

Generative grammar

Components (or moduls):

1. phonology
2. morphology
3. syntax
4. semantics

Competence and performance

Competence vs. performance

„Competence is ‘the speaker-hearer’s knowledge of his language’, while Performance is ‘the actual use of language in concrete situations’. (Chomsky 1965)

1. phonological competence

- (1) THIS is a graMMAtical SENTence.
- (2) This is A grammatiCAL senTENCE.

2. Morphological competence

- (1) van–vans
- (2) man –*mans

3. Syntactic competence

- (1) Peter likes bananas.
- (2) *Likes Peter bananas.

4. Semantic competence

- (1) I thought that Mary was ill, but it turned out that she wasn’t.
- (2) *I realized that Mary was ill, but it turned out that she wasn’t.

Methodological issues

Grammatical vs. ungrammatical sentences

“The fundamental aim in linguistic analysis of a language L is to separate the grammatical sequences which are sentences of L from the ungrammatical sequences which are not sentences of L” (Chomsky 1957: 13)

Against inductive linguistic analysis

“... it is obvious that the set of grammatical sentences cannot be identified with any particular corpus of utterances obtained by the linguist in his field work.” (Chomsky 1957: 15)

“... the notion of ‘grammatical in English’ cannot be identified in any way with the notion ‘high order of statistical approximation to English’.” (Chomsky 1957: 15-6)

The autonomy of syntax

- (1) Colorless green ideas sleep furiously.
- (2) Furiously sleep ideas green colorless.

The autonomy hypothesis

Chomsky (1957:17): “I think that we are forced to conclude that grammar is autonomous and independent of meaning, and that probabilistic models give no particular insight into some of the basic problems of syntactic structure.

Grammatical well-formedness

Grammatically well-formed

“To say that a native speaker has intuitions about syntactic well-formedness in his language is to say that he is able to judge whether such-and-such a sequence of words is a grammatical sentence in his language or not.” Radford (1988: 6)

Grammatically correct

- (1) The book I was looking for
- (2) You and me

Pragmatically acceptable

- (1) My uncle realizes that I’m a lousy cook.
- (2) My cat realizes that I’m a lousy cook.
- (3) My goldfish realizes that I’m a lousy cook.
- (4) My frying pan realizes that I’m a lousy cook.

“The ideal speaker-listener” (Chomsky 1965)

Language is rule-governed

The creativity of language

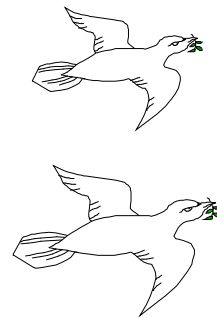
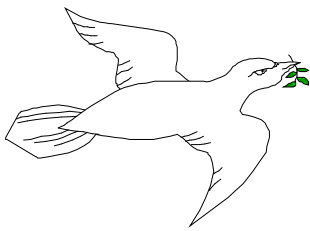
„The most striking aspect of linguistic competence is what we may call the ‚creativity‘ of language, that is, the speaker’s ability to produce new sentences, sentences that are immediately understood by other speakers although they bear no physical resemblance to sentences which are familiar.” (Chomsky 1966)

Language is rule-governed

„... language is rule-governed. The task of the linguist in seeking to account for this creative aspect of grammatical competence is thus to formulate appropriate sets of syntactic, morphological, phonological, and semantic rules. (Radford 1988: 19)

Evidence from language acquisition

- (1) a. **Is** I can do that?
b. **Is** you should eat the apple?
c. **Is** Ben did go?
d. **Is** the apple juice won't spill?
- (2) a. Daddy put on the hat on.
b. You put on lipstick on.
c. Taking off one my roller skates off
d. Turn on a light off.
- (3) a. comed, goed, bringed
b. childrens, mans, mousse
c. Indianers, Bällers, Apfels



This is a wug. (showing them a picture with one wug)

Now there is another one. (showing them a picture with two wugs)

There are two of them.

There are two ____.

Grammar consists of a finite set of rules that generates an infinite set of well-formed sentences. (Chomsky 1957)

- (4) a. John is a handsome man.
- b. John is a dark, handsome man.
- c. John is a tall, dark, handsome man.
- d. John is sensitive, tall, dark, handsome man.

