Setting the stage:

Constituents, Meaning, and Architecture: The Big Picture (and some details)

8 January 2018
Refresher 1: Language as an instinct
Refresher 2: Deep structure and surface structure
Linguistic theory, syntax, and compositionality
Overview of the X-bar skeleton
The complicated relationship between structure and meaning
Chomsky’s fundamental contribution to the intellectual study of language was to challenge the idea that language should be examined within the context of behaviorism.

- Humans aren’t mice in a maze when it comes to language.

Darwin: “an instinctive tendency to acquire an art” ...but not confined to humans [The Language Instinct, p. 7]

Pinker, building on William James: “The workings of language are as far from our awareness as the rationale for egg-laying is from the fly’s.” [p.8]
“…grammatical sophistication used to be nurtured in the schools, but sagging educational standards and the debasements of popular culture have led to a frightening decline in the ability of the average person to construct a grammatical sentence.”  

[The Language Instinct, p.5]

“A preschooler’s tacit knowledge of grammar is more sophisticated than the thickest style manual or the most state-of-the-art computer language system, and the same applies to all healthy human beings, even the notorious syntax-fracturing professional athlete and the, you know, like, inarticulate teenage skateboarder.”  

[The Language Instinct, p.6]
Some evidence of the instinct...

- **Poverty of the input**
  - Children absolutely do not hear every sentence that they produce.
  - Deaf children create signed languages.
  - Children “fill in” missing grammatical information.
    - The transition from pidgins to creoles.

- **Rapid acquisition**
  - E.g. - By 3.5, children use the –s agreement marker correctly 95% of the time. [*The Language Instinct* p.33]
  - It’s just as difficult to acquire sign languages after the critical period as it is to acquire spoken languages.
A unicorn that is eating a flower is in the garden.

- Children correctly produce *Is a unicorn that is eating a flower in the garden?*
- Children don’t form the question *Is a unicorn that eating a flower is in the garden?*
  - An innate sense of constituency

- Estimates vary greatly about the number of fluent speakers. [Tallerman, Ch. 1, EX 38]
- It may harm your defense if you do not mention when questioned something which you may later rely on in court. [EX 41]
- What was that guy who retired last month’s name? [EX 55b]
But...

structure isn’t always so clear. For instance, do ditransitive pairs have the same or different deep structures?

MAYBE...

Indonesian
   Ali send-past letter the to Hasan.
   ‘Ali sent the letter to Hasan.’

   Ali send-past-promotion Hasan letter the
   ‘Ali sent Hasan the letter.’

[Tallerman, Chapter 1, EX 9&10]

- The b sentence in Indonesian has a morpheme which indicates that some movement operation has taken place, so maybe b is derived from a.
...BUT THE MORPHOLOGY ISN’T ALWAYS SO CLEAR...

Icelandic

(i) Ritarinn sendi samningana til lögfræðinga.
    secretary.the.nom sent contracts.the.acc to lawyers.the.gen
    ‘The secretary sent the contracts to the lawyers.’

(ii) Ritarinn sendi lögfræðingunum samningana.
    secretary.the.nom sent lawyers.the.dat contracts.the.acc
    ‘The secretary sent the lawyers the contracts.’

- No marker on the verb. The case on the indirect object changes.
- English doesn’t have morphological markers on the nouns (or the verb). The words look the same in both constructions.
SYNTAX against the backdrop of linguistic theory

a. The Key Components

Phrase Structure Rules

Lexicon

Deep Structure

Transformations

Surface Structure

Semantic Interpretation

b. How Things Fit Together

Syntax

Morphology

Semantics

Phonology
The positions of heads and phrases can be switched. For instance, in a verb-final language, the verb comes after the object in the VP.

The position of the bar-level can be switched as well.

At this point, the position that probably has the least obvious function is the specifier. The specifier provides a place for phrases of various types. A phrase can either be born in the specifier or it can move there.

**There is LOTS of movement to specifier positions! We’ll get there…**
Law of Compositionality:

If the meaning of a collection of formatives, α, is derivable from the meanings of those formatives then α’s meaning is compositional. The meaning of sentences is compositional.

[Johnson 2011, Ch2, EX 6]

Even though our trees will get increasingly complicated, we still want to adhere to the concept of the Law of Compositionality.

[Idioms (and some compounds) are an exception. These are briefly discussed at the beginning of Johnson, Ch.2.]
The law of compositionality still holds when we have deep structure – surface structure mismatches

1. The association that decided to honor the controversial director was dismantled by the oversight board.

2. Who has the duplicitous politician convinced his underling to steal money from?

3. A condo in that swanky new building, the cool downtown couple intends to buy.

4. The rude children should have been taught how to eat at a restaurant.

5. The bartender made her a fantastic cocktail.

6. The bartender made her tipsy.

7. The interviewer appears to have read every book by that author.

8. The reading that the professor has assigned will teach the students what the important aspects of syntactic theory are.

