Some Interesting Empirical Challenges

Slides taken entirely from Detmar Meurers’ Grammar

Formalisms for CL course

L614
Spring 2010
Subcategorization

(1) a. *I laugh.*
   b. I saw him.
   c. I give her the book.
   d. I said that she left.

Cannot always be derived from semantics:

(2) a. Paul ate a steak.
   b. Paul ate.

(3) a. Paul devoured a steak.
   b. *Paul devoured
Government: One element decides on the form of another element, e.g.

- verbs govern the case of their nominal argument
- verbs govern the form of their verbal argument
Some Interesting Empirical Challenges

Local relations
Subcategorization
Government
Agreement
Arguments vs. Adjuncts
Semantic Contribution
Iterability
Obligatoriness
Predictability
Linear Order
Substitutability

From local to non-local relations
Properties
Why a syntactic link?
Different types of UDCs
Strong UDCs
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Middle distance dependencies
Subjects of non-finites
Nature of the controllers
Test 1: non-ref subjects
Test 2: clausal subjects
Test 3: idiomatic subjects
Test 5: passivization
Raising is widespread

Government Case

(4) a. He left. 
    b. * Him left. 

(5) a. She sees him. 
    b. * She sees he. 

Nom 
Acc
Some Interesting Empirical Challenges

Government

Verb form

(6) a.  *Peter will won the race.*
    b.  *Peter will won the race.*
    c.  *Peter will to win the race.*

(7) a.  *Peter has won the race.*
    b.  *Peter has win the race.*
    c.  *Peter has to win the race.*

(8) a.  *Peter seems to win the race.*
    b.  *Peter seems win the race.*
    c.  *Peter seems won the race.*
Agreement

- Agreement: Two elements agree in some (abstract) property, e.g.:
  - Subject-verb agreement in *person* and *number*
  - Adjective-noun agreement in *case*, *gender*
Agreement
Subject-Verb Agreement

(9) a. She walks / *walk.
b. The men *walks / walk.

(10) a. Maria lacht / *lachen / *lache / *lachst.
b. Die Männer *lacht / lachen / *lache / *lachst.

(11) a. That they are alive is / *are a pleasant surprise.
b. Daß sie leben ist / *sind erfreulich.

(12) a. Hier wird / *werden gelacht.
Agreement
Pronoun-Antecedent Agreement

(13) a. *He$_i$ claimed that her$_{i/j}$ car broke down.
b. She$_i$ claimed that her$_{i/j}$ car broke down.
c. They$_i$ claimed that their$_{i/j}$ car broke down.
Agreement
Adjective-noun agreement in Gender

(14) a. *La fille est heureuse / heureux.
b. *Le garçon est heureuse / heureux.
Agreement
Agreement within the Noun Phrase

(15) a. (Fritz hat) eine kluge Lehrerin
b. (Fritz hat) einen kleinen Lehrer
c. Die Männer *lacht / lachen / *lache / *lachst.

(16) a. (Fritz mag) kluge Lehrer.
b. (Fritz mag) die klugen Lehrer.
Arguments vs. Adjuncts

Semantic Contribution

- Arguments and adjuncts differ in the kind of semantic contribution they make.

- Arguments denote
  - participants of an event
    
    (17) *Sandy kissed Robin.*
  - individuals/entities for which a state of affairs holds
    
    (18) *Sandy knew the answer.*

- Adjuncts denote the circumstances under which an event took place or a state of affairs occurred. Adjuncts refer to
  - time
    
    (19) *Sandy knew the answer on Monday.*
  - frequency
    
    (20) *Sandy forgot her umbrella twice.*
Arguments vs. Adjuncts
Semantic Contribution (cont.)

- place
  
  (21) Sandy kissed Robin in the park.

- manner
  
  (22) Sandy kissed Robin passionately.

- cause
  
  (23) Sandy knew the answer because she had studied for the test.

- effect or purpose
  
  (24) Sandy kissed Robin to show his affection.

etc. of an event or state-of-affairs.
Arguments vs. Adjuncts

Iterability

- Adjuncts can be iterated (subject to semantic restrictions), arguments cannot.

(25)  *John buttered the toast at midnight with a knife in the bathroom.

(26)  *John buttered the toast the bread.
Arguments vs. Adjuncts

Obligatoriness

- Adjuncts are optional, arguments (of verbs) are obligatory.

(27) a. John buttered the toast at midnight with a knife.
    b. John buttered the toast at midnight.
    c. John buttered the toast.

