The Questions Semanticists Ask

“Cherlon, have you stopped buying necklaces?”
TO GET US THINKING ABOUT THE COMPLEXITY OF MEANING...
The Bits and Assumptions of Meaning

Entailment

a. The anarchist assassinated the emperor.
b. The emperor died.

→ a entails b: one can’t truthfully assert a and not also truthfully assert b.

→ not a reciprocal relationship: b does not entail a

Presupposition

a. The Prime Minister of Malaysia is in Dublin this week.
b. Malaysia has a prime minister.

→ a presupposes b: the speaker assumes that his/her interlocutor has knowledge of b

→ also not reciprocal: b does not presuppose a
When an entailing sentence is negated, the entailment fails
a. The anarchist didn’t assassinate the emperor.
b. The emperor died.
   --The emperor may have died, but it doesn’t follow from a.

When a presupposing sentence is negated, the presupposition remains
a. The Prime Minister of Malaysia isn’t in Dublin this week.
b. Malaysia has a prime minister.
   --The speaker of a still presumes that the interlocutor has knowledge of b.
“Cherlon, have you stopped buying necklaces?”

- Presupposes that Cherlon bought (several) necklaces in the recent past
- **Cherlon, have you not stopped buying necklaces?**
  - Still presupposes that Cherlon bought necklaces
  - Cherlon can cancel the presupposition” “Well, actually, no I haven’t stopped buying necklaces because I never did. They were all given to me.”

  a. Bill Clinton was impeached.
  b. Bill Clinton had sexual relations with that woman.
    - a presupposes b
    - Again, we can negate a and still maintain the presupposition or we can cancel the presupposition.
      - Bill Clinton was not impeached, even though we all know he had sexual relations with that woman.
      - Bill Clinton was impeached, even though he didn’t actually have sexual relations with that woman.
The Things We “Do” With Language

- **Locutionary Act**: the act of uttering the actual words
  - “It’s hot in here.”...

- **Illocutionary Force**: the force or intention behind the words
  - …means that I want some fresh air…

- **Perlocutionary Effect**: the effect of the illocution on the hearer
  - …and some kind student opens the door to Goodsell 03
What We Know

“…language can be viewed as a set of abstract devices, rule systems, and principles that serve to characterize formally various properties of the well-formed sentences of that language.” (C, M-G 1)

“…grammars…constitute accurate models of the (implicit) knowledge that underlies the actual production and interpretation of utterances by native speakers.” (C, M-G1–2)

“The linguistic knowledge we seek to model, speakers’ competence, must be distinguished from their observable linguistic behavior.” (C, M-G1–2)

Familiar concepts from our studies of syntax and phonology. Also applies to the study of meaning. Though, things get murky…
Traditionally, semantics is concerned with determining an abstract meaning for words/sentences that is somewhat generalizable across situations irrespective of context.

Meaning is abstracted away from the individual conversational participants.

The formal semantic meaning for the above sentence is independent of the context.

Pragmatics is concerned with the meaning that sentences have within a particular context.

Meaning is derived in relation to the individual conversational participants.

The sentence above has a variety of interpretations.

- I could be suggesting to a companion that I no longer wish to be present at a really boring dinner party.
- I could be saying that I’m packed and prepared for my next trip to Reykjavík.
- If it’s the dead of winter, I’m likely saying that I’m ready to get out of Minnesota.
The Complexity of Pinning Down Meaning

chair

“This is yellow.
The door is closed.”

a. You should have seen the bull we got from the pope.
b. Competent men and women hold all the good jobs in the firm.
c. Mary claims that John saw her duck.
d. Someone loves everyone.

(C, M–G, EX57)
What’s a chair???

- The Elbourne (Ch. 1) reading teaches us just how difficult it is to define “chair”.
  - It need not be a 4-legged piece of furniture that is intended to be sat on.

- Extension of *chair*: the set of all actual chairs
- Intension of *chair*: the set of possible chairs
Deictics

“This” is a deictic expression. Its meaning is fixed by the context.
- **Person deixis**: me/you
- **Spatial deixis**: here/there
- **Temporal deixis**: now/then
- “This” can be spatial or temporal –
  - this book vs that book
  - this weekend vs next weekend

...Well, not actually fixed.
- “So, he was like ‘I’m gonna call you tomorrow,’ and now I feel bad because I didn’t pick up the phone.”
  - I’m speaking but “I” refers to some cute guy and “you” refers to me in the first conjunct but “I” reverts back to me in the second.

