Generative Grammar

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Day 1:
Generativism: Basic Assumptions

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History of generativism

Generativism is a very influential and widespread school of thought within present-day linguistics, whose principles and methods are taught at most major universities worldwide (especially in the US).

The simplest definition:

Generativism = Noam A. Chomsky

Noam Avram Chomsky (born 1928)

PhD in linguistics at the University of Pennsylvania

since 1955: Massachusetts Institute of Technology (MIT)

Chomsky, N., 1955. *Logical Structure of Linguistic Theory*. MIT Humanities Library. Microfilm.

Chomsky, N., 1957. *Syntactic Structures. The Hague: Mouton.*

Chomsky, N., 1959. "Review of B.F. Skinner, *Verbal Behavior*." *Language* 35, 26-57.

Chomsky, N., 1965. *Aspects of the Theory of Syntax. Cambridge: MIT Press.*

Chomsky, N., 1966. *Cartesian Linguistics*. New York: Harper and Row.

Chomsky, N., 1968. *Language and Mind*. New York: Harcourt Brace Jovanovich.

Chomsky, N. and M. Halle. 1968. *Sound Pattern of English*. New York: Harper and Row.

Chomsky, N., 1969. "Quine's Empirical Assumptions," in D. Davidson and J. Hintikka (eds.) *Words and Objections: Essays on the Work of W.V. Quine*. Dordrecht: D. Reidel.

Chomsky, N., 1970 "Remarks on Nominalization." in R. Jacobs and P. Rosenbaum (eds.), *Readings in English Transformational Grammar*, 184-221. Waltham, Massachusetts: Blaisdell.

Chomsky, N., 1975. *Reflections on Language*. New York: Pantheon.

Chomsky, N., 1980. *Rules and Representations*. New York: Columbia University Press.

Chomsky, N., 1981a. *Lectures on Government and Binding. Dordrecht: Foris Publications.*

Chomsky, N., 1981b. "Principles and Parameters in Syntactic Theory." In N. Hornstein and D. Lightfoot (eds.), *Explanation in Linguistics: The Logical Problem of Language Acquisition*. London: Longman.

Chomsky, N., 1986a. *Barriers*. Cambridge: MIT Press.

Chomsky, N., 1986b. *Knowledge of Language*. New York: Praeger.

Chomsky, N., 1988. *Language and Problems of Knowledge: the Managua Lectures*. Cambridge: MIT Press.

Chomsky, N., 1995. *The Minimalist Program. Cambridge: MIT Press.*

Chomsky, N. 1999. *Derivation by Phase* (MIT Occasional Papers in Linguistics, no. 18). Cambridge, MA: MIT Working Papers in Linguistics, Department of Linguistic and Philosophy.

Chomsky, N. 2000. "Minimalist Inquiries: The Framework," in R. Martin, D. Michaels and J. Uriagereka (eds.), *Step by Step: Essays in Minimalist Syntax in Honor of Howard Lasnik*, 89-155. Cambridge, MA: The MIT Press, 2000.

The most important publications:

Chomsky, N., 1957. *Syntactic Structures*. The Hague: Mouton.

Chomsky, N., 1965. *Aspects of the Theory of Syntax*. Cambridge: MIT Press.

Chomsky, N., 1981. *Lectures on Government and Binding*. Dordrecht: Foris Publications.

Chomsky, N., 1995. *The Minimalist Program*. Cambridge: MIT Press.

Chomsky is also well-known for his radical (leftist, anarchist) political views. He is a prominent critic of the US foreign and domestic policy; this has nothing to do with generativism.

- 1978: *Human Rights and American Foreign Policy*. Nottingham: Spokesman Books.
- 1987: *On Power and Ideology*. Boston, MA: South End Press.
- 1991: *Terrorizing the Neighborhood*. San Francisco: Pressure Drop Press.
- 1992: *What Uncle Sam really wants*. Berkeley: Odonian Press.
- 1992: *Deterring democracy*. New York: Hill and Wang.
- 1993: *The prosperous few and the restless many*. Berkeley, CA: Odonian Press.
- 1993: *Year 501: the conquest continues*. Boston: South End Press.
- 1994: *Secrets, lies, and democracy*. Tucson, AZ: Odonian Press.
- 1994: *World orders, old and new*. New York: Columbia University Press.
- 1996: *Class warfare: interviews with David Barsamian*. Monroe, Me: Common Courage.
- 1997: *Media control: the spectacular achievements of propaganda*. New York: Seven Stories Press.
- 1997: *The Cold War and the University*. New York: New Press.
- 2003: *Hegemony or Survival: America's Quest for Global Dominance*. New York: Henry Holt.
- 2005: *Chomsky on Anarchism*. edited by Barry Pateman. Oakland: AK Press.

