Linguistics 572 (472)   Dr. Tully J. Thibeau

Syntax   Office: Social Sciences Room 207

Fall 2018   Office Hours: M & F 1 - 2:30 (& by appt.)

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Graduate Course Description and Credit:

This syllabus for the graduate course in Generative Syntax (LING 572) contributes a supplement to the syllabus for the co-convening undergraduate course (LING 472) under the identical title; that is, graduate and undergraduate students meet together according to the same course schedule and confront the same lecture and reading material specified in that schedule for class meetings, but the quantity and, more importantly, the quality of the work that is completed for a final grade in the course is of a higher order for graduate students (otherwise called a Graduate Increment).

In other words, whereas both groups of students who convene during course meetings try to develop skills in methods of linguistic analysis particular to the science of sentence-formation (syntax), graduate students enrolled in LING 572 apply analytical syntactic methods at a caliber that heightens understanding of human language as "an abstraction of utterances in the form of mathematical objects" (see the course description for LING 472 in the university course catalog).

Consider the notion *constituent*, one or more words functioning as a single unit, a notion preceding the inception of generative syntax that is representable using formal *bracket* notation:

[..... [[cats]] [[chase] [mice]] ....]

Outer brackets represent a Sentence constituent, and each word also receives its own set of brackets (strikethrough); however, yet another set of **brackets** (**bold**) represent the notion that *chase mice* also functions as a constituent independently of individual words contained therein. This intuition can be tested for constituency by applying a grammatical operation that is known as clefting (breaking the sentence in two) whereby *chase mice* is displaced from its BASIC position here and relocated at the left-edge position of a new DERIVED sentence adding a few other words:

[chase mice **]** is what **[** cats **]** do

Conversely, the clefting transformation that changes the BASIC sentence into a DERIVED one cannot operate on the words *cats chase* because no single set of brackets EXHAUSTIVELY contains them:

* **[** cats chase **]** is what **[** mice **]** undergo (* means ungrammatical)

While methods of syntactic analysis prior to the advent of a Gᴇɴᴇʀᴀᴛɪᴠᴇ syntax can conceptualize layers of constituency graphically (e.g., bracketing), no technological counterpart existed based on such formal notation that could operationalize what human beings seem to know intuitively about how such systems work (grammaticality) and why at times they do not (ungrammaticality).

This point (intuitions of what are well-formed and ill-formed constituencies, respectively) is the lynchpin of a generative syntax, or a sentence-formation system that is sufficiently general, a machine that fabricates every grammatical sentence constituency (an infinite number) and does not fabricate ungrammatical ones (intuits ill-formedness). The sentence-fabrication machine is an analogy (either apt or false) for some mental faculty that characterizes fundamental humanity. The first person to crack the code of infinity was a graduate student named Noam Chomsky, who was studying linguistics at MIT and devised a programming language prompting the innovation of a new automaton (i.e., computer) that modeled, to a degree, humans' capability of infinity.

Incarnations of his work attempt sufficient generality yet remain computer models, and the only language computers understand is mathematic: This course covers the development of generative syntax from Chomsky's graduate-student years in the early 1950s until the mid 1980s.

- 1985-1980: Revised Extended Standard Theory (REST), or Principles & Parameters, aka Government & Binding
- 1979-1970: the Extended Standard Theory (EST), or the Conditions on Transformations Framework
- 1969-1964: the Standard Theory, or the Aspects Model, aka Transformational Grammar
- 1963-1955: an emergent pre-theoretical era; a finite-state automaton is natural, not generative, and a push-down automaton is generative, not natural

As a junior fellow at Harvard during the early 50's (before Syntactic Structures, his dissertation, was published as his first book), Chomsky composed The Logical Structure of Linguistic Theory (from which his dissertation was drawn), an altogether formative manuscript printed in 1975 (Newmeyer 1986 calls the work comparable to the landmark generalizations of the 1981 REST). At some point upon receiving his Master's degree, he made this claim: "A grammar of a language can be considered, in what seems to me a perfectly good sense, to be a complete scientific theory of a particular subject matter." To his dons, a grammar of a language mapped form and function, pronunciation and interpretation, utterance and proposition, or sound and meaning through using sᴛʀᴜᴄᴛᴜʀᴇ (i.e., distinctive features with binary oppositions) to ᴅᴇsᴄʀɪʙᴇ what native speakers know when they know how to speak the language natively. Practical applications were descriptions of human languages whose vitality would endure only briefly before their native speakers deceased.

In a recent textbook, Grammar as Science, Larson elaborates how a human language grammar becomes "a complete scientific theory":

A set of hypotheses about a certain domain constitutes a **theory of that domain**.
Our set of rules thus constitutes a theory of what speakers of a language know
about the syntax of their language. We call such a collection of rules a **grammar**.
From this perspective, a grammar becomes a scientific theory, and grammar
building becomes an exercise in scientific theorizing (pp. 81-82).

Refer to student leaning outcomes on the LING 472 syllabus to understand the procedure of how to build a grammar as a theory of language knowledge, a mental faculty bequeathed biologically.

Weekly data-analysis problem-sets assigned to undergraduates, including additional exercises that extend several particular methods of analysis, consequently inducing exploring the margins of generative-syntactic theory; also including one extra item on the midterm and final exams that complicates the iteration of the theory investigated in that item, hence provoking an obligation of graduates to provide their observations for how these data confound the theory and to furnish plausible revisions to that theory of generative syntax as construed at that point during the course of the term. Safeguards up to 10% of exam point-total (i.e., letter-grade reduction if neglected).

Example from readings and classroom-lecture materials: A Theory of Exhaustive Containment.

Consider the grammatical subject and object of the verb *outperform* in the following sentence:

<div align="center">The students of linguistics from Montana outperformed the ones from Idaho</div>

Bracket subject and object: $[_{NP}$ $[_D$ *the* $]$ $[_N$ *students* $]$ $[_{PP}$ *of linguistics* $]$ $[_{PP}$ *from Montana* $]$ $]$
$[_{NP}$ $[_D$ *the* $]$ $[_N$ ~~*students*~~ $]$ $[_{PP}$ ~~*of linguistics*~~ $]$ $[_{PP}$ *from Idaho* $]$ $]$
<div align="center">ones</div>

Note application of the *ones*-substitution transformation targets a set of ultimate constituents that is not exhaustively contained within a single set of brackets; recall transformational rules apply not to ultimate constituents (lexical material) but to brackets (syntactic structure), so this theory predicts Noun Phrase (NP) *the ones from Idaho* should be ill-formed. However, a supermajority of native speakers of English would likely accept the NP as well-formed, so the theory becomes undergeneral (the absence of the capacity to generate a grammatical construction). Concentrate on a two level phrase-structure rule for NP: NP > (D) N (PP$^+$); both texts ascertain that thwarting our model is two levels of structure only, phrase (NP) and head, or terminal (N). **X-BAR THEORY.**