Why do we theory? Part 1 of eleventy million

Seminar week 1: Understanding the Theory of Syntax, Summer 2014

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Quotation from an SF novel

Before the humans came, we didn't speak so much of certain things.
Before the humans came, we didn't speak so much.
Before the humans came, we didn't speak.

— $\frac{\text{Surl}}{\text{Tesh−escher}}$, from China Miéville's novel *Embassytown*

(Never fear, the book is not on the reading list.)

OK...

- In the novel, $\frac{\text{Surl}}{\text{Tesh−escher}}$ belongs to an alien race that cannot conceive of an utterance that is not literally true, competing in a contest of lies.
- "Before the humans came, we didn't speak" is a blatant untruth (in the context of the story—or is it?). $\frac{\text{Surl}}{\text{Tesh−escher}}$ is its people's most successful attempted liar (maybe).

"Before the humans came, we didn't speak (so much (of certain things))." – True

"Before the humans came, we didn't speak (so much)." – **removed an adjunct, possibly still true.**

"Before the humans came, we didn't speak." – removed the object, radically different implication.

WARNING WARNING: We now begin **OVERSIMPLIFICATION.** (I wish

Latex had blink tags.)

So what does that have to do with anything?

Structure mediates between "articulatory" and semantic form.

- And what is omitted or not articulated is as important as what is.
- One task of the syntactician: find a way to infer what is *not* articulated that has an effect on structure and interpretation.
- But also: find a way to infer what is not interpreted that has an effect on structure and articulation. . .
- But mostly I wanted to work in a sci-fi novel reference.

# Something that plagues me daily: grammatical gender.

Classification (mostly) without content

Why the heck is *Fahrt* feminine? (uh, is it?)

- Huge power over intrasentential relationships (agreement, coreference).
- **Must** be articulated. (*die Fahrt*)
- No particular interpretation of its own? (Except people, but then . . . *das Mädchen*?)

So we can sort of see an outline taking shape

Or, at least, I can. The T-model, or Y-model.

Articulation/perception   Cognition/interpretation

Spell-out

Lexicon
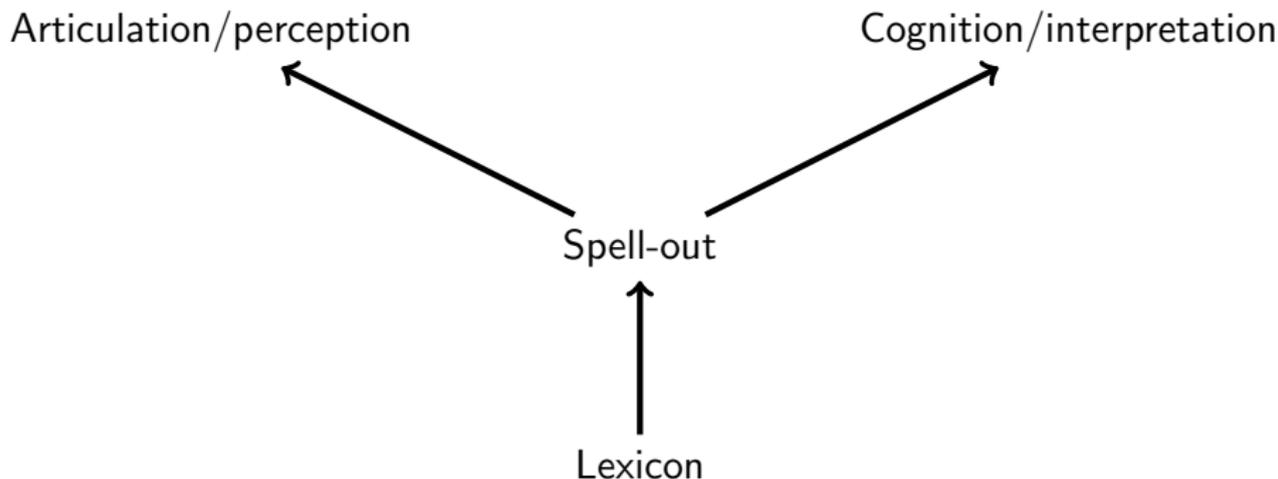
And we can give the bits fancy names.

- The thing that's sent to the articulatory system to be uttered: **phonological form** (PF).
- The thing that's sent to the rest-of-cognition to be interpreted: **logical form** (LF).
- The thing that decides what to send what where: **Spell-Out**.
- The place where we're getting the building blocks: **lexicon**.

(These are all kind of misnomers, er, convenient shorthands, shhhh, just move along.)

