

Language and Rules

Sigma Camp, August 30, 2012

Andrei Antonenko

Rules of Language

- What is the difference between the following sentences?
 - I didn't do nothing! vs. I didn't do anything!
 - Who did you talk to? vs. Whom did you talk to?
 - A preposition is not a good word to end a sentence with. vs. A preposition is not a good word with which to end a sentence.
 - I wanted to carefully explain it to her. vs. I wanted to explain it to her carefully.
- Have you ever heard people speak using RED sentences? Do you ever use sentences similar to the RED ones?
- Is it just that people use bad language and don't know the rules?
- Do you yourself know the rules?

Rules of Language

- Prescriptive rules: rules that are intended to tell people how they **should** speak or write **according to some pre-established (arbitrary) standard**.
- Descriptive rules: rules that govern the way in which **people actually do speak**.
- Every spoken language including African-American English, Hip-Hop English, “Bad English” is governed by rules – rules are just different.
- Rules which are violated in **RED** sentences on the previous slide are prescriptive rules.

Rules of Language

- A few more sentences:
 - (1) You drive too slow. vs. (2) You drive too slowly.
 - (3) *He slow went to the store. vs. (4) He slowly went to the store. (4)
- Nobody would EVER say sentence (3), but people say sentences like (1) all the time.
- Sentence (3) violates both prescriptive and descriptive laws, but sentence (1) only violates prescriptive laws, and not descriptive.
- **Star *** means that the sentence is totally out, even on descriptive level!

African-American Vernacular English (AAVE)

- Some real sentences by people speaking AAVE
 - She the first one started us off.
 - He fast in everything he do.
 - Michael Washington out here selli' his rocks.
 - Boot always comin' over my house to eat, to ax for food.
 - He just feel like he gettin' cripple up from arthritis.
 - Y'all got her started now, she fixin' to give y'all a lecture!
- What happens with "to be" in these sentences?
 - Hypothesis I: It can just be randomly omitted in any sentence.
 - Hypothesis II: It's not just randomly omitted, it is still governed by certain rules, and sometimes cannot be skipped.

African-American Vernacular English (AAVE)

- Argument against Hypothesis I: often, “to be” cannot be omitted even by AAVE speakers:
 - Be cool, brothers! (Imperatives)
 - Allah IS god! (Emphasis)
 - Is he dead? (Questions)
- Argument in favor of Hypothesis II: “to be” can “disappear” in AAVE in exactly those contexts that permit elision of **is** to **'s**, **am** to **'m** and **are** to **'re** in Standard English.

- Standard English

- *He's as nice as he says he's.
- *How beautiful you're!
- Are you going? *I'm.
- *Here he's.

- AAVE

- *He's as nice as he says he.
- *How beautiful you!
- Are you going? *I.
- *Here he.

Conclusion #1

- Any spoken language is governed by rules.
- By knowing a finite number of rules, speakers can in principle utter or understand an infinite number of new sentences.
- The linguist is interested in descriptive rule, not in prescriptive rules.

Language is Infinite

- Any speaker can in principle construct an infinite number of sentences.
 - John is asleep.
 - Mary noticed that John is asleep.
 - Nobody cares that Mary noticed that John is asleep.
 - Sam knows that nobody cares that Mary noticed that John is asleep.

Rules of Language

- How can a human generate an infinite number of sentences?
- **Rules:** may apply repeatedly to generate new sentences.
 - **Sample rule:** If **S** is a sentence, **Nobody cares that S** is also a sentence.
 - John is asleep.
 - Nobody cares that John is asleep.
 - Nobody cares that nobody cares that John is asleep.
- Knowing rules is enough to build an infinite language.

Learning Rules: The Problem of Induction

- Mathematics: 3, 9, 21 belong to a certain set. Is 17 and 18 in the same set?
 - Solution 1: All of 3, 9, 21 are multiples of 3, so 17 is not in this set, 18 is in this set.
 - Solution 2: All of 3, 9, 21 are odd numbers, so 17 is in this set, 18 is not in this set.

Learning Rules: The Problem of Induction

- Linguistics: similar problems. How do we form a question?
 - John is in the garden.
 - Is John ___ in the garden?
- Solution 1: Take "is" and put it at the beginning of the sentence.
- Ok, let's try:
 - John is in the garden next to someone who is asleep.
 - Which "is" should we put at the beginning of the sentence?
 - Is John ___ in the garden next to someone who is asleep?
 - *Is John is in the garden next to someone who ___ asleep?
 - The first one!

Learning Rules: The Problem of Induction

- Solution 2: Take the first “is” and put it at the beginning of the sentence.
- Let's try again:
 - A unicorn that is eating a flower is in the garden
 - *Is a unicorn that ___ eating a flower is in the garden?
 - Is a unicorn that is eating a flower ___ in the garden?
 - Seems like moving the first “is” does not really work also..
 - The correct rule is a little more complicated than that...

Learning Rules: The Problem of Induction

- So, what allows children to acquire rules of language?
 - **Possibility A:** General learning abilities, intelligence.
 - **Possibility B:** There is a specific mechanism for language, not necessarily related to general intelligence, **Universal Grammar**
- **Universal Grammar (UG):** design underlying properties of all languages.
- **Poverty of Stimulus:**
 - Children are not taught language.
 - They simply observe people speaking it and end up learning it.
 - Children hear much less complex data than the language can have.
 - Seems like a large part of language is innate.

Arguments for Innateness of Language

- Dissociation between language and general intelligence:
 - some have normal intelligence but an impaired language;
 - other have a normal language but an impaired intelligence.
- Broca's aphasia: damage of a specific part of the brain
 - normal general intelligence
 - slow laborious speech
 - Me... build-ing... chairs, no, no cab-in-ets. One, saw... then, cutting wood... working...
 - Cookie jar... fall over... chair... water... empty... ov... ov... [Examiner: 'overflow'] Yeah
 - problems understanding some sentences:
 - The boy hit the girl: no problems understanding.
 - The boy was hit by the girl: random answers about meaning of this sentence.

Arguments for Innateness of Language

- Selective Language Impairment:
 - Normal general intelligence
 - Difficulties with some aspects of grammar
 - It's **a** flying finches, they are.
 - She remembered when she **hurts** herself the other day.
 - The neighbors phone the ambulance because the man **fall** off the tree.
 - The boys **eat** four cookie.
 - Often genetically inherited

Arguments for Innateness of Language

• Williams' Syndrome:

- a distinctive "elf-like" facial appearance, a particular heart defect, and, commonly, abnormalities of many other organ systems.
- mild to moderate mental retardation + severe deficits in spatial understanding (e.g. copying patterns of blocks.)
- normal language: often more fluent and advanced than that of their age-mates; in fact, they tend to be so talkative and expressive that to the unwary observer they may not appear retarded at all (at least at first).

Conclusion #2

- There is some evidence that the acquisition of language by children is guided by a module of the human mind specifically devoted to language – a kind of ‘language organ’. If this hypothesis is correct all human languages share a common set of rules, Universal Grammar.