We switch the reference for deictic expressions all the time within the same conversation.
“The door is closed”

- The door could be in a state of having been closed for some indeterminate amount of time.
  - A property of the door
- “Closed” could be the resultant state of someone just having pushed on it.
  - A property of the door that is closely connected to a property of the larger event
- The truth of the situation holds independent of who observes the state of the door being closed.
  - One person could walk past the door with no intention of walking through the doorway and observe that it is closed. – There’s no emotion attached to the statement.
  - 50 people could approach the door expecting that it will automatically open but it doesn’t. – There’s some level of surprise or frustration attached to the statement.
- An opportunity that once existed no longer does.
  - Metaphoric/idiomatic meaning
a. You should have seen the bull we got from the pope.  

b. [Competent [men and women]] hold all the good jobs in the firm.  
   [Competent men] and [women] hold all the good jobs in the firm.  
   
   structural ambiguity

c. Mary claims that John saw [DP/small clause her duck].  
   her = possessive
   duck = noun
   (and her has ambiguous reference)

   lexical and structural ambiguity

d. Someone loves everyone.   
   (i) There is some person and that person loves everyone  
   (ii) For every person, someone loves that person  
   --(ii) is a possible interpretation under (i), but it could also be  
   that there are different pairings between the lover and the lovee

   scope ambiguity
The Relationships that Lexical Items have to Each Other

Homophones/ homonyms: Words that sound the same, but have different meanings.
(1) a. horse, hoarse  b. bare, bear  
   c. that (determiner), that (complementizer)

Polysemy: Polysemous words also sound the same, and their meanings are closely related.
(2) a. *Saw* (noun): a jagged–edged instrument used for cutting  
   b. *Saw* (verb): to use a jagged–edged instrument for cutting

(3) a. It takes a good ruler to keep things straight.  
   b. You should see her shop.

- We’ll get to both philosophical discussions and neuroscientific research on homophony and polysemy. (Elbourne 2011, Chapter 3)
Synonyms: Almost identical meanings. [Again, this is more complicated than it seems]
(4)   a. couch – sofa  b. sick – ill  c. serene – calm – peaceful

Antonyms: Opposites. Different types of antonyms.

Complementary pairs: one member of the pair means **not** the other member of the pair.
(5)   a. alive – dead  b. present – absent  c. fake – genuine

Gradable pairs: the meaning is determined by the context or what the adjective is describing. The meanings are not absolute.
(6)   a. big – small A small elephant is larger than a big mouse.
   b. hot – cold A cold cup of coffee might be warmer than a hot soda.
   c. fast – slow A slow airplane moves more quickly than a fast car.

(7)   a. This is yellow.  b. This is a fountain pen.  c. This is a yellow fountain pen.
   --a & b entail c
(8)   a. This is big.  b. This is a sperm whale.  c. This is a big sperm whale.
   --a&b do not entail c: entailment doesn’t apply with gradable adjectives

Relational Opposites: display symmetry in relation to each other; one usually requires the other.
(9)   a. give – receive  b. buy – sell  c. teacher – pupil
The Relationship that Lexical Items Have to a Discourse

(1) a. Mary used to swim a mile a daily.
   b. Mary no longer swims a mile daily.  
      (C, M–G, ex 23)
      • (a) implies (b), but does not entail (b)

(2) a. After Hans painted the walls, Pete installed the cabinets.
   b. Hans painted the walls.  
      (ex 24)
      • (a) entails (b)

(3) a. If Hans painted the walls, Pete installed the cabinets.
   b. Hans painted the walls.
      • (a) does not entail (b)
“Natural Language Semantics is a peculiar discipline in that it is carried out under the aegis of three larger subjects: linguistics, psychology, and philosophy.” (Elbourne 2011:vii)

“…the precise form that …semantic information takes…is deeply mysterious.” (Elbourne 2011:23)
Where We’re Headed

- Some Philosophical Contemplation
- The Complexity of Word Meanings
  - The Relationships That Words Have to Each Other
  - A Look at the Copula
- The Even Greater Complexity of Sentence Meanings
  - C-selection and S-selection
  - The meanings of embedded clauses
  - Truth-Value Semantics and Type Theory
  - The “Event” Argument and little ν
- Formal Notations for Sentence Meanings – λ
- “Extra” Verbal Arguments – i.e., Applicatives
- The Relationship Between Meaning and Morphology
- Scope and Logical Form
- Binding Theory
- Pragmatics: Word and Sentence Meaning within Conversational Context
  - Gricean Maxims
  - Speech Act Theory
- Meaning and Thought: more (controversial) philosophical contemplation
What do we know when we (think we) know what a word means?
Two Theories of Word Meaning

- Meanings of words are things in the world.
- *Iceland* means “the huge chunk of rock and ice in the northern Atlantic Ocean.” (Elbourne 2011:14)
- A neat and clean way to handle “easily identifiable” objects and to ensure that speakers are on the same page.
- But, “bizarre entities” such as Santa Claus have to be posited as existing.

- Meanings are ideas, concepts in the minds of individuals.
- We each have our own concept of Iceland and we use the word Iceland to talk about that concept. (p.15)
- e.g. – My concept of Iceland includes fantastic restaurants, so if I go there at some point and find that my favorite places have been replaced by lower quality establishments, I would likely say:
  - *Iceland just isn’t Iceland anymore.*
- This approach allows for more nuanced meanings, but we “cannot rule out that the associated concepts are significantly different …seems to allow drastic failures of communication.” (p.15)

Referential

Internalist
The Meaning of One Tiny, Very Complicated Word: The Copula

How Many “Be”s exist?

a. Emily is a carpenter.
b. What Harvey did next was wash himself thoroughly.
c. Electronically is usually fastest.
d. That’s my brother.
e. Red is my favorite color.
f. My favorite color is red.
g. The only thing we couldn’t agree on was whether we should go to France first. (Mikkelsen 2011:1805)
ATaxonomy of “Be”

**Predicational:** The subject is usually a referential and the post-verbal phrase describes a property of the subject.

a. The hat is big.
b. The hat/present/thing I bought for Harvey is big.
c. What I bought for Harvey is big.
d. Sylvia is from Seattle/an architect/the architect on that project/my friend/mayor of Seattle.