Main stages in the history of generative syntax:

the 50's: transformational-generative grammar
the 60's: standard theory
the 70's: extended standard theory
the 80's: Government-Binding theory (GB)
the 90's: minimalism

Chomsky's interests lie mainly in syntax, but he also influenced the developent of generative phonology:

Chomsky, N. and M. Halle. 1968. *Sound Pattern of English*. New York: Harper and Row.

Note, however, that throughout the history of generativism, generative phonology has been largely independent from particular models proposed by syntacticians.

Main stages in the history of generative phonology:

the 60's: *Sound Pattern of English* (SPE)
the 70's: cyclic phonology
the 80's: lexical phonology
the 90's: Optimality Theory

Other leading figures
(a very subjective and incomplete list):

Stephen Abney, Artemis Alexiadou, Stephen Anderson, Mark Aronoff, Leonard Babby, Mark Baker, Tanmoy Bhattacharya, Jonathan D. Bobaljik, Cedric Boeckx, Hagit Borer, Željko Bošković, Michael Brody, Anna Cardinaletti, Gennaro Chierchia, Guglielmo Cinque, Norbert Corver, Peter Culicover, Joseph Emonds, Samuel D. Epstein, Gisbert Fanselow, Steven Franks, Giuliana Giusti, Jane Grimshaw, Jacqueline Guéron, Liliane Haegeman, Morris Halle, Anders Holmberg, Norbert Hornstein, Ray Jackendoff, Richard Kayne, Samuel Jay Keyser, Paul Kiparsky, Susumu Kuno, Richard Larson, Howard Lasnik, Giuseppe Longobardi, Peter Ludlow, Alec Marantz, John McCarthy, Frederick Newmeyer, David Pesetsky, Steven Pinker, Christer Platzack, Jean-Yves Pollock, Paul M. Postal, Alan Prince, Ljiljana Progovac, James Pustejovsky, Andrew Radford, Henk van Riemsdijk, Elizabeth Ritter, Luigi Rizzi, Ian Roberts, John R. Ross, Jerzy Rubach, Dominique Sportiche, Michal Starke, Arnim von Stechow, Tim Stowell, Anna Szabolcsi, Juan Uriagereka, Edwin Williams, Raffaella Zanuttini, Jan-Wouter Zwart, and many, many others…

The beginnings of generativism:

In the 50's, generativism developed in opposition to American structuralism (its key figure: Leonard Bloomfield, 1887-1949).

American structuralism was heavily influenced by behavioral psychology: it viewed language as a behavioral/social phenomenon (linguistic behavior should be analyzed in terms of stimuli and reactions), rather than a mental phenomenon. This attitude could be called antimentalism.

Structuralist assumptions:

- introspection should not be employed in linguistic research (since it's subjective);
- linguistic analysis should be limited to those phenomena that are directly observable;
- language is a social behavior that serves the purpose of communication;
- induction is the best analytical method;
- linguistic research must be based on objective discovery procedures (logical positivism): distribution tests, taxonomy;

- limitless diversity principle: natural languages may differ in an unpredictable way; there are no universals;
- each level of language (phonology, morphology, syntax) should be analyzed independently (autonomous approach);
- language is a sum total of all utterances that are produced in a given community.

Chomsky: "By 1953, I came to the conclusion that if the discovery procedures did not work, it was not because I had failed to formulate them correctly, but because the entire approach was wrong."

The influence of Roman Jakobson:

Chomsky: "I was at that time [the early 1950's] very much committed to a research program that had its roots in American descriptive linguistics, in relativistic anthropology, and in a kind of latter-day logical positivism. Roman's very different ideas posed a major intellectual challenge to this picture."

Chomsky's generative grammar has often been referred to as a 'Copernican revolution within linguistics.'

In contrast to American structuralism, Chomsky's theory is characterized by:

- anti-behaviorism
- mentalism
- rationalism
- deductionism
- explicitness
- universalism
- nativism
- transformationalism

Mentalism: language is a mental (rather than social) phenomenon; linguistic competence is not shaped as a reaction to external stimuli.

Language is **not** a means of communication! It has evolved to formulate thoughts, and not to communicate them. It can be **used** for communicative purposes, in the same way as any other aspect of human activity (e.g. hairstyle).

Linguistic theory should focus on *I-language* (internal/mental language), and not *E-language* (external/social language). What is interesting is competence, and not performance.

E-language should be viewed as an intersection of many I-languages. The existence of such intersections enables communication (but this does not mean that people can communicate because they use **the same** language).

