X–BAR MOTIVATED

10–12 JANUARY
Our Roadmap

- Reminding ourselves about the big picture
- The X–Bar architecture: structure and motivations
- C(ategory)–selection and S(semantic)–selection
- Well–formedness conditions: a brief look at ditransitives
"...phrase structure rules can be stripped of a great deal of their information. Indeed, what is left is largely what the X–bar skeleton expresses and the categorical specification of non–arguments.”

(Johnson 2011, p. 54)

- The positions of heads and complements can be switched.
- The positioning of specifiers and adjuncts can also be reversed.
“...a goal of syntactic theory should be to contribute towards structuring the universe of Gs.”  
[Johnson 2011:3]

- The X–Bar model *facilitates* (a weaker stance) or *makes possible* (a stronger stance) the acquisition process by severely constraining the range of possible grammars.

- “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.
MOTIVATING STRUCTURE: BAR LEVELS
Bar Levels Inside of Noun Phrases

- We have evidence that noun phrases have three levels.

- **NP**: This is the biggest unit. It includes everything that is inside of the noun phrase (e.g., determiners, adjectives, prepositional phrases, complementizer phrases).

- **N’**: This is the middle level. It includes everything inside the noun phrase except the determiner.

- **N**: This is the smallest level. The noun is the head of the phrase.

- There is evidence that the part of the NP which excludes the determiner constitutes a constituent.
  - We can test this using **one–replacement**. This usually sounds more natural if we are contrasting two things.
This professor in the red dress has tenure.

a. That one in the blue dress doesn’t.
b. That one doesn’t.
c. The professor in that one doesn’t.

Preview: This will be revised to include DP. 😊
More on Arguments, Adjuncts, and One–Replacement

a. I’ll listen to your long, careful discussion of it if you’ll listen to my short one.
   
   one = careful discussion of it

b. *I’ll listen to your long, careful discussion of it, if you’ll listen to my short one of it.”
   
   one = careful discussion

c. I’ll listen to your long, careful discussion in class if you’ll listen to my short one in the office.
   
   one = careful discussion

   (Johnson, Ch 2, EX 150)

➢ “of it” and “in class” have different functions
(1)
a. The **demanding woman** with the red hat left and the **one** with the blue hat stayed.

b. The demanding **woman** with the red hat left and the considerate **one** with the blue hat stayed.

(2)
a. I will examine the long **proof that language exists** if you will examine the short **one**.

b. *I will examine the **long proof** that language exists if you will examine the **one** that it doesn’t.*

c. I will examine the **book** on the shelf if you will examine the **one** on the table.

*(based on Johnson 2011, Chapter 2, EX 123&124)*
Bar Levels Inside of Verb Phrases

- If NPs have discernible N’s, then we expect to find bar level projections in other phrases.
- Ellipsis and *do so* are anaphoric on V’s.

  a. Although Sally didn’t Δ Tuesday, she will dance Monday.
     Δ = dance

  b. *Although Sally didn’t Δ Tuesday, she will remember Monday.*
     Δ = remember
     *Remember* is transitive, so ellipsis can’t target just the verb. The verb and its object form a V’.

  c. Although Kylia won’t Δ on the bus, she will hug me in the car.
     Δ = hug me

     (Johnson, Chapter 2, EX 147–148)
a. Although Sally should not $\Delta$, Jerry must leave town.
   $\Delta$=leave town

b. Because Jerry frantically read *Aspects* after dinner, Sally did $\Delta$ just before class.
   $\Delta$=read *Aspects*

c. Although Sally can carelessly $\Delta$, Jerry must carefully read *Aspects*.
   $\Delta$=read *Aspects*

d. *Although Sally should not $\Delta$ Chicago, Jerry must leave New York.*
   $\Delta$=leave

e. *Although Sally did not $\Delta$ that she was tired, Jerry will say that she should sleep.*
   $\Delta$=say

(Johnson, Chapter 2, EX 117&118, I've slightly altered a couple of examples based on an earlier version of this reading.)
**Do so** anaphora delivers the same effect.