**Specificational:** The post-verbal phrase “specifies” who/what someone/something is.

a. The director of Anatomy of a Murder is Otto Preminger.
b. The only director/person/one I met was Otto Preminger.
c. Who I met was Otto Preminger.

**Identificational:** The subject contains a demonstrative and the post-verbal phrase refers to the “content” of the demonstrative.

a. That (woman) is Sylvia.
b. That (stuff) is DDT.

e**Quative/Identity:** The pre and post-verbal items are of the same type (nouns, clauses) and the reference of one is identical to the reference of the other.

a. Sylvia Obernauer is HER.
b. Cicero is Tully.
c. Your attitude toward Jones is my attitude toward Davies.  (Mikkelsen 2011:1806-12)
How do we define words in isolation, with respect to each other, with respect to their “contribution” to a construction, and with respect to a conversational context?
Sentence Meaning

The (in)famous...

*Colorless green ideas sleep furiously.*
Heads require that their arguments have particular syntactic and semantic properties.

Having the right category gives us syntactically grammatical structures.
  - C–selection

Having the right semantic properties gives us sentences that “make sense.”
  - These properties are generally referred to as theta/thematic roles.
  - S–selection
(a) Most first-year college students buy expensive textbooks.

(b) Eric admires his basketball coach.

(c) Julia traveled (from Beijing to Moscow).

(d) The butcher cut slabs of beef (in the walk-in fridge) (with a sharp knife).

(e) The aspiring underling wrote the report (for her supervisor) (meaning that the supervisor was supposed to write the report but the underling wrote it in order to earn brownie points)

As we’ll see, sometimes thematic roles have morphological consequences.
Deny, say, and wonder all C(ategory)–select for an embedded clause.
However, these verbs have different S(emantic)–selection requirements.
- Deny takes a propositional complement.
- Wonder takes a question complement.
- Say takes either a proposition or a question.

A verb’s clausal arguments also have to fulfill both c–selection and s–selection requirements.

a. Martha denied that John has left.
a.’ *Martha denied whether John has left.
b. Martha said that John has left.
b.’ Martha said whether John has left.
c. *Martha wonders that John has left.
c.’ Martha wonders whether John has left.
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

Other verbs s-select for the same thematic types, 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 2011, Ch2, EX 139)

And, of course, plenty of verbs c-select for only NPs (e.g. – cook, buy, build)
It is true that to-infinitives lack the morphological feature [+Past], but this does not necessarily imply that they lack a tense operator...the tense of a to-infinitive is that of a possible future [Stowell 1982:562]

- Tensed complements, infinitives, and gerunds have different interpretations.
- In (1), the finite complements have their own tense specification (1c is tricky...).
- In (2), the tense of the non-finite (control) clause is unrealized w.r.t. to the tense of the matrix clause.
- The gerunds in (3) are bad because – unlike the control infinitives in (2) – they don’t have their own unrealized tense.
  - In 8(b), the remembering and the bringing happened in the past, while in 9(b), the locking is either present or unrealized w.r.t the trying. In the gerunds, the tense of the infinitive is “malleable” to the semantics of the matrix verb. (p. 563)

What we’ll see: Finite clauses and (control) to-infinitives contain a C position (hence, a CP projection) and they contain a tense operator which resides in/has a relationship with the C position. That operator provides a tense interpretation relative to the tense of the matrix clause.

(3) is bad because there’s no CP projection to house the moved WH word.
Theta Roles and Morphology

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

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

**Japanese**

Mary-ga eigo-ga yoku dekiru.
Mary-nom English-nom well do.can.pres
‘Mary can speak English well.’

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

**Icelandic**

bið lásuð bókina.
you.nom.pl read the book.acc
‘You read the book.’

Mörgum prófessorum líkuðu dýrir skór.
many professors.dat liked expensive shoes.nom
‘Many professors liked expensive shoes.’
But sometimes a dative is not an experiencer...

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

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

→ Recipient is also a common role for datives.
→ The object of til is accusative, even though the object is the recipient.

And an experiencer is not dative.

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

(d) Einum dómara sýndist þessar athugasemdir vera óréttlátar.
    one judge.dat understood these comments.nom be unfair
    ‘One judge understood these comments to be unfair.’
Meaning and Morphology: The Case of Aspect (pun intended)

- In Hindi–Urdu, the case of the subject depends on whether the activity is necessarily completed – e.g., perfective aspect.
- In Finnish, the case of the object depends on the completion or resulting state of the activity.

Hindi–Urdu

(i) Nominative subject: Not perfective. We don’t know if the action was completed.

Rahul   kitaab   parh–taa   thaa
Rahul.masc.nom book.fem read-hab.masc.sg be.past.masc.sg
‘Rahul used to read (a/the) book.’

(ii) Ergative subject: Perfective. The action has been completed.

Rahul–ne   kitaab   parh–ii   thii
Rahul–erg book.fem read-pfv.fem be.past.fem.sg
‘Rahul had read the book.’ (Butt, Chapter 6, Ex 12)

SIDEBAR: The verbs do not agree with the ergative in (ii) even though it is the subject. The verbs agree with the subject in (i) but with the object in (ii).