E-language is a political/artificial entity (cf. Max Weinreich's aphorism: *a language is a dialect with an army and navy*).

To say that two idiolects belong to the same E-language is as imprecise as to say that two towns are 'close' to each other ('closeness' is not a geographical/scientific notion).

Grammar should be a model that imitates I-language (the ability to produce and understand an infinite number of infinitely long sentences).

A linguist can rely on introspection when analyzing his native language. Native **intuition** (and not a corpus, which is never exhaustive) is crucial in determining (un)grammaticality.

Deductive reasoning (*from general principles to specific conclusions*) is preferred to inductive reasoning (*from a large number of particular examples to a general rule*).

The aim of grammar is to formulate an **explicit** (precise, unambiguous, formal) description of the **implicit** (subconscious) human linguistic competence.

To **generate** means to provide a structural description of a sentence, or – in other words – to define an infinite number of sentences by means of a finite set of rules. Grammar must make clear what is grammatical, but also – more importantly – what is ungrammatical.

Grammar is a kind of function that enumerates all grammatical sentences within a given **I**-language (and only those).

In other words, grammar should not only be 'descriptive', but also 'explanatory'. It should for example **explain** why question (ii) below is ungrammatical:

(i) *Who did John say that he killed?*

Answer: *John said that he killed Adam.*

(ii) **Who did John kill a linguist that irritated?*

The structure in (ii) is ungrammatical, although it has a logical answer:

Answer: *John killed a linguist that irritated Adam.*

Universalism: all languages are based on the same set of universal principles (Universal Grammar – UG). UG is determined biologically and distinguishes humans from other primates.
It is a product of evolution. Human children are born with a specific representational adaptation for language.

If we assume UG, it must be legitimate to use cross-linguistic data to determine and analyze the structure of any language (all natural languages share the same underlying structure).

The Harvard biologist Marc Hauser, in his book *Moral Minds: How Nature Designed our Universal Sense of Right and Wrong*, draws a parallel between UG and a moral sense which is built into the human brain:

- "Driving our moral judgments is a **universal moral grammar**, a faculty of the mind that evolved over millions of years to include a set of principles for building a range of possible moral systems. As with language, the principles that make up our moral grammar fly beneath the radar of our awareness."

Nativism: linguistic competence (I-language) is innate (transmitted genetically).

Language is **acquired**, and not **learnt**. It doesn't depend on individual intelligence, which makes it different from cognitive skills such as playing chess. It's a kind of **organ**. Linguistic competence makes it possible to acquire any natural language in a relatively short time.

Poverty of the stimulus: grammar is unlearnable given the linguistic data available to children. Therefore, our brains must be genetically 'programed' for language.

In the process of language acquisition, the innate linguistic competence is **parameterized**/adjusted to a given natural language. It also gets complemented with a lexicon.

The 80's: Principles and Parameters Theory

A generative grammar must be **psychologically plausible** (this potulate differentiates generativism from computational linguistics).

In terms of philosophical inspirations, Chomsky adheres to **rationalism**, rather than empirism. Chomsky often refers to the 'Cartesian' approach to linguistics. According to him, Port-Royal grammar (Antoin Arnauld, 1612-1694, Claude Lancelot, 1615-1695) included elements of universalism, nativism, and transformationalism.

Transformationalism: It can be observed that certain linguistic structures are derivable from other (more basic) structures. The idea of transformations lets us capture this intuition in a formalized way. Thanks to a transformational approach, very complex structures can be analyzed as related to simpler syntactic patterns.

Transformation: a modification of structure. The use of this concept helps to increase the mathematical and descriptive power of generative grammar.

Chomsky's transformational approach was influenced by Zellig Harris (a structuralist, Chomsky's teacher). However, Harris understood transformations as a device to relate two or more surface sentences. Chomsky's transformations relate **abstract** deep structures (which need not correspond to any observable sentences) to surface sentences.

Chomsky assumed that there would be considerable similarities between deep structures in various languages (such similarities would be **concealed** by language-specific surface structures).

Therefore, generativism assumes two different levels of representation:

deep (underlying) structure – where the syntactic derivation begins

surface stracture – where the syntactic derivation ends

Transformations are present also in phonology, where surface (phonetic) structures are derived from underlying ones:

Final devoicing in Polish: /bagdad/ $\rightarrow$ [bagdat]

/xxx/ - underlying, [xxx] – surface

Summary

The generative approach is:

- anti-behaviorist

- mentalist

- rationalist

- deductionist

- explicit

- universalist

- nativist

- transformational.

Thank you!

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