Basic characteristics of all human languages

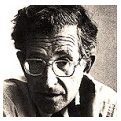
- Goal: communication
- Arbitrary symbols
- Structured by rules
- Generative
- Dynamic

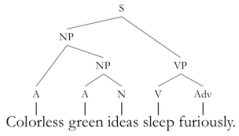
Intro into psycholinguistics: Levels of language analysis

- Phonology: speech sounds (phonemes)
- Morphology: words and modifiers (morphemes)
- Syntax: sentence structures
- Semantics: meaning
- Pragmatics: communication

Noam Chomsky (1928-)

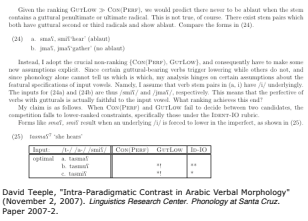
- Founder of modern linguistics, 1957: *Syntactic structures*
- Transformational grammar
- Surface structure and deep structure ("the stroking of lions is dangerous")





Computational linguistics

- Machine translation
- Search engines
- Speech recognition
- Etc.



Given the ranking GUTTLOW ≫ CON(PERF), we would predict there never to be ablaut when the stem contains a guttural penultimate or ultimate radical. This is not true, of course. There exist stem pairs which both have guttural second or third radicals and show ablaut. Compare the forms in (24).

(24) a. smaʕ, smaʕ'hear' (ablaut)
b. jnaʕ, jnaʕ'gather' (no ablaut)

Instead, I adopt the crucial non-ranking {CON(PERF), GUTTLOW}, and consequently have to make some new assumptions explicit. Since certain guttural-bearing verbs trigger lowering while others do not, and since phonology alone cannot tell us which is which, my analysis hinges on certain assumptions about the featural specifications of input vowels. Namely, I assume that verb stem pairs in (a, i) have /ʌ/ underlyingly. The inputs for (24a) and (24b) are thus /smʌʕ/ and /jnaʕ/, respectively. This means that the perfective of verbs with gutturals is actually faithful to the input vowel. What ranking achieves this end?

My claim is as follows. When CON(PERF) and GUTTLOW fail to decide between two candidates, the competition falls to lower-ranked constraints, specifically those under the IDENT-IO rubric.

Forms like *smaʕ, smaʕ* result when an underlying /ʌ/ is forced to lower in the imperfect, as shown in (25).

(25) tasmʌʕ 'she hears'

Input: /t-/ /s-/ /smʌʕ/	CON(PERF)	GUTTLOW	Ident-IO
optimal a. tasmaʕ			
b. tasmʌʕ	*!		*
c. tasmɔʕ	*!		*

David Teeple, "Intra-Paradigmatic Contrast in Arabic Verbal Morphology" (November 2, 2007). *Linguistics Research Center. Phonology at Santa Cruz.* Paper 2007-2.

Language in primates

- First started in the 1930's: sign or symbol language
- Gorilla, chimpanzee, recently: bonobo

Language learning in chimpanzees

- Common chimpanzees: sign language (Washoe, Nim)
- Susan Savage-Rumbaugh: pygmy chimpanzees (bonobos)
  - Bonobos are more social than common chimps
  - Visual symbols on the keyboard
  - Mother being trained, while infant was around -> infant spontaneously learned the symbols

Kanzi