Finnish direct objects have partitive case if the VP is “unbounded” but accusative case if the VP is “bounded.”
Summary of Issues Related to Sentence Meaning

- S-selection and c-selection don’t always pattern together.

- The meaning of some infinitival complements includes tense information, but not others.

- Sometimes meaning maps to morphology, sometimes not.
Modeling the Mystery of Meaning

\(<e,t>\) \(\lambda\)
Type Theory is a tool that is grounded in the truth-conditional approach to semantics.

The basic idea is that there are entities and truth values.

- Words and phrases are functions that represent the relationship between entities and truth values.

It's a very simplistic model that can't capture nuances (we'll talk more about this issue when we get to pragmatics).

- Entities are of type e (people, objects, ideas, etc.)
  - Here, the NPs are of type e
  - We'll later see that the different components of the NP have to combine
    - E.g. the determiner and the noun have different types

- The verb is a function. Transitive verbs have two arguments, each represented by e.
  - The direct object combines with the verb and eliminates the first e.
  - That e has a value, so it disappears

- The VP is also a function.
  - The subject combines with the VP and eliminates the remaining e slot.

- The sentence can now be assigned a truth value.
  - The sentence doesn't have to be true in order to have a truth value. It could be 1 (true) or 0 (false)
Marantz (1984): The entire predicate (not just the verb) assigns a θ-role to the subject. The meaning/properties of the object influence the meaning of the verb, which, in turn, determines the semantic properties of the subject.

1. a. throw support behind a candidate  
   b. throw a baseball  
   c. throw a boxing match (take a dive)  
   d. throw a party  
   e. throw a fit  
   (Kratzer 1996, EX 6)

2. a. kill a cockroach  
   b. kill a conversation  
   c. kill an evening watching TV  
   d. kill a bottle (empty it)  
   e. kill an audience (wow them)  
   (Kratzer 1996, EX 8)

3. a. Finding the perfect yoga studio requires effort.  
   b. The professor requires students to read dense articles.

Kratzer argues that we need another syntactic position for the subject. Why? Just how many arguments does a verb have?  
From a syntactic perspective, we’re used to thinking about a verb’s arguments as the NPs/CPs/PPs that it subcategorizes for.  
From a semantic perspective, verbs refer to events and in order to derive the meaning of a verb, the event that the verb refers to is part of the verb’s meaning.  
   ◦ So, verbs take an argument that is an event.  
   The semantic function of v is to “introduce” the external argument.
The verb ‘buy’ from Kratzer’s perspective.

- The meaning of a VP headed by the verb ‘buy’ is derived by supplying an Event argument \((e)\) and a Theme argument\((x)\).
  - The notation is confusing: here \((e)\) does not mean entity

- Since the meaning of the subject is determined by the meaning of the verb plus its object, the meaning of the subject can’t actually be specified.

- **NOTE:** In the semantics world, the term “argument” is used differently than we’ve seen. Arguments are used to encode the elements/items that give a particular word/phrase meaning.

1. \(\text{buy} = \lambda x \lambda e \ [\text{buy}(x)(e)] \) or \(\lambda x \lambda e \ [\text{buying}(x) & \text{Theme}(x)(e)]\) \ (Kratzer 1996, Figure 3)

- ‘Buy’ has two arguments, but not an Agent and a Theme, as we’re accustomed to thinking. The Agent argument is not present as part of the meaning of the verb...because there’s not necessarily an agent.

2. a. I bought a new set of fancy dishes. = I volitionally engaged in the activity of paying for new dishes.

   b. I bought his alibi. = I, perhaps passively, accepted the story. I didn’t actually do anything.

- The argument which surfaces as the subject is “external” to the verb.
What does the event argument actually do?

- It helps us model situations. This sentence has multiple interpretations – collective, cumulative, and distributive.

1. Three architects designed four buildings.

- In both the collective and cumulative, the total number of buildings designed is four.
- **Collective**: all three of the architects collaboratively design all four buildings.

- **Cumulative**: it is underspecified as to how many architects design each building. Perhaps one architect designed three buildings and the other two designed one building or all three architects collaborated on one building and each of them individually designed the remaining three buildings.

- **Distributive**: there are twelve buildings; each architect designs four buildings.

- The events that the collective, cumulative, and distributive interpretations map to are independent of the meaning delivered by the combination of the verb and the object.

- In the collective interpretation, we need one event in which all three architects design four buildings. In the distributive interpretation, we need three events in which each architect designs four buildings. The cumulative interpretation is more complicated; we don’t know just how many events there are. We just know that some subset of architects designed some subset of buildings.

- In order to get the right interpretations, we need to link the VP with the agents of activities denoted by the VP, and the event argument is the variable that does this.

See Kratzer’s chapters *The Event Argument and the Semantics of Verbs* posted on the Semantics Archive for much more detailed discussion of quantifying over events.

http://semanticsarchive.net/Archive/GU1NWM4Z/
• In type theory, **events** are of type s. **Entities** are still e and **truth values** are still t.

• In this simplified lambda abstraction, **events** are e and **entities** are x.

