The End

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1 Our Minimalist system

✳ ***Central questions of syntax***

1. **Discrete-infinity problem** *Humboldt's problem*
   What is knowledge of language?
2. **Acquisition problem** *Plato's problem*
   How is knowledge of language acquired?
3. **Evolution problem** *Darwin's problem*
   How did knowledge of language emerge in the human species?

- ***What is "Minimalism"?***
  - ***The Minimalist Program (MP)***
    A program of inquiry asking to what degree a more computationally generic domain-general view of FL/UG is viable. Emphasizes pairing down the theory as an ordinary part of rational inquiry.
  - ***Minimalist syntax***
    A particular set of proposals about syntax made with the MP in mind, which are relatively widely adopted. One "instantiation" of the MP line of thinking.
  - The Minimalist Program ⇎ Minimalist syntax

✳ ***Our system (all relatively standard in Minimalist syntax)***

- Structure is built up with a recursive binary merger operation:

  (1) $\textsc{merge}(\alpha, \beta) = \{\alpha, \beta\}$

- Structure building and transformations are interspersed.
- The derivation is (largely) driven by the properties of the lexical items that enter into the derivation. We have modelled these properties in terms of FEATURES.
- There is a preference for shorter dependencies ("minimal search"):

  (2) **Minimal Link Condition (MLC)**
  K attracts α only if there is no β, β closer to K than α, such that K attracts β.

- The derivation is cyclic ("no tampering"):

  (3) **Strict Cycle Condition**
  No operation can apply to a domain dominated by a cyclic node α in such a way as to affect solely a proper subdomain of α dominated by a node β which is also a cyclic node. *(where every XP is a cyclic node)*

- Dependencies can be established between elements via a valuation operation:

  (4) $\textsc{agree}(f)$: Given an unvalued feature f on a head H, look for an XP bearing a valued instance of f and assign that value to H.

- ***Constraints on phrase structure***
  The definition of MERGE ensures that phrase structure obeys two key principles:

  (5) **HEADEDNESS**
  Every syntactic structure is a projection of a head.

  (6) **BINARITY**
  Every syntactic structure is binary-branching.

- ***Structural relations***
  The structural relations important for syntax are CONTAINMENT and C–COMMAND:

  (7) **C–COMMAND**
  α c–commands β iff α does not dominate β and every node dominating α dominates β.

∗ ***Our theory of features***
Lexical items bear FEATURES, some of which state conditions that need to be satisfied in the derivation. Such features are essentially diacritics that encode the syntactic needs of the lexical item, such as selection and movement.[1]

[1] These definitions assume that an element's category is a feature.

(8) **BULLET FEATURES**
Where H is a head bearing [•X•], [•X•] is satisfied by merging H with an element bearing [X].

(9) **PLUS FEATURES**
Where H is a head bearing [+X+], [+X+] is satisfied by performing the following procedure:

i. Probe H's c–command domain for a head Y bearing [X].

ii. If such a head is found, move Y to H to form a complex head.

iii. Otherwise, do nothing.

(10) **STAR FEATURES**
[⋆X⋆] is satisfied by triggering AGREE(X).

(11) **PRINCIPLE OF FULL INTERPRETATION**
Every element of PF and LF must receive an appropriate interpretation; they must be licensed. ⇝ *All features must be satisfied in a derivation.*

⇒ This notation for features is based on Heck and Müller (2007). It is nonstandard, but it makes explicit what most syntacticians implicitly assume that features can do.

- ***Language learning***
  - These are the architectural building blocks of the theory of FL/UG that we have developed in this class.
  - With this architecture, the core task of the learner is to acquire the lexical items of the language, including which features they bear.
  - Crucially, this can be done based on positive evidence alone!

References

Heck, Fabian, and Gereon Müller. 2007. Extremely local optimization. In *Proceedings of the 26th Western Conference on Linguistics (WECOL 26)*, eds. Erin Brainbridge and Brian Agbayani, 170–183. Fresno, CA: California State University.