- a. Jerry must leave town, but Sally mustn’t do so.  
  \textit{do so}=leave town

- b. Jerry should eventually read \textit{Aspects}, and Sally should immediately do so.  
  \textit{do so}=read \textit{Aspects}

- c. *Jerry must leave Chicago and Sally must do so New York.  
  \textit{do so}=leave

- d. *Jerry must acknowledge that he will read \textit{Aspects} and Sally must do so that she will read \textit{Syntactic Structures}.  
  \textit{do so}=acknowledge

(Johnson, Chapter 2, EX 119–120)
A Couple of New Phrases

- **TP = IP** (for us, for now)
  - In many languages, tense and inflection are linked. That is, finite verbs show inflection but non–finite verbs do not.
  - Even inflection–poor English has this property. There’s no 3rd singular marker on infinitives.
    - *The professor expects the student to read complex syntax papers.*

- **DegP : Degree Phrase** (discussed in Johnson p.36–40)
  - $\text{AdjP} \Rightarrow \text{Adj}’ \quad \text{Adj}’ \Rightarrow \text{DegP} \quad \text{Adj}’$
  - *Sean is thoroughly happy that syntax is cool.*

- $\text{AdvP} \Rightarrow \text{Adv}’ \quad \text{Adv}’ \Rightarrow \text{DegP} \quad \text{Adv}’$
  - *Sally very carefully spoke.*

**NOTE:** We don’t need to be too picky about the distinction between an Adverb Phrase and a Degree Phrase.
The Relationship Between Structure and Meaning
“Grammatical” but uninterpretable.
  ◦ Category-selection (c-selection) succeeds.
  ◦ Semantic-selection (s-selection) fails.

Semantically anomalous sentences are constrained by the semantic selectional restrictions that heads place on their arguments.

Heads require that their arguments have particular semantic properties.

These properties are generally referred to as theta/thematic roles.
Theta Role (loose) Refresher

- **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.
- **Benefactive/Adversative**: The person or thing that benefits from/is negatively impacted by some action.
- **Proposition/Question/Exclamative**: We’ll get to these.
Sometimes theta roles map to morphology

From Unit 1:

- Theta roles can interact with morphology.

- The case of a noun can depend on factors such as agentivity or volitionality.

- Here, the datives are experiencers.

**Hindi–Urdu**

Tusaar \( k^{\text{hu}}\text{s} \) huua.
Tushar nom happy become
‘Tushar became happy.’

Tusaar–ko \( k^{\text{hu}}\text{s} \text{ii} \text{ii} \) 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 it’s 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 dómara sýndist þessar athugasemdir vera óréttlátar. one.dat judge.dat understood these comments.nom be unfair.nom ‘One judge understood these comments to be unfair.’
More Technically: What’s Syntactic and What’s Semantic?
Complement vs. Argument

**Complement (Syntactic)**

- Complement is a structural position.
- The complement is the position that is sister to the head of the phrase.

**Argument (Semantic)**

- A phrase that is sitting in the complement position is necessarily an argument of the head BUT not all arguments occupy the complement position (e.g. our ditransitive puzzle).
- Intuitively, we think of subjects as arguments of verbs, but it’s impossible for subjects to occupy a complement position.
  - We’ll come back to the argument status of subjects.
Adjunct vs Modifier

Adjunct (Syntactic)
- Like complement, adjunct is a structural position.
- The adjunct position is the sister and daughter to a bar level.

Modifier (Semantic)
- The material in the adjunct position modifies (gives additional information about) the material that is contained inside of the bar level that it is sister to.
- Since a modifier is more semantically removed from the head of a phrase than an argument is, the adjunct position is more structurally distant from the head than the complement position is.
- But...modifiers can also occupy specifier positions.
  - *The book you’re looking for is [pp right under the table]*.
Heads place particular requirements on the other items in the phrase. These requirements are both syntactic and semantic.

a. John ate disgusting store-bought cookies.
b. John felt deep-rooted emotional pain.

Both ate and felt have NP subjects and objects.
The verbs have c-selected two NPs. But John is an agent of eating and an experiencer of feeling pain.

And things get even more interesting when we look at clausal complements.
Deny, say, and wonder all take clauses/sentences as their direct object arguments.
All three verbs C(category)–select for an embedded clause.