Does anyone notice an immediate problem?

An irritation for computational people

- "Real" language is not "sent" simultaneously to articulation and "interpretation".
- You interpret what you hear – receive "PF" and convert to "LF".
- You turn "LF" into "PF" when speaking.

But it doesn't matter.

- Syntactic theory is not trying to account for the utterances actually uttered ("extensional" language, or E-language).
- *Actual* articulation/interpretation is very noisy.
  - Articulation: many a slip-up and stammer.
  - Interpretation: so very context-dependent.
- We want to analyze the "part" of human language that makes language language.
  - "Intensional" language or I-language.

So we think in terms of "interfaces".

For an utterance to be a part of human language:

- It must acquire a representation that is "interpretable" by the articulatory system.
- It must acquire a representation that is "interpretable" by the semantic system.

The "job" of syntax: to mediate between these requirements.

So whence "interpretability"?

This is part of the language user's underlying "knowledge" of language. A controversial distinction:

- **Performance**: the "doing" part of language, the "noisy" bit with all the slip-ups. E-language.
- **Competence**: the "knowing" and "abstract" part of language. I-language.

For discussion: why is this controversial?
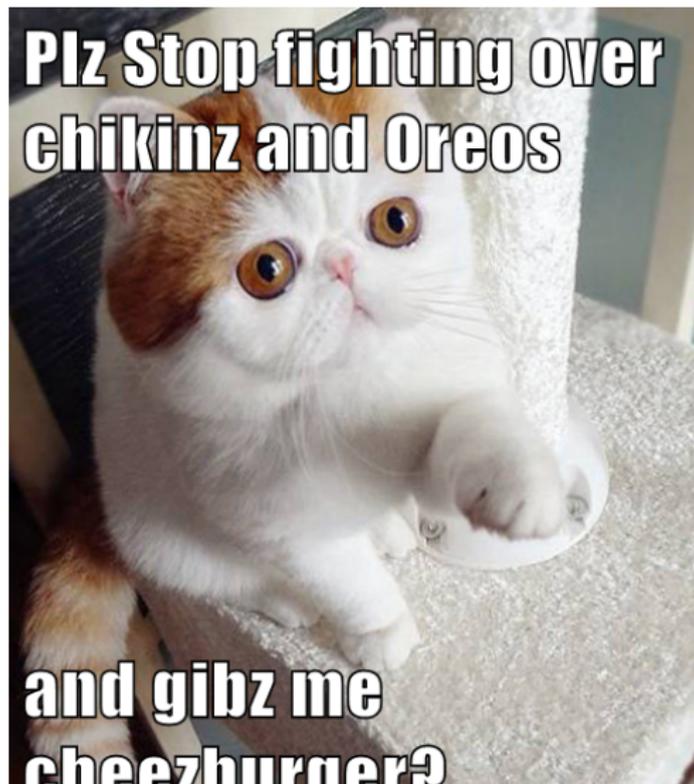
So what does it mean to "know" a language?

Yet more controversy! Let's say there are two kinds of knowledge:

- Acquired knowledge of language (like what a baby might be getting).
- The knowledge required to acquire knowledge of language.

You need knowledge to acquire knowledge?

Sure, how else do you acquire knowledge?

Things don't magically osmose into your brain!

- The developing mind must impose order on a huge variety of sensory inputs.
- Even positing the most generalized of learning engines possible (what would that be?) implicitly posits a claim of prior knowledge!

This prior knowledge has a well-known name in linguistic theory.

UNIVERSAL GRAMMAR (UG)

But for some reason, it raises some people's hackles.

The name's a bit gradiose.

- Some people seem to think that it is a commitment to a *particular* grammar.
- But actually it is a methodological claim.

Minimalism: a programme, not a theory

"Chomskyan" theorists are quite happy to pare down UG to the bare bones. From a computational perspective:

- Lexicalize as much as possible.
- Find the simplest set of combinatory operations.
- Seek the shortest derivations.

But in the end, it's all driven by *learnability* and *poverty of the stimulus*.

So now, down to the business of this seminar course.

Goals of the course

- To give students with some CoLi background a feel for current work in syntactic theory.
- To expose students to "introspective" and theoretical ways of analyzing the syntax of human language.
- To give students some high-level ability to appreciate, read, and understand theoretical work at a very abstract level.
    - Theory is a whole degree in itself!
- To give students further practice in debating, critiquing, and creating linguistic thoughts.

Ideally: a discussion group atmosphere.