(28) * John buttered.
Arguments vs. Adjuncts

Predictability

- The selection and semantic contribution of arguments tends to be idiosyncratic, while semantic contribution of adjuncts is uniform and predictable.
  - Idiosyncratic selection:
    - Obligatoriness
      1. *John ate the stake.*
      2. *John ate.*
      3. *John devoured the steak.*
    - Idiosyncratic semantic contribution:
      1. *John fears thunderstorms.*
      2. *Thunderstorms frighten John.*
Arguments vs. Adjuncts
Order among complements/adjuncts

- In languages with relative fixed word order complements allow no scrambling, while adjuncts can be ordered more freely.

(33) a. *John buttered the toast with a knife in the bathroom at midnight
   b. John buttered the toast at midnight with a knife in the bathroom.
   c. John buttered the toast in the bathroom at midnight with a knife.

(34) a. Mary gave John a book.
Arguments vs. Adjuncts
Relative order of complements with respect to adjuncts

- In English, at least certain adjuncts tend to occur after complements.

(35) *The authorities blamed the arson on the skydivers [without checking the facts].

(36) The authorities blamed [without checking the facts] the arson on the skydivers.
Arguments vs. Adjuncts

Substitutability

- In English, a V’ can be substituted under *do so* ellipsis.
- This entails that complements must be within the antecedent of *do so*, whereas adjuncts may be either inside or outside.

(37) **Calvin saw Hobbs in the garden and Peter did so too.**

(38) **Calvin saw Hobbs in the garden and Peter did so in the kitchen.**

(39) * **Calvin saw Hobbs in the garden and Peter did so John in the kitchen.**
From local to non-local dependencies

- A head generally realizes its arguments locally within its head domain (i.e., within a local tree if an X-bar structure is assumed).

- Certain kind of constructions resist this generalization, such as, for example, the wh-question (from the NYT):

  (40) a. *Who do you think _ writes well about human sadness?*
  
  b. *Who do you think the cops are going to believe _?*

- How can the non-local relation between a head and such arguments be licensed?
  
  ▶ How can their properties be captured?
A first example: *Wh*-elements

*Wh*-elements can have different functions:

(41) a. *Who did Hobbs see* _?_  
    b. *Who do you think* _ saw the man?_  
    c. *Who did Hobbs give the book to* _?_  
    d. *Who did Hobbs consider* _to be a fool?_ 

*Wh*-elements can also occur in subordinate clauses:

(42) a. *I asked who the man saw* _._  
    b. *I asked who the man considered* _to be a fool._  
    c. *I asked who Hobbs gave the book to* _._  
    d. *I asked who you thought* _saw Hobbs._
Different categories can be extracted:

(43) a. *Which man did you talk to _ ?* NP
    b. *[To [which man]] did you talk _ ?* PP
    c. *[How ill] has the man been _ ?* AdjP
    d. *[How frequently] did you see the man _ ?* AdvP

This sometimes provides multiple options for a constituent:

(44) a. *Who does he rely [on _ ]?*
    b. *[On whom] does he rely _ ?*

Unboundedness:

(45) a. *Who do you think Hobbs saw _ ?*
    b. *Who do you think Hobbs said he saw _ ?*
    c. *Who do you think Hobbs said he imagined that he saw _ ?*
A syntactic link from filler to gap is needed

(46) a.  \(<\text{Kim}_i), \text{Sandy trusts} \_i.\>
    b.  [On Kim]_i, Sandy depends \_i.\>

(47) a.  *[On Kim]_i, Sandy trusts \_i.\>
    b.  * Kim_i, Sandy depends \_i.\>

And this link has to be established for an unbounded length:

(48) a.  Kim_i, Chris knows Sandy trusts \_i.\>
    b.  [On Kim]_i, Chris knows Sandy depends \_i.\>

(49) a.  *[On Kim]_i, Chris knows Sandy trusts \_i.\>
    b.  * Kim_i, Chris knows Sandy depends \_i.\>

(50) a.  Kim_i, Dana believes Chris knows Sandy trusts \_i.\>
    b.  [On Kim]_i, Dana believes Chris knows Sandy depends \_i.\>

(51) a.  *[On Kim]_i, Dana believes Chris knows Sandy trusts \_i.\>
    b.  * Kim_i, Dana believes Chris knows Sandy depends \_i.\>
Unbounded dependency constructions

An unbounded dependency construction

- involves constituents with different functions
- involves constituents of different categories
- is in principle unbounded

Two kind of unbounded dependency constructions (UDCs)

- Strong UDCs
  - An overt constituent occurs in a non-argument position.
- Weak UDCs
  - No overt constituent in a non-argument position.
Strong UDCs

An overt constituent occurs in a non-argument position:

**Topicalization:**

(52) \( Kim_i, \ Sandy \ loves \_i \).

**Wh-questions:**

(53) I wonder [\( who_i \ Sandy \ loves \_i \)].

**Wh-relative clauses:**

(54) This is the politician [\( who_i \ Sandy \ loves \_i \)].