9. Many traffic accidents were avoided this morning by careful drivers.

10. The bossy traveler told the bellhop where to put the luggage.

11. The syntax professor seems to have particular contempt for cold weather.

12. The angry football fans ordered those lousy temporary referees to reverse the call.
“If every language learner is equipped with this X’ Theory, then they will converge on more or less the same $G_L$ when presented with the information that being in the environment of speakers of L provides. If there are differences in the $G_L$s that learners converge on, these will trace back to different decisions these learners have made about the identity of $W$, $X$, $Y$, and $Z$ or how their linear order is determined. If the rest of a model that incorporates these constraints is correct, then, it should allow any language learner to pick out a $G_L$ very close to the $G_L$ giving shape to the speech in that learner’s environment.”

[Johnson, p.4]
The syntacticians’ task...

...is to figure out the minutiae that the X-Bar skeleton represents and to the best of our ability, use this model to account for a variety of phenomena.

While English is our base language, we’ll use cross-linguistic data to either make inferences about another language or to provide more concrete evidence in support of a hypothesis.
What are the XP categories in X-bar theory?

PERHAPS FAMILIAR PHRASES

Noun Phrase
Verb Phrase
Adjective Phrase
Adverb Phrase
Prepositional Phrase

PERHAPS LESS FAMILIAR PHRASES

Complementizer Phrase
Tense Phrase/Inflectional Phrase
  • NOTE: In the (Carnie) reading, the node TP is initially presented without much discussion. We’ll cover TP in more detail.

Determiner Phrase
How do we detect category membership?

The Novel Form Argument

(8)  
   a. If enough information is introduced with a novel word to enable the individual learning that word to recognize its category, then  
   b. The individual knows which arrangements it can grammatically combine in.  
   c. Hence, it must be category membership to which these processes refer.

(9) Many bloresnicks are grey.

(10)  
   a. It ran bloresnick the tree.  
   b. He removed the long bloresnick  
   c. She finds Sammy bloresnick.  
   d. He made his face bloresnick.

From Johnson 2011, Chapter 2

If 9 is good, then only 10b is.
Our ever-famous exemplar of the “Novel Form” argument

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.
"Beware the Jabberwock, my son!
The jaws that bite, the claws that catch!
Beware the Jumbie bird, and shun
The frumious Bandersnatch!"
He took his vorpal sword in hand:
Long time the manxome foe he sought --
So rested he by the Tumtum tree,
And stood awhile in thought.
And, as in uffish thought he stood,
The Jabberwock, with eyes of flame,
Came whiffling through the tulgey wood,
And burbled as it came!
One, two! One, two! And through and through
The vorpal blade went snicker-snap!
He left it dead, and with its head
He went galumphing back.
"And, has thou slain the Jabberwock?
Come to my arms, my beamish boy!
O frabjous day! Callooh! Callay!"
He chortled in his joy.

(from *Through the Looking-Glass and What Alice Found There*, 1872)
The relationship between structure and meaning – Part 1

We’ll return to this relationship throughout the term.
“Grammatical” but uninterpretable.
- Category-selection (c-selection) succeeds.
- Semantic-selection (s-selection) fails.
- Heads require that their arguments have particular semantic properties.
- These properties are generally referred to as theta/thematic roles.
Some Theta Roles

- **Agent**
  The performer of an action.

- **Experiencer**
  Non-volitional participants of an action.

- **Theme/Patient**
  The person or thing that an action/activity is done to.

- **Source**
  The starting point for a movement or a transfer of possession.

- **Goal**
  The end point for a movement or a transfer of possession.

- **Location**
  The place where an action occurs.

- **Instrument**
  The thing used to accomplish an action.

- **Benefactor**
  The person or thing that benefits from someone else’s actions.

- **Proposition**
  A clausal argument.
Sometimes theta roles map to morphology

- The case of a noun may depend on factors such as agentivity or volitionality.
- Here, the datives are experiencers.

Hindi-Urdu

Tusaar  kʰuš  huaa.
Tushar.nom happy become
‘Tushar became happy.’

Tusaar-ko  kʰušii  huii.
Tushar-dat happiness happen
‘Happiness happened to Tushar.’

Japanese

Sensei-ni  eigo-ga  wakaru.
teacher-dat English-nom understands
‘The teacher understands English.’

Mary-ga  eigo-ga  yoku dekiru.
Mary-nom English-nom well do.can.pres
‘Mary can speak English well.’
But sometimes things are murky

(a) Við teljum frambjóðendurna vera frambærilega
we.nom believe candidates.the.acc be pretty good.acc
‘We believe the candidates to be pretty good.’

(b) Einum dómar sýndist þessar athugasemdir vera óréttlátar.
one.dat judge.dat understood these comments.nom be unfair.nom
‘One judge understood these comments to be unfair.’

Our friend Icelandic is sometimes/often murky. ☺️
Compositionality guides structure-building.

Syntax is full of deep structure-surface structure mismatches.

X-Bar theory facilitates structure-building by narrowing the set of options.

Sometimes there is a relationship between morphology, structure, and meaning. But sometimes not.