

An Introduction to Linguistics

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Starting Point: The Importance of Being Puzzled

- Everyday phenomena are often puzzling, if we do not rely on convention-based accounts.
- Modern science began when scientists allowed themselves to be puzzled.
- Apples fall down, and steam goes up, because they go to their natural places, according to Aristotle. But such everyday phenomena were taken as serious puzzles by people like Galileo and Newton.

Starting Point

How much do we know about our language?

- The central question of linguistics: What exactly do people know when they know a language?
- We, the masters of language, are so much ignorant of the power and nature of language, especially how it serves as a window of human mind.

Puzzle One: Structural Hierarchy (Syntax)

(1) They expect to see ***each other***.

(2) They expect the students to see ***each other***.

I suppose you all know that in (1) *each other* refers to *they*, while in (2) it refers to the *students* instead of *they*.

The real question here is: why?

Your answer, perhaps, concurs with some cognitive scientists like Chater & Christiansen (2010), who claim that our language exhibits ‘a general cognitive tendency to resolve ambiguities rapidly in linguistic and perceptual input’. That is, we need efficiency in our actions such as communication.

If you take this stance, you might further derive a conclusion that our linguistic capacity is simply a reflection of our general cognitive ability that is used in perception, reasoning, communication, etc. Hmm, this seems to be cool. But...

(3) Who do they expect to see ***each other*** next week?

- ★ What does *each other* refer to?
- ★ Can you detect what is at issue?

Perhaps you already see a weird point here: if our linguistic capacity really reflects the general cognitive tendency, such as the principle of resolving ambiguities as rapidly as possible as we do in communication, then we should expect *each other* to refer to *they*, which is closer.

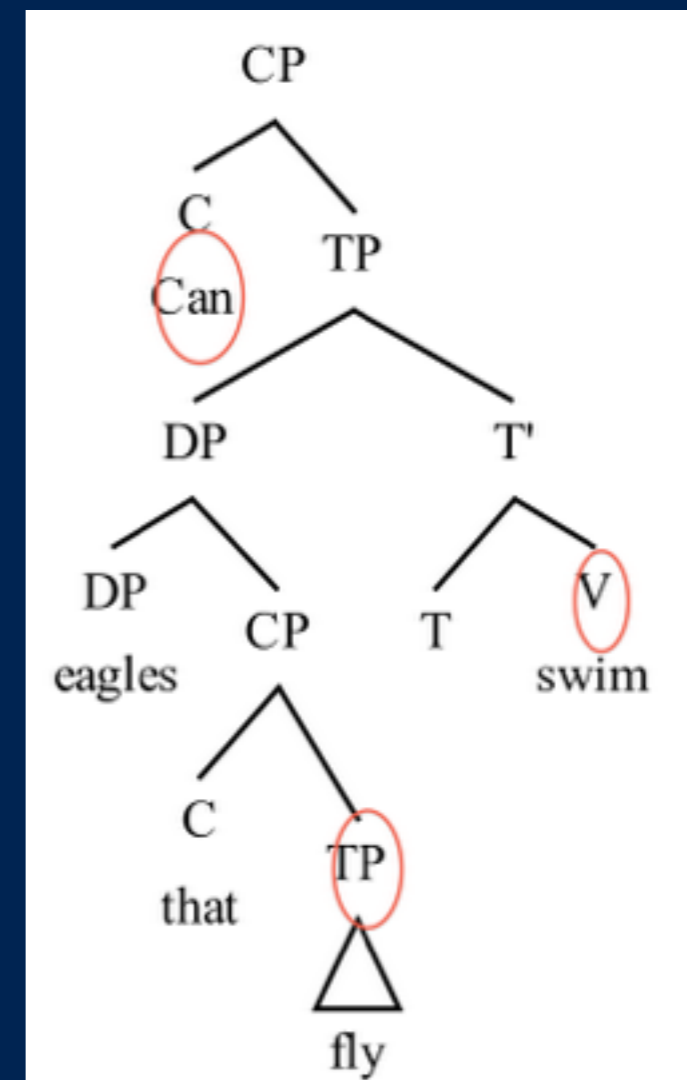
Implication: there is something ***special*** about language, which is different from other cognitive capacities.

Another example:

Can eagles that fly swim?

Minimal linear distance favoured by our general cognitive tendency would require 'can' be associated with 'fly', which is linearly closer.

But we know that 'can' should be associated with 'swim', which indicates that our linguistic cognitive capacity favours a 'minimal structural distance', rather than adopting the computationally far **simpler** property of linear distance:



Puzzle Two: Cross-linguistics Variation

Chinese: null subject language VS English: obligatory subject

a. 张三失恋了。现在(...)天天在朋友圈刷屏。

b. John has split with his girlfriend. Now **he** keeps bombarding my Facebook webpage with his posters.

a. (...) 下雨了。

b. **It's** raining.

Cultural account: Chinese culture gives less weight to individualism?
Chinese culture doesn't like abstract items, so we reject the abstract subject like *it*?

Puzzle Two: Linguistic Variation

In English, (a) is ungrammatical, while (b) is fine.