\( \lambda x . \text{wine} (x) \). The meaning of wine is expressed as a function because it is a common noun. Some entity has the property of being wine iff it has the requisite characteristics.

\( \lambda x \lambda e . \text{bought} (x)(e) \). **bought** is a two-place predicate. \( \lambda x \) is its internal argument and \( \lambda e \) is the event.

\( \lambda e . \text{bought(wine)}(e) \). When **bought** and **wine** combine, wine saturates the internal argument slot. \( \lambda x \) disappears because it now has a meaning.

\( \lambda x \lambda e . \text{agent}(x)(e) \). \( v \) is also a two-place predicate. \( \lambda x \) is the agent and \( \lambda e \) is the event.

\( \lambda x \lambda e . \text{bought(wine)}(e) \& (\text{agent})(x)(e) \). The event argument unifies the event encoded in the VP and the agent of the event.

• The \( \& \) is a conjunction of sorts in which both conjuncts have an event argument. The formula means, “There was an event of buying wine and there is some agent of that event.”

• Unlike **wine**, **Cherlon** is not a function. I simply am.

\( \lambda e . \text{bought(wine)}(e) \& (\text{agent})(\text{Cherlon})(e) \)

**Computing Cherlon bought wine**
‘Extra’ Arguments: Applicatives

The complicated case of *melt*
English and Venda (a Bantu language) both allow *melt* in the same argument structure configurations – (1)/(2)

But, Venda allows some intransitives (unergatives) such as *laugh/speak* to take applicatives, while English does not – (3)/(4)

Pylkkänen (2002/2008) proposes that there is an **applicative head** which introduces the applicative argument.

The basic division between applicatives is that some are high and others are low.

High applicatives (HA): the applicative head attaches above the verb.
- There is a relation between an individual/entity and an event.
- Venda

Low applicatives (LA), the applicative head attaches below the verb
- There is a relation between two individuals/entities. The applicative is either the recipient or the source.
- English
- LA requires a direct object because the relationship is between the direct object and the applicative argument.

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1. **English**
   a. The ice melted.
   b. John melted the ice.
   c. John melted me some ice.

2. **Venda**
      snow 3SG.PAST-melt-FV
      ‘The snow melted.’
   b. Mukasa o-nok-is-a
      Mukasa 3SG.PAST-melt-CAUSE-FV snow
      ‘Mukasa melted the snow.’
   c. Mukasa o-nok-is-el-a
      Mukasa 3SG.PAST-melt-CAUSE-APPL-FV Katonga snow
      ‘Mukasa melted Katonga the snow.’

3. **Venda**
   a. Mukasa o-se-is-a
      Katonga.
      Mukasa 3SG.PAST-laugh-CAUSE-FV Katonga
      ‘Mukasa made Katonga laugh.’
   b. Mukasa o-amb-el-a
      Katonga.
      Mukasa 3SG.PAST-speak-APPL-FV Katonga
      ‘Mukasa spoke for Katonga.’

4. **English**
   a. *Mary laughed Sue.
      (Intended meaning: ‘Mary made Sue laugh.’)
   b. *Mary spoke Sue.
      (Intended meaning: ‘Mary spoke for Sue.’)

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Data from Pylkkänen 2008, Ch. 1
In Essence...

Mary bought John a book.

- The applicative, John, has a relation with the direct object.
- John is the intended recipient of the book.

We’ll get to the formal \( \lambda \) notation for applicatives later in the term.

(Wife stands in a benefactive relation to the event of eating but bears no relation to the object of eating, food.
- Likewise, in b, friend benefits from the event of running.
- “A high applicative head is very much like the external-argument-introducing head: it simply adds another participant to the event described by the verb.” (Pylkkänen 2008:14)
Issues With Formal Models of Meaning

- Sometimes they’re too simplistic – type theory
- Other times, they’re so nuanced that the intuitions that are being captured are not very transparent

The woman who every Englishman loves is his mother.

(Mikkelsen 2011, EX 75)
SCOPE

...and...wait for it...Logical Form
My friend David just made partner at his law firm. I meet David at his office for lunch. As I’m pulling into the parking lot, I notice all of the partners’ names on their respective parking spaces. I see that Thomas and Beth drive Porsches, Andrew drives a BMW, William drives a Lexus, and Sandra drives a Jaguar. David currently drives a Honda Civic, but he’s considering upgrading since he just made partner.

I advise David that he should get a nicer car since “Every partner at the firm drives an expensive car.”
a. Our set of partners: Thomas, Sandra, Andrew, Beth, William
   Our set of expensive cars: BMW, Porsche, Lexus, Jaguar, Audi

Scenario 1: Every partner drives a different expensive car. – surface scope

<table>
<thead>
<tr>
<th>Partner</th>
<th>The car s/he drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas</td>
<td>Porsche</td>
</tr>
<tr>
<td>Sandra</td>
<td>Jaguar</td>
</tr>
<tr>
<td>Andrew</td>
<td>BMW</td>
</tr>
<tr>
<td>Beth</td>
<td>Mercedes</td>
</tr>
<tr>
<td>William</td>
<td>Lexus</td>
</tr>
</tbody>
</table>

Scenario 2: Some partners drive the same expensive car. – surface scope

<table>
<thead>
<tr>
<th>Partner</th>
<th>The car s/he drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas</td>
<td>Porsche</td>
</tr>
<tr>
<td>Sandra</td>
<td>Jaguar</td>
</tr>
<tr>
<td>Andrew</td>
<td>Jaguar</td>
</tr>
<tr>
<td>Beth</td>
<td>Porsche</td>
</tr>
<tr>
<td>William</td>
<td>Lexus</td>
</tr>
</tbody>
</table>

In Scenario 2, no partner drives a Mercedes or a BMW, but it is still true that every partner drives an expensive car.

