar*. This work, eventually published in 1975 as *The Logical Structure of Linguistic Theory*, was to mark irrevocably his break with the existing views and to revolutionize linguistics. In 1955, Chomsky became an assistant professor of foreign languages and linguistics at the Massachusetts Institute of Technology. In 1958, he became associate professor. Together with Morris Halle, Chomsky established a graduate program in linguistics at Massachusetts Institute of Technology, and in 1962, he was promoted to full professor. In 1976, he was appointed Institute Professor. He is currently emeritus professor of the Department of Linguistics and Philosophy.

**Chomsky's Linguistic Revolution**

The three dominant and cooperative theories during Chomsky's student days were structuralism in linguistics, behaviorism in psychology, and positivism/empiricism in philosophy. Chomsky was to challenge the basic tenets of these theories. Linguistic structuralism, led by Leonard Bloomfield, assumes that human behavior, including language, is a self-contained system of interrelated signs that can be analyzed by resolving the logical structures of its parts. By knowing and classifying these parts, the whole could be understood. To perform a structural linguistic analysis, utterances are collected, and the sound system (phonemes), the most basic element of the language, is delineated. Phonemes combine to form the smallest meaningful unit of speech: a morpheme. For instance, the word *cat* is a morpheme; it consists of three distinctive phonemes [k-æ-t]. *Cats* consists of two morphemes, [k-æ-t] + [s] (plural morpheme). Morphemes form the building block for the next level, such as phrases and invariably different sentences. Linguistic structuralism was bolstered by the philosophical perspectives of positivism and empiricism, championed in part by Franz Boas and Bronislaw Malinowski, and artfully implemented by adherents through fieldwork and documentation of different languages. Language learning during this era was explained using behaviorism, the leading exponent of which was B. F. Skinner. Skinner's theory was derived from the stimulus-response process of conditioning animals used in the lab. It considered the human mind a blank slate and argued that behaviors—including language, that is, verbal behavior—result entirely from training and reinforcement from the environment. This view, relying on empiricism, rejects any appeal to mental and other unobservable spheres through either introspection or conjecture.

Through a series of arguments and carefully chosen examples, Chomsky argued successfully against these theories. First, he objected to the goal, focus, and method of linguistic structuralism by showing that it only explains morphology but not syntax, which he considers the crux of language. He argued that the structural approach had no way to account for the infinite number of sentences in a language or the internal relations in a sentence, nor could it resolve syntactic ambiguities. He suggested that all languages are far more overwhelmingly similar than they are different; as such, there was no value in the endless collection of data, which he compared to the collection of butterflies. He believed that no amount of collected data can reveal the underlying principles involved in language, its acquisition, or its use. With this, he rejected empiricism, and in its place he proposed innateness, preferring to pry into the mind rather than rely on field observations. Consequently, he separated *competence* (internalized knowledge, assumed to be uniform among speakers) from *performance* (the actual use of language). He suggested a focus on the (internalized) knowledge of language, which makes it possible for
speakers to create and understand new sentences, rather than on its overt manifestations. Furthermore, Chomsky strongly refuted the behaviorist theory of language acquisition in a now famous critique of Skinner in 1959. He suggested that it is impossible to link behavior to its immediate antecedent, because doing so consigns human behaviors to “conditioned responses,” which negates the creativity, freedom, and complex consciousness of the human mind. For instance, he envisaged the response of a person looking at a painting. This person might say, “Dutch, I thought you liked abstract painting,” “Hanging too low,” “Remember our camping trip,” “Hideous,” or any number of things. A stimulus can incite multiple, and even conflicting, responses. Chomsky's *Syntactical Structures* (1957) followed by *Aspects of the Theory of Syntax* (1965) heralded his “revolution” in linguistics.

**Critical Contributions to Linguistics**

Chomsky has made vast irreversible and seminal contributions to the sciences and humanities in general, and particularly to linguistics, psychology, and philosophy. His theories have been an unremitting presence in the field of linguistics concerning the nature of language, its acquisition, and the method for studying it.

*The Nature of Language*

Departing from behaviorists’ and structuralists’ view of language as behavior, Chomsky concludes that language is a form of knowledge, a cognitive capacity, uniquely and equally shared by humans as part of their biological endowment. He terms this the *language faculty*, which is an autonomous area of the mind primarily devoted to language knowledge. Chomsky in 1976 referred to it as a mental organ. Thus, Chomsky understands the mind as compartmentalized into separate modules, such as vision, logic, or language. To Chomsky, language cannot consist of observable responses to stimuli as its use differs remarkably from all other means of communication in terms of its creativity and productivity. Speakers of any language are able to understand novel grammatical utterances and can recognize them as such even when they appear meaningless (e.g., *Colorless green ideas sleep furiously*). Chomsky developed a nativist theory of language, shifting attention to the nature of linguistic knowledge, how it is acquired, and how the mind works. Over the years, Chomsky has introduced several research concepts, such as the *universal grammar* (UG), a theory of the language faculty; *competence and performance*; *deep structure* versus *surface structure*; *initial state* versus *final state* of the language faculty; *internal language* (I-language) versus *external language* (E-language); and *Principles and Parameters*, all in an effort to distinguish the knowledge of language from its use or manifestations, characterize the properties of linguistic knowledge, and articulate a theory of the mind that is biologically endowed to derive the grammar of a language from brief exposure and use the derived grammar creatively to generate an infinity of expressions.