- a. *John kisses often Mary.
- b. John often kisses Mary.

But in French, things are the other way round.

- a. Jean embrasse souvent Marie.
- b. *Jean souvent embrasse Marie.

I don't see any point here to account for the difference with a cultural perspective.

- ★ The essence of our linguistic capacity is even not so much connected to culture! (of course language is interwoven with culture at some level)

Puzzle Three

Language Acquisition: Poverty of Stimuli

- ★ Babies can learn language very fast.
- ★ They do not have systematic instruction, nor do they have sufficient input.
- ★ This ability is unique to humans.
- ★ we are able to understand and create an indefinite number of expressions that are new to our experience. — discrete infinity
- ★ ‘To my knowledge, there is no other biological system with these properties....’ (Chomsky)

More Puzzles

- Word Structure (Morphology)
红色的花 VS 红花
The door is *unlockable*
- Meaning (Semantics)
张三今天写这支笔。
* John will write this pen today.
- Language in Use (Pragmatics)
Can you pass me the salt please?

Interim Summery

- a. If we go beyond the limit of an explanation based on convention, we should ask what language is.
- b. There is something special about language, which is distinguished from our general cognitive abilities.
- c. This special thing in some, if not all, cases is independent of cultural differences.

The above three propositions lead to the so-called cognitive revolution in 1950s initiated by the linguist Noam Chomsky.

Linguistic Contribution to Cognitive Studies: Historical Background

1950s: Behaviourist Science

The dominant approach to questions of language and mind in the 1950s was that of the behavioural sciences.

Skinner's ideas

Stimuli — response — reward — reinforce

Linguistic Contribution to Cognitive Studies: Past and Present

1950s: Behaviourist Science

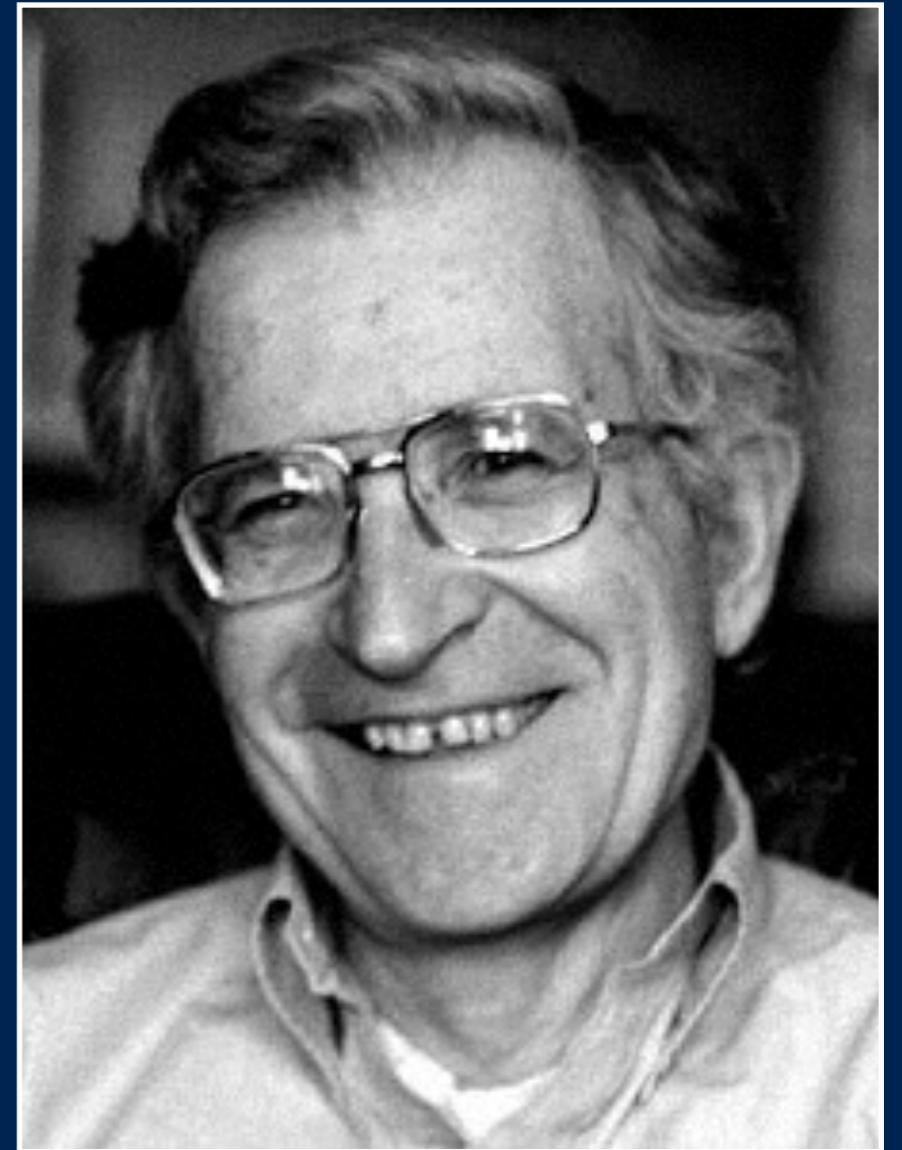
Problems:

Linguistic research at that time was rather 'boring': description was the ultimate goal. No one care about why language was shaped in that way. It was, consciously or unconsciously, understood as a convention. Nothing else.