But...these verbs have different S(semantic)–selection requirements.
◦ Deny takes a propositional complement
◦ Wonder takes a question complement
◦ Say takes either a proposition or a question

a. Martha denied that John has left.
   a.’ *Martha denied whether John has left.

b. *Martha wonders that John has left.
   b.’ Martha wonders whether John has left.

c. Martha said that John has left.
   c.’ Martha said whether John has left.

   (Johnson Ch2, EX 143–144)
Some verbs c–select either a clause or an NP and both the clause and the NP have the same semantic properties.

a. John asked me what the time is/the time.  
   Question

b. I’ll assume (that) he’s intelligent/his intelligence.  
   Proposition

c. Bill couldn’t believe how hot it is/the heat.  
   Exclamative

(Johnson Ch2, EX 139)
Other verbs s–select for the same thematic types we just saw, but c–select only clauses.

a. John wondered what the time was/*the time.  
   *Question*

b. I’ll pretend that he’s intelligent/*his intelligence.  
   *Proposition*

c. Bill complained how hot it was./*the heat.  
   *Exclamative*

(Johnson Ch2, EX 139)

The BIG picture:
Both c–selection (which is syntactic) and s–selection (which is semantic) are important.

• C–selection delivers well–formedness.
• S–selection delivers interpretability.
A closer look at well-formedness conditions

» The Complexity of Ditransitives
Overview of ditransitives in Icelandic

- The subject in a ditransitive is always nominative.
- The indirect and direct objects can appear in several different case combinations.
- The overwhelming majority of ditransitives exhibit the canonical dative–accusative pattern. The approximate number of verbs exhibiting each case pattern:
  - Dat–Acc (220) (Jónsson 2000, ex3)
  - Acc–Dat (37)
  - Dat–Dat (29)
  - Dat–Gen (28)
  - Acc–Gen (21)


- a. Ég sagði þér söguna. (Dat–Acc)
  - I told you. Dat the story. Acc
  - ‘I told you the story.’

- a’ Hann gaf litla barninu bókina (Dat–Gen)
  - he gave the small child. Dat the book. Acc
  - ‘He gave the small child the book.’
The Other Patterns

b. Þeir leyndu Ólaf sannleikanum.  
they concealed Olaf.Acc the truth.Dat  
‘They concealed the truth from Olaf.

b.’Lögreglan sviptir marga ökuskírteininu.  
the police deprive many.Acc the driver’s license.Dat  
‘The police take the driver’s license away from many people.’

c. Ólafur lofaði Maríu þessum hring.  
Olaf promised Mary.Dat this ring.Dat  
‘Olaf promised Mary this ring.

c.’Jón skilaði henni vasanum.  
John returned her.Dat the vase.Dat  
‘John returned the vase to her.’
The Other Patterns

d. María óskaði Ólafi alls góðs.  
   Maria wished Olaf.Dat everything good.Gen 
   ‘Mary wished Olaf everything good.’

d.’ Ég synjaði þeim leyfis. 
   I denied them.Dat permission.Gen 
   ‘I refused to grant them permission.’

e. Jón bað mig bónar. 
   Jon asked me.Acc a favor.Gen 
   ‘Jon asked me a favor.’

e.’ Þeir spurðu manninn tveggja spurninga. 
   they asked the man.Acc two questions.Gen 
   ‘They asked the man two questions.’
But things are complicated

Within the **Dat–Acc** case pattern, NP–PP is only allowed with verbs that express physical motion of the direct object.

(1) a. Haraldur sendi mér ost.  
Harold sent me.Dat cheese.Acc  
‘Harold sent me (some) cheese.’

b. Haraldur sendi ost til mín.  
Harold sent cheese.Acc to me.Gen  
‘Harold sent (some) cheese to me.’

(2) a. þeir fóxuðu mér samninginn.  
they faxed me.Dat the contract.Acc  
‘They faxed me the contract.’

b. þeir fóxuðu samninginn til mín.  
they faxed the contract.Acc to me.Gen  
‘They faxed the contract to me.’