*Language Acquisition*

How do children become speaking beings? How do they progress from an initial state, in which they have no language, to a final or steady state, in which they are avid users of their language? Consider that children live in different cultures with different child-rearing practices. Some people speak to their infants, while others don't; yet all healthy children become competent language users. Children “learn” language rapidly; they make systematic errors that they could not have derived from the things they hear from adults (e.g., a 3-year-old who says “Mommy drived to the store” instead of “Mommy drove to the store”), yet they end up with abilities that remarkably transcend the limited experience of language that they received; all children go through the same processes and similar stages of language acquisition.
acquisition. Underscoring further the uniqueness of this process to humans, Chomsky observed that both children and kittens or puppies are capable of induction. However, when they are exposed to the same sets of linguistic data, children end up acquiring language, but kittens and puppies do not. Consequently, he concluded that there must be an innate mechanism that makes it possible for children to acquire language and be able to comprehend and produce novel utterances. Chomsky distinguished language acquisition from language learning. Language grows in the mind. It is not a function of training and practice; rather, it unfolds along predetermined lines. Chomsky argued that every child is endowed with a UG that is aided by an innate ability, which he called the “language acquisition device,” that makes it possible for children to use the cues from the language of their environment to construct its relevant grammar. In the 1980s, he introduced Principles and Parameters to further explain UG. He argued that UG is the innate principles that underlie languages, whereas the differences between languages are parameters set by the brain. Language acquisition involves a child acquiring lexical items from his or her linguistic environment and setting the relevant parameters so that he or she speaks Yoruba, Igbo, German, English, or some other language. In the 1990s, Chomsky refined this approach with the Minimalist Program. The aim was to devise more optimal grammatical rules toward the generation of infinite speech.

The UG, according to Chomsky, is fundamental to all languages and specific to humans. What is not clear, however, is how the UG could have been evolutionarily selected for in humans. In response to the problem of the biological origin of language and its diversity, Chomsky has often suggested that questions on the function of language be separated from those on the computations that underlie the system.

**Study of Language**

For Chomsky, the language faculty is an innate, biological endowment that underlies the productivity and creativity of language. Linguistics, he believes, should focus on making sense of this unique faculty; it should formulate abstract grammatical rules that reflect this state of the mind. To do this, Chomsky makes use of native speakers’ intuition to study how language works and to gain insight into the mind. Using physics as a model for scientific inquiry, Chomsky proposed three levels of adequacy for linguistic research: (1) observational adequacy (focus on data from adult users), (2) descriptive adequacy (focus on speakers’ competence), and (3) explanatory adequacy (explanation for why linguistic competence is as observed). Thus, he seeks explanation rather than description or a catalog of examples. He relies on abstraction and construction of models rather than depending on mere observations. For instance, his earliest approach was to develop sets of rules that can generate all possible utterances from limited linguistic forms. Using these rules, he hoped to model speakers’ knowledge of language, its productivity, and its creativity. Chomsky’s method distinguished between deep structure (speaker’s intent) and surface structure (utterance). These two grammatical levels are mediated by a process of transformation through which the surface structure is derived from the deep structure.

In 1986, Chomsky proposed a distinction between I-language and E-language (analogous to his deep structure and surface structure and, perhaps, his competence and performance distinctions). I-language (knowledge of language) is in the brain and should be the object of investigation. E-language is a socially informed object. Chomsky has continued to revise the tenets of his theory: The transformational generative grammar of the 1960s was replaced with Principles and Parameters, later rephrased as Government and Binding Theory in the 1980s. He introduced the Minimalist Program in 1995.
Chomsky's theories have been dynamic; they have received inputs from diverse collaborators and have led to vigorous cross-disciplinary debates on language, its nature, the nature of humanity, and scientific processes in general. While there are serious challenges to his views, their historical and contemporary roles in advancing linguistics cannot be overstated.

See also Bloomfield, Leonard; Dundes, Alan; Ethnography of Speaking; Generative Grammar; Greenberg, Joseph; Hymes, Dell; Labov, William; Sociolinguistics; Sperber, Dan; Structuralism

Further Readings


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