Language, at that time, was an object for description, and it did not serve as a window revealing the nature human mind.

Chomskyan Revolution

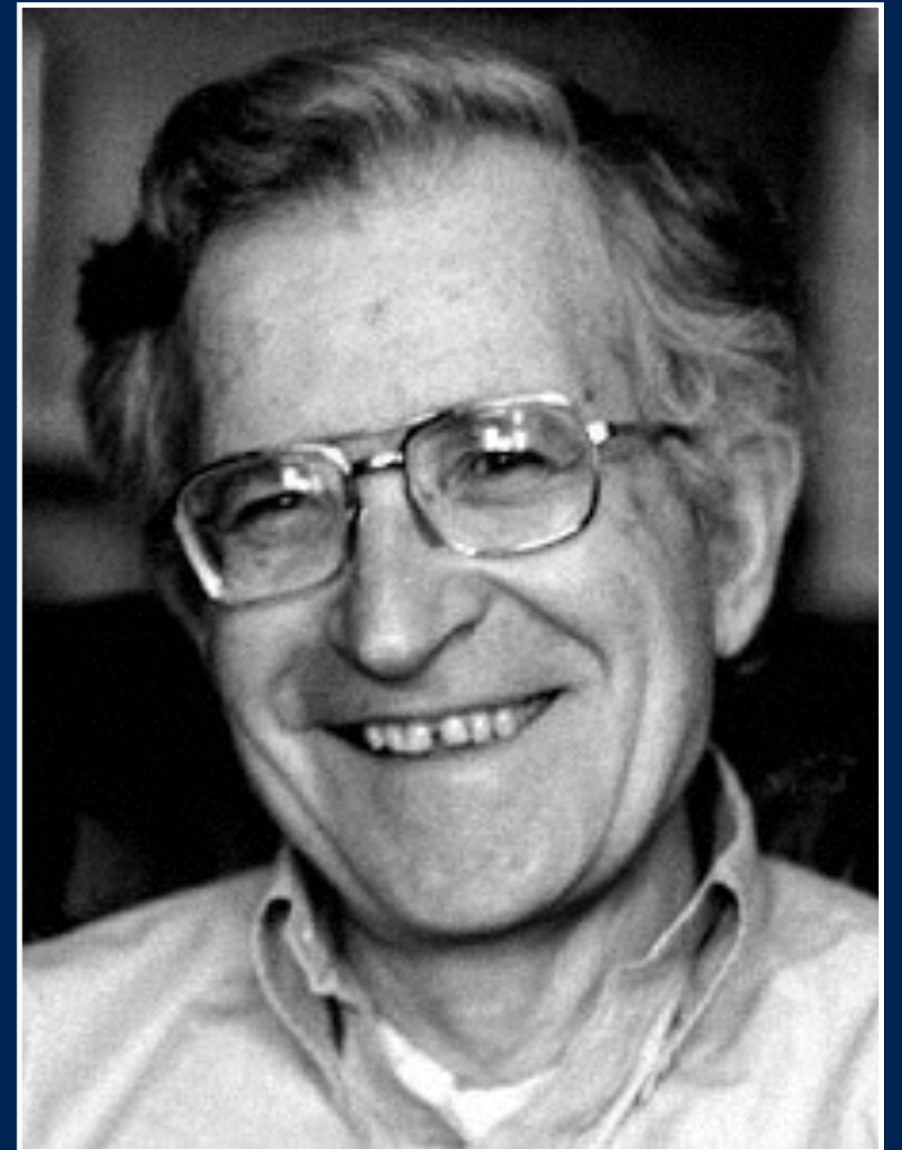
- When we study human language, we are approaching what some might call the 'human essence', the distinctive qualities of mind that are, so far as we know, unique to man.
—Language and Mind, p. 100



Noam Chomsky (1928–)
Institute Professor
MIT

Chomskyan Revolution

- Linguist
- Cognitive Scientist
- Political Activist
- Leading Public Intellectual (The 2005 Global Intellectuals Poll)
- voted seventh in the list of "Heroes of our time" (New Statesman 2006)



Noam Chomsky (1928–)
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Chomskyan Revolution

- The special properties of our knowledge of language lead us to realise that language learning and its outcome present a surprising picture.
- One plausible explanation, so far the most influential, and perhaps the most plausible explanation, has been proposed by the American linguist Noam Chomsky.
- Chomsky suggests that human beings have a powerful cognitive system specific to language, and he terms this cognitive system Universal Grammar (UG)

Core Branches of Linguistics

- Phonetics and Phonology: the study of sounds of language
- Morphology: the study of word structures and word formation
- Syntax: the study of sentence structures
- Semantics: the study of meaning
- Pragmatics: the study of language in use (meaning in use)

- Thank you!