(3)  a. María gaf Haraldi bókina.  
   Mary gave Harold.Dat the book.Acc 
   ‘Mary gave Harold the book.’

   b. *María gaf bókina til Haraldar.  
   Mary gave the book.Acc to Harold.Gen

(4)  a. Hann syndi strákunum bátinn.  
   he showed the boys.Dat the boat.Acc 
   ‘He showed the boys the boat.’

   b. *Hann syndi bátinn til strákanna.  
   he showed the boat.Acc to the boys.Gen

The Dat–Dat case pattern has the same semantic restriction.

a. Hún skilaði mér bókinni.
   she returned me. Dat the book. Dat
   ‘She returned the book to me.’

   a'. Hún skilaði bókinni til mín.
      she returned the book. Dat to me. Gen
      ‘She returned the book to me.’

b. Ég lofaði henni því.
   I promised her. Dat it. Dat
   ‘I promised her it.’

   b'. *Ég lofaði því til hennar.
       I promised it. Dat to her. Gen
       ‘I promised it to her.’

Some Acc–Dat verbs allow DP–PP without a locative interpretation, but the preposition is different.

c. Þeir leyndu hana sannleikanum.
   they concealed her. Acc the truth. Dat
   ‘They concealed the truth from her.’

c'. Þeir leyndu sannleikanum fyrir henni.
   they concealed the truth. Dat from/for her. Dat
   ‘They concealed the truth from her.’

Acc–Gen/Dat–Gen case patterns either do not allow NP–PP or the meaning changes with NP–PP.
Both NP–NP and NP–PP allowed here:

a. Martha gave Myrna an apple.
   a’. Martha gave an apple to Myrna.

b. Leigh threw Lane the ball.
   b’. Leigh threw the ball to Lane.

c. The announcer handed the wrong actor the Oscar.
   c’. The announcer handed the Oscar to the wrong actor.
Debate in the literature about the semantic properties of NP–NP vs NP–PP

One Perspective:

*NP–NP encodes caused possession*

*NP–PP encodes caused motion*  [like Icelandic; there’s physical movement of the direct object]

a. The editor sent the article to Sue.
b. The editor sent the article to Philadelphia.
c. The editor sent Sue the article.
d. ?? The editor sent Philadelphia the article.

• “Philadelphia” can’t possess the article unless “Philadelphia” is representative of a group of people.
Another Perspective:

NP–NP encodes *caused possession*

NP–PP can encode *possession* or *motion*, depending on the verb

a. I gave the package to Maria/*London.

b. I sent the package to Maria/London.

c. I threw the ball to Maria/the other side of the field.

d. The landlord rented the visiting professor a nice apartment.

d’. The landlord rented a nice apartment to the visiting professor.

• NP–PP here is possession, not motion

For more discussion, see:


a. The boss denied George a promotion.  
a’. *The boss denied a promotion to George.

b. The judge fined the company one million dollars.  
b’. *The judge fined one million dollars to the company.

c. The yoga instructor explained the basic principles of the practice to the students.  
c’. *The yoga instructor explained the students the basic principles of the practice.

d. The baby-sitter told the children a story.  
d’. The baby-sitter a story to the children.

e. The board of directors told the share holders that the earnings were up.  
e’. *The board of directors told that the earnings were up to the share holders.
NP–PP is out here...

a. The noise gave Terry a headache.
   a’. *The noise gave a headache to Terry.

b. The visitor gave a lecture to the audience.
   b’. *The visitor gave the audience a lecture.

c. The babysitter gave the rambunctious child a scolding.
   c’. *The babysitter gave a scolding to the rambunctious child.

...but good here...

a’’. The horribly intense lighting in the room gave a headache to even the most athletic constitutions.

b’’. The visitor gave the audience a lecture that the crowd would never forget.

c’’. The babysitter gave a scolding to the rambunctious child who refused to take a bath.
Just because a language allows a particular structure, that doesn’t mean there aren’t restrictions on the availability of that structure.
The X–Bar Model imposes strict conditions on the structure of phrases.

Constituency tests can target bar levels (just as they target entire phrases).

There is an intricate and complicated relationship between syntax and semantics (and morphology).

Both c–selection and s–selection requirements must be met.

Both Icelandic and English allow NP–NP and NP–PP ditransitivess and both languages place restrictions on the availability of each structure.