Scenario 3: Every partner drives the same expensive car. – inverse scope

<table>
<thead>
<tr>
<th>Partner</th>
<th>The car s/he drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas</td>
<td>BMW</td>
</tr>
<tr>
<td>Sandra</td>
<td>BMW</td>
</tr>
<tr>
<td>Andrew</td>
<td>BMW</td>
</tr>
<tr>
<td>Beth</td>
<td>BMW</td>
</tr>
<tr>
<td>William</td>
<td>BMW</td>
</tr>
</tbody>
</table>

b. The sentence is false under this scenario

<table>
<thead>
<tr>
<th>Partner</th>
<th>The car s/he drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas</td>
<td>Audi</td>
</tr>
<tr>
<td>Sandra</td>
<td>Porsche</td>
</tr>
<tr>
<td>Andrew</td>
<td>Kia</td>
</tr>
<tr>
<td>Beth</td>
<td>BMW</td>
</tr>
<tr>
<td>William</td>
<td>Jaguar</td>
</tr>
</tbody>
</table>
• "every partner" is moved to a position higher than where it was in the syntactic tree
• a variable, represented by $x$, is inserted into the position that the NP moved from.
  • $x$ represents the individuals in our set of partners.
• In order for the sentence Every partner at the firm drives an expensive car to be true, we have to be able to plug any of the partners into the spot where we placed the variable and get a true sentence.

For every partner at the firm, that person drives an expensive car.
Every has scope over an.
We start off with the same syntactic structure and we still move the subject.
The object NP is moved to a position higher than the subject NP.
This tree does not represent how we actually pronounce the sentence, but we interpret the object before the subject. Hence, inverse scope:

There is a particular expensive car and every partner at the firm drives that car.
A(n) has scope over every.

We plug some particular expensive car into the spot where we moved the object from and we plug the partners into the spot that we moved the subject from. If each individual sentence comes out true, then the sentence Every partner at the firm drives an expensive car is true.

If our particular car is the BMW, the inverse scope is true if Thomas, Sandra, Andrew, Beth, William all drive a BMW.
A climber scaled every cliff.

Inverse scope interpretations take longer to process, suggesting that surface scope is the “default/easier” interpretation.

Covert movement – and sometimes there is a *lot* of it proposed – complicates our structures and it isn’t always clear that this is the best way to model meaning.
Binding Theory

AAAGGGHHHH!
Some Basic Terminology

- **R–expression**: A DP that gets its meaning by referring to an entity in the world.

- **Anaphor**: A DP that obligatorily gets its meaning from another DP in the sentence.
  - Cherlon bopped herself on the head with an eggplant.
    - Reflexives: Myself, Yourself, Herself, Himself, Itself, Ourselves, Yourselves, Themselves
    - Reciprocals: Each Other, One Another

- **Pronoun**: A DP that may get its meaning from another DP in the sentence or contextually, from the discourse.
  - Art said that he played basketball. [EX5]
    - I/Me, You/You, She/Her, He/Him, It/It, We/Us, You/You, They/Them
      - Nominative/Accusative Pronoun Pairs

- **Antecedent**: A DP that gives its meaning to another DP.
A binds B if and only if A c–commands B and A and B are coindexed.

**Principle A:** An anaphor must be bound in its binding domain.
- **Binding Domain:** The clause containing the DP (anaphor, pronoun, R–expression)
  - Claire_{i} really likes that Nancy_{j} admires herself_{j/*i}.
  - Even though Claire c–commands herself, Claire is in the main clause and herself is in the embedded clause. Therefore, the binding relationship cannot be established inside the clause containing herself.

**Principle B:** A pronoun must be free in its binding domain.
- **Free:** Not bound
  - Claire_{i} really likes that Nancy_{j} admires her_{i/*i/k}.

**Principle C:** An R–expression must be free.
- There’s no mention of a domain because R–expressions cannot be bound at all.
What’s easy to explain…
1. Max criticized himself/*him.
2. Max talks to himself/*him.
3. Lucie’s joke about herself/*her

What’s not so easy to explain…
4. Max saw a gun near himself/him.
5. Lucie counted five tourists in the room apart from herself/her.
6. Lucie saw a picture of herself/her (sitting on the table).
7. Max (really) likes jokes about himself/him.  (Reinhart&Reuland 1993, EX 6–8)

- And, in some languages, the use of an anaphor is connected to particular verbs.
  - SE-anaphors in Dutch:

8. Max$_m$ wast zich$_m$.
   Max$_m$ washes SE$_m$
   “Max washes himself.”

9. *Max$_m$ haat zich$_m$.
   Max$_m$ hates SE$_m$
   “Max hates himself.”
Reflexivity (Reinhart and Reuland 1993), as Discussed in Klug 2013

1. a. R&R Condition A: A reflexive–marked syntactic predicate must be reflexive.
   b. R&R Condition B: A reflexive semantic predicate must be reflexive–marked.