What we'll cover

- I will largely focus on government-and-binding and minimalist approaches.
    - But discussion of other frameworks are welcome, particularly in student presentations and term papers!
- This Is Not A Formalisms Course.
    - Formalisms are a related issue.
    - We'll focus on questions similar to: "What does it mean that some Slavic languages allow multiple wh-questions at the left periphery of the same sentences?"
- Will have some leeway to focus on students' interests and existing competencies.

And the details. . .

- Meeting: Thursday 12-14.
- First meeting: Thursday, April 24.
- Location: C7.2 2.11.
- And there may be the occasional doge.
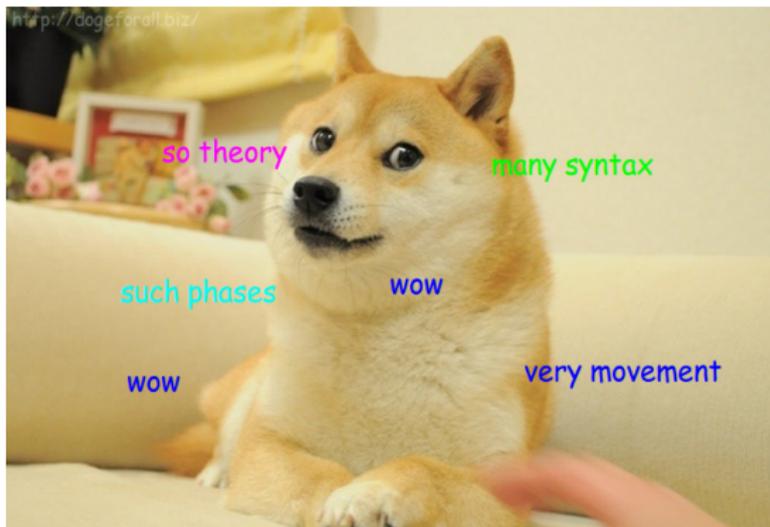
And yet more details. . .

- Please read the web page:
  http://www.coli.uni-saarland.de/courses/syntheory14/
- **Must** sign up for the mailing list (on the web page).
- The schedule will unfold "dynamically" – I will list readings on the mailing list as well as on the web site.

"Getting to know you" pause.

Yes, we have requirements.

I'm not 100% sure how all of this stuff works, but I know:

- For any credit at all, all of you HAVE to do a presentation.
  - And I expect most of you to attend the presentations, most of the time.
- Some of you will want/need additional credit: write a term paper, requirements to be discussed based on how challenging your topic is.
- Yes, I do oral exams for those who need the credit for that.

What can you present/write a term paper about?

Possible types of topics (after discussion with me):

- A specific **paper** in the syntactic literature.
- A survey of opinions on a particular **syntactic phenomenon** across languages.
- A survey of a particular (claimed) UG **principle**.
- Your own original idea.
- . . .

How should you present it?

Possible presentation style:

- Good old slideshow – safest, I suppose.
- Detailed handout (traditional for syntacticians).
- Even a well-presented whiteboard discussion is OK.

You will also *lead discussion* of the idea/paper/etc.

The (rough/tentative) schedule

- Week 1 (today): this intro stuff.
- Week 2-3: Methodological and "philosophical" underpinnings, light reading.
- Week 4: An attempt to jump in the deep end and read a paper.
- Week 5-6: Some more technical introduction to current minimalist theory.
- Remaining weeks: student presentations.
- Leftover time: derivational minimalism (formalism issues) or acquisition or something.

Some things to consider

As I said, syntactic theory is a whole degree in itself!

- I don't expect you to understand deeply everything you read for the course.
- Theory changes over time and the intro textbooks become outdated quickly.
- I want you to instead learn to "appreciate" theory at an abstract level and be able to pursue the "useful" threads.

USEFUL?!?!!

THIS IS MAH JOB

OK, let's talk about that

Why do we CoLi?

For lots of reasons!

- Because we want to make $$$.
- Because we want to do a Useful Service to All Humanity.
- Because we want to bring about the robo-apocalypse.
- Because we think the brain is a computer, and we want to model it.

And so on.

So, why do we theory?

For lots of reasons!

- Because it's interesting.
- Because it's there.
- Because we want to model processing or acquisition. (But does it help?)

But why would CoLi people want to learn theory?

To avoid wheel-reinvention.

CoLi is getting more grammatically detailed.

The underlying principles are starting to matter. An example from my own experience.

- The "corner cases" of quantifier interpretation (a syntactic AND semantic issue) have long been central in theory.
- **Just** becoming relevant in spoken dialogue systems.
- But how to handle it without **movement**? Not easy.

I've put up a reading next week on the web page.