**It-clefts:**

(55) It is \( Kim_i, \ Sandy \ loves \_i \).

**Pseudoclefts:**

(56) [\( What_i \ Sandy \ loves \_i \] is \( Kim_i \).
Weak UDCs

No overt constituent in a non-argument position:

**Purpose infinitive (for-to clauses):**

(57) *I bought it_i for Sandy to eat _i.*

**Tough movement:**

(58) *Sandy_i is hard to love _i.*

**Relative clause without overt relative pronoun:**

(59) *This is [the politician]_i [ Sandy loves _i ].*

**It-clefts without overt relative pronoun:**

(60) *It is Kim_i [Sandy loves _i ].*
Non-finite constructions: An empirical challenge

In non-finite constructions, the subject of the embedded verb is not expressed as a locally realized dependent.

Problem 1: What is interpreted to be the subject of the non-finite verb?

(61) a. *John tried to dance.*  (subject)
    b. *John promised Peter to dance.*  (subject)
    c. *John persuaded Peter to dance.*  (object)
Non-finite constructions: An empirical challenge

Problem 2

**Problem 2**: Why do verbs selecting non-finite complements differ w.r.t. what kind of controllers can occur?

(62)  
  a. *John tried to dance.*  
  b. *John appeared to dance.*

(63)  
  a. *John persuaded Peter to dance.*  
  b. *John expects Peter to dance.*

(64)  
  a. *It tried to rain.*  
  b. *It appeared to rain.*

(65)  
  a. *John persuaded it to rain.*  
  b. *John expects it to rain.*
Classifying non-finite complements

Verbs selecting non-finite complements can be classified according to

- **their orientation** (subject, direct or indirect object): What is interpreted to be the subject of the non-finite complement?
  
  ⇒ Determined by interpretation of embedded infinitive.

- **the nature of the relationship of the embedding verb to the controller:**
  Is the controller an argument of the embedding verb?
  
  ⇒ A range of tests
Raising verbs only mediate the requirement of the complement:

1. If the embedded verb requires a non-referential (= dummy) subject, so does the raising verb:

   (66)  a.  * It rains.
   b.  * God rains.

   (67)  a.  * It seems to rain.
   b.  * God seems to rain.

   (68)  a.  * It wants to rain.
   b.  * God wants to rain.
The same holds when a dummy subject is permitted:

(69)  a. There is a dragon in the wood.
     b. Hobbs is a dragon in the wood.

(70)  a. There seems to be a dragon in the wood.
     b. Hobbs seems to be a dragon in the wood.

(71)  a. * There wants to be a dragon in the wood.
     b. Hobbs wants to be a dragon in the wood.
Empirical basis of classification (cont.)

Test 2: clausal subjects

2. If the embedded verb **permits a clausal subject**, so does the raising verb:

(72)  


b. *Sarah fascinates John.*

(73)  

a. *That Sarah dances seems to fascinate John.*

b. *Sarah seems to fascinate John.*

(74)  

a. *That Sarah dances wants to fascinate John.*

b. *Sarah wants to fascinate John.*
Test 3: idiomatic subjects

3. If the embedded verb has a **subject with an idiomatic interpretation**, so does it when selected by a raising verb:

   (75) *The cat is out of the bag.*
   (76) *The cat seems to be out of the bag.*
   (77) % *The cat wants to be out of the bag.*
Empirical basis of classification (cont.)

Test 4

4. In languages where **subjectless constructions** exist, raising verbs can embed such subjectless complements:

(78) a. *Dort scheint getanzt zu werden.*

there seems danced to be

‘People seem to dance over there.’

b. *Ihn scheint zu frieren.*

him seems to freeze

‘He seems to freeze.’

(79) a. *Dort versucht getanzt zu werden.*

there tries danced to be

b. *Ihn versucht zu frieren.*

him tries to freeze
5. passivization of the non-finite complement results in a paraphrase

(80) a. John seems to read a book.
    b. The book seems to be read by John.

(81) a. John wants to read a book.
    b. % The book wants to be read by John.
Raising as a widespread phenomenon

Complements of other categories

Not only VP but also AP complements are possible complements of raising verbs like *seem* or *appears*:

(82) *John seems/appears intelligent.*

(83) *John seems/appears to be intelligent.*
Raising as a widespread phenomenon

More on AP complements

Such AP complements behave parallel to the VP complements of raising verbs, e.g., with respect to clausal subjects:

(84) a. *That he came to her wedding is tasteless.
   b. John is tasteless.

(85) a. That he came to her wedding seems to be tasteless.
   b. John seems to be tasteless.

(86) a. That he came to her wedding seems tasteless.
   b. John seems tasteless.

(87) a. *That he came to her wedding wants to be tasteless.
   b. John wants to be tasteless.