   There are two ways for a predicate to be reflexive–marked and one way for it to be reflexive
   ◦ A predicate is reflexive iff two of its arguments are co–indexed.
   ◦ A predicate is reflexive–marked iff it is lexically reflexive (e.g. behave) or one of its arguments is a self–anaphor (e.g. herself). (R&R 1993, EX 40c/d)

   This proposal addresses the Dutch data but doesn’t account for the variation described in Klug 2013 or the complexity identified in Mains 2013 (another linguistics comps on binding theory and “picture NPs”)

   As noted by Klug 2013, violations of Condition B seem to be context–dependent.

2. a. John\textsubscript{i} likes to hear stories about him\textsubscript{i/j}
   b. *John\textsubscript{i} likes to tell stories about him\textsubscript{i}
   c. John\textsubscript{i} likes to tell stories about himself\textsubscript{i}
Klug 2011 findings
“In 2011, I collected grammaticality judgments from nine native English speakers participating in a linguistics class. These participants evaluated 16 sentences, including 5 containing Picture NPs and 5 containing pronouns without explicit syntactic antecedents. For sentences (5a) through (5e), participants evaluated the grammaticality of the pronominals and the anaphors with the given indices. If only the anaphor was grammatical, the response was 1; if only the pronominal, the response was 3; if both were grammatical, the response was 2.”

(a) John\textsubscript{j} saw a picture of himself\textsubscript{j}/him\textsubscript{j}. \hspace{1cm} 1.33
(b) John\textsubscript{j} saw Mary\textsubscript{m}’s picture of herself\textsubscript{m}/her\textsubscript{m}. \hspace{1cm} 1.44
(c) John\textsubscript{j} believes that pictures of himself\textsubscript{j}/him\textsubscript{j} are on sale. \hspace{1cm} 1.89
(d) John\textsubscript{j} wondered which pictures of himself\textsubscript{j}/Billy\textsubscript{b} saw. \hspace{1cm} 1.89
(e) John\textsubscript{j} saw Mary\textsubscript{2}’s picture of himself\textsubscript{j}/him\textsubscript{j}. \hspace{1cm} 2.56

(Klug 2013, EX 5)

The Big Picture: There are no pure 1 or pure 3 examples. There is interspeaker and intraspeaker variation.
Issues with Binding and Binding Theory

- It isn’t nearly as clean and simple and the standard version of Binding Theory suggests.
- There seem to be an interaction of syntactic, semantic, and pragmatic forces at play.
Pragmatics and the Rules of Conversation

How do we build context into thinking about meaning?
Conversational Implicatures (H. Paul Grice, *Logic and Conversation* 1975)

- We have to know the backdrop in order to arrive at a meaning.
- “I’d like a glass of wine.”
  - Said to a server at a restaurant means something different than when said to a colleague after a really long day in the office.

- In everyday conversation, we subconsciously follow rules (or maxims).
- When we don’t follow the maxims of conversation, we either send unspoken messages or we really annoy our interlocutor.

**Particularized conversational implicatures**

**Generalized conversational implicatures**
The Maxim of Relation

- Make your contribution relevant to the conversation.
- Susan is a second-year student thinking of majoring in history. She has taken a class with Professor Michaels. The department’s new major advisor asks Professor Michaels how Susan did in her course. Professor Michaels says, “Well, she always said ‘hello’ to me.”
  - The professor has violated the Maxim of Relation. The unspoken message is that Susan was polite but not a good student.
Maxim of Quality

- Make your contribution as true as possible. Do not say things that are false or for which you lack adequate evidence.
- My friend Gary is planning a trip to Papua New Guinea. I have never heard of Papua New Guinea; I have no clue where it is or what it’s like. Gary is telling me about his upcoming travels and I say, “Why would you go there? It’s dirty and the food is awful.”
  - I have violated the Maxim of Quality. If Gary finds out that I actually know nothing about Papua New Guinea, then he’ll deduce that I’m an unreliable source of information and will discard my future comments.
Do not make your contribution more or less informative than is required.

It’s Monday morning and I’m chatting with a colleague about the weekend. She asks me what I did on Saturday.

*Answer 1:* “Random things.” My colleague will assume that I don’t want to discuss what I did on Saturday.
**TMI!**

*Answer 2:* “I got up at 10:00 and then I took a shower. I made a cup of coffee and watched CNN for an hour. I got ready and then I met friends for brunch. I ordered a mimosa, buttermilk pecan waffles, and Canadian bacon. I figured that since I drank a mimosa and had to drive, I should order a cup of coffee. I drank my coffee, then the check came. I paid my portion and then walked to my car. I decided to go to Macy’s, since there was a sale. Let’s see, I think I tried on some Nine West shoes and some Ralph Lauren boots. I didn’t like either of those. Then I tried on some Anne Klein boots and some BCBG shoes. The boots weren’t on sale, but I really liked them. I walked around the store for 30 minutes looking for less expensive boots that I liked. I didn’t find any, so I bought the Anne Klein ones. Then I decided to go to a café and get some work done before I went out that night. It took me 7 minutes to drive to the café…”

- Clearly, I have violated the Maxim of Quantity. My colleague, nor one who overhears that response, will ever ask me what I did over the weekend!
Maxim of Manner

- Avoid ambiguity. Be brief and orderly.
- I’m grocery shopping one evening and I run into some friends I haven’t seen in a while – James, and his wife Christina. Later that night, I say to my boyfriend. “Oh, guess who I saw at Whole Foods, James and the woman he lives with.”
  