Recursion

- (5) a. ab
 - b. aabb
 - c. aaabbb
-
- (6) a. The man [who the girl saw is my friend
 - b. The man [who the girl [who sneezed] saw] is my friend.
 - c. The man [who the girl [who Peter [who knows] met] saw] is my friend.

Levels of adequacy

Observational adequate

“A grammar of a language is observationally adequate if it correctly specifies which sentences are (and are not) syntactically, semantically, morphologically, and phonologically well-formed in the language.” (Radford 1988: 28)

Descriptively adequate

“A grammar of a language is descriptively adequate if it correctly specifies which sentences are (and are not) syntactically, semantically, morphologically, and phonologically well-formed in the language, and also properly describes the syntactic, semantic, morphological, and phonological structure of the sentences in the language in such a way as to provide a principled account of the native speaker’s intuition about this structure.” (Radford 1988: 28)

Explanatory adequate

“A linguistic theory attains explanatory adequacy just in case it provides a descriptively adequate grammar for every natural language, and does so in terms of a maximally constrained set of universal principles which represent psychologically plausible natural principles of mental computation.” (Radford 1988: 30).

The structure dependence principle

Structure-dependence principle

All grammatical rules are structure-dependent.

- (1) a. John will get the prize.
- b. Will John get the prize?

Second word preposing

Move the second word in a sentence in front of the first word.

- (2) a. The boy will get the prize.
 - b. *Boy the will get the prize.
- (3) a. John received a prize.
 - b. *Received John a prize?
- (4) a. Down will come taxes.
 - b. *Will down come a prize?

Subject-auxiliary inversion

Invert a NP with an immediately following AUX (and if there is no AUX, place 'do' in front of the first NP).

The innateness hypothesis

The innateness hypothesis

“I think it is reasonable to postulate that the principles of general linguistics regarding the nature of rules, their organization, the principles by which they function, the kinds of representations to which they apply and which they form, all constitute part of the innate condition that ‘puts a limit on admissible hypotheses’. If this suggestion is correct, then there is no more point in asking how these principles are learned than there is in asking how a child learns to breathe, or, for that matter, to have two arms.”

(Chomsky 1972)

1. Human beings are the only species that is able to learn language.
2. Certain types of brain damages, aphasia, seem to concern just the ability to produce grammatical sentences.
3. The universality of linguistic structures.

The poverty of the stimulus

The poverty of the stimulus

“In many cases that have been carefully studied in recent work, it is near certainty that fundamental properties of the attained grammars are radically underdetermined by evidence available to the language learner and must therefore be attributed to UG (Universal Grammar) itself.” (Chomsky 1981)

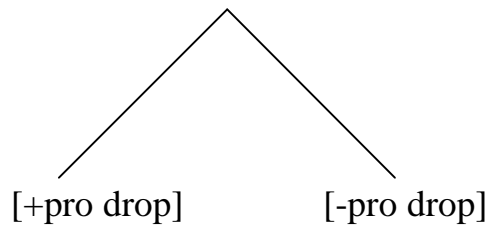
The relevance of negative evidence

CHILD: Want other one spoon, daddy.
FATHER: You mean, you want the other spoon.
CHILD: Yes, I want the other spoon.
FATHER: Can you say ‘the other one spoon’?
CHILD: other ... one ... spoon.
FATHER: Say ‘other’.
CHILD: Other.
FATHER: ‘Spoon’.
CHILD: Spoon.
FATHER: ‘Other spoon’.
CHILD: Other ... spoon. Now give me the other one spoon.

Parameters

- (1) a. He likes bananas.
b. *Likes bananas.
- (2) a. Juan llegó 'Juan arrived.'
b. llegó 'He/she arrived.'

The pro-drop parameter



The head-direction parameter

Table 1. Greenberg's word order correlations

Head initial	Head final
V O	O V
P NP	NP P
AUX V	V AUX
SUB S	S SUB
ART N	N ART
N REL	REL N
V COMP	COMP V