  • I have violated the Maxim of Manner because I chose to use to describe Christina in a way that did not make it clear that she is James’ wife. I am communicating that I don’t care for Christina.
Speech Act Theory and Performatives

- J.L. Austin – *How to do Things with Words* (1962)
  - Philosopher at Oxford University in the 1940s and 1950s
  - Growing frustration with truth conditional semantics as the basis for semantic inquiry.
    - Some assumptions about language (that were being challenged):
      - The basic sentence type is declarative (statement/assertion).
      - The principal use of language is to describe states of affairs.
      - The meaning of utterances can be described in terms of truth/falsity. [e.g. type theory]

- Grice was Austin’s student. They and some others at Oxford came to be known as “ordinary language philosophers.”
  (Saeed 2003:219–240)
Language as Action

1. I (hereby) apologize for saying that I hope you get run over by a bus.
2. I (hereby) name this boat the Cheral.
3. I (hereby) bet you $5 that Cherlon will wear a different outfit to class every day this term.
4. I (*hereby) drive a silver car.
5. I (*hereby) plan to go out for Vietnamese food tonight.
6. I (*hereby) own 50 pairs of shoes.
1. I say that John is a liar.
2. John is a liar
3. I plead not guilty.
4. I am innocent.
5. I move that fox–hunting be abolished.
6. I believe that fox–hunting should be abolished.
7. I object to the licensing hours being extended.
8. I do not want the licensing hours to be extended.
9. I apologize for deceiving the auditors.
10. I am sorry I deceived the auditors.
   (Thomas 1995:34)

- Each even–numbered sentence can be negated while still preserving the truth conditions of the preceding sentence.
  - E.g. – I move that fox–hunting be abolished even though I do not actually believe that fox–hunting should be abolished.
Issues with Pragmatics Theory

- Gricean maxim-based theory has a difficult time accounting for sarcasm, which is an incredibly productive aspect of "ordinary" language.
- There isn’t necessarily a one-to-one mapping between “doing” things with words and the corresponding performative act.
Language, Culture, Meaning and Thought

The enduring Sapir-Whorf controversy
“It just doesn’t seem that there’s any way that it does X, Y, or Z...Since this typically doesn’t happen in languages...well, it must be there, just look a little harder.” [p.7]

Steve Sheldon, linguist with the Summer Institute of Linguistics who spent time with the Pirahã in the late 1960s and the 1970s commenting on the response that linguists had to Pirahã data

“Everett says that he was aware that Pirahã contained many linguistic anomalies that he could not fit into Chomsky’s paradigm. ‘I knew I was leaving out a lot of stuff...but these gaps were unexplainable to me.’” [p.9]

Dan Everett, Dean of Arts and Sciences at Bentley University, whose publications about the Pirahã language lacking recursion have caused an uproar

‘Free from Chomskyan constraints, I was able to imagine new relationships between grammar and culture.’ [p.10] , Dan Everett

“The ability to put thoughts inside other thoughts is just the way humans are, because we’re smarter than other species.” Everett says that the Pirahã have this cognitive trait but that it is absent from their syntax because of cultural constraints.” [p.13]
“’Descriptive work’ apart from theory does not exist. We ask the questions that our theories tell us to ask.” [p.14]

David Pesetsky, Professor of Linguistics at MIT

“…universal grammar was a good try, and it was not so implausible at the time it was proposed, but since then we have learned a lot about many different languages, and they simply do not fit one universal cookie cutter.” [p.14]

Michael Tomasello, Director of the Department of Developmental and Comparative at the Max Planck Institute for Evolutionary Biology

“If you had something that was present in five thousand nine hundred and ninety-nine of the languages, and someone found one language that didn’t have it – well, I think there may be some anthropologists who would say, ‘This shows that there’s no universals, that anything can happen…But, more likely, you’d say, ‘Well, what’s going on with that weird language?’” [p. 15]

Steven Pinker, Professor of Psychology at Harvard

“Chomsky’s theory of universal grammar…acts as if, in some inexplicable way, almost mysteriously, language is hermetically sealed from the conditions of life of the people who use it to communicate. But this is not some kind of abstract, beautiful, mathematical, symbolic system that is not related to real life.” [p15]

Brent Berlin, a cognitive anthropologist at the University of Georgia
Issues with Language, Culture, and Meaning

- To what degree are culturally-influenced concepts encoded in “ordinary” language and where should our theories/models draw the line between what speakers actually do and what we deduce speakers are capable of doing?
  - The age-old competence vs performance issue

- If we concede that language and culture influence each other, how do we guard against making judgments about cultures by using language as “evidence”?
References

- Colapinto, John. 2007. The Interpreter. Published in The New Yorker (April 2007)