Some Interesting Empirical Challenges
Slides taken entirely from Detmar Meurers’ Grammar Formalisms for CL course

L614
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Government

- 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

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.
   c. Paul devoured a steak.
   d. * Paul devoured

Agreement

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

Verb form

6. a. Peter will win 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. (√ with “has to” as verb)

8. a. Peter seems to win the race.
   b. * Peter seems win the race.
   c. * Peter seems won the race.
### 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

#### 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 denote participants of an event
  - Sandy kissed Robin
- Individuals/entities for which a state of affairs holds
  - Sandy knew the answer

- Adjuncts denote the circumstances under which an event took place or a state of affairs occurred. Adjuncts refer to
  - time
    - Sandy knew the answer on Monday
  - frequency
    - Sandy forgot her umbrella twice

#### Semantic Contribution (cont.)

- place
  - Sandy kissed Robin in the park
- manner
  - Sandy kissed Robin passionately
- cause
  - Sandy knew the answer because she had studied for the test
- effect or purpose
  - Sandy kissed Robin to show his affection

etc. of an event or state-of-affairs.
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.

The selection and semantic contribution of arguments tends to be idiosyncratic, while semantic contribution of adjuncts is uniform and predictable.

• Idiosyncratic selection:
  • Obligatoriness
    (29) a. John ate the stake.
    b. John ate.
(30) a. John devoured the steak.
    b. * John devoured.

• Idiosyncratic semantic contribution:
(31) John fears thunderstorms.
(32) Thunderstorms frighten John.

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.
    c. John buttered the toast in the bathroom.
(34) a. Mary gave John a book.

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.

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.

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 kinds 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?

Different categories can be extracted:

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

This sometimes provides multiple options for a constituent:

(44) a. * Who do 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 _?

Unbounded dependency constructions

An unbounded dependency construction

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

Two kinds 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.

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 Hobbs gave the book to _ .  
    c. I asked who Hobbs said he imagined that he saw _ .  
    d. I asked who you thought _ saw Hobbs .

A syntactic link from filler to gap is needed

    b. [On Kim _], Sandy depends _ .

    b. * Kim _, Sandy depends _ .

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

(48) a. Kim _, Chris knows Sandy trusts _ .  
    b. [On Kim _], Chris depends _ .

(49) a. * [On Kim _], Chris knows Sandy depends _ .  
    b. * Kim _, Chris depends Sandy depends _ .

(50) a. Kim _, Dana believes Chris knows Sandy trusts _ .  
    b. [On Kim _], Dana believes Chris knows Sandy depends _ .

(51) a. * [On Kim _], Dana believes Chris knows Sandy depends _ .  
    b. * Kim _, Dana believes Chris knows Sandy depends _ .

Strong UDCs

An overt constituent occurs in a non-argument position:

Topicalization:

(52) Kim _, Sandy loves _ .

Wh-questions:

(53) I wonder [who, Sandy loves _ .

Wh-relative clauses:

(54) This is the politician [who, Sandy loves _ .

Il-cliffs:

(55) It is Kim [who, Sandy loves _ .

Pseudoclefts:

(56) [What, Sandy loves _ ] is Kim .
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)

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

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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.

Relationship: embedding verb ↔ controller

Empirical basis of classification

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.

Empirical basis of classification (cont.)

1. 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.
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Empirical basis of classification (cont.)

Test 2: clausal subjects

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

(a) That Sarah dances fascinates John.
(b) Sarah seems to fascinate John.
(c) Sarah seems to be tasteless.

(72) That Sarah dances fascinates John.
(73) Sarah seems to fascinate John.
(74) Sarah seems to be tasteless.

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Empirical basis of classification (cont.)

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:

(a) The cat is out of the bag.
(b) The cat seems to be out of the bag.

(75) The cat is out of the bag.
(76) The cat seems to be out of the bag.
(77) The cat seems to want to be out of the bag.

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Empirical basis of classification (cont.)

Test 4

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

(a) Dort scheint getanzt zu werden.
(b) Ihn scheint zu frieren.

(78) Dort scheint getanzt zu werden.
(79) Ihn scheint zu frieren.

Some Interesting Empirical Challenges

Empirical basis of classification (cont.)

Test 5: passivization

5. Passivization of the non-finite complement results in a paraphrase

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

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

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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:

(a) John seems/ appears intelligent.
(b) John seems/ appears to be intelligent.

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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:

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

(84) That he came to her wedding is tasteless.
(85) John is tasteless.

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Empirical basis of classification (cont.)

Test 1: non-ref subjects

Dort scheint getanzt zu werden.

He seems to freeze.

(76) The cat seems to be out of the bag.
(77) The cat wants to be out of the bag.

Some Interesting Empirical Challenges

Empirical basis of classification (cont.)

Test 2: clausal subjects

Dort scheint getanzt zu werden.

He seems to freeze.

(78) Dort scheint getanzt zu werden.
(79) Ihn scheint zu frieren.

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Empirical basis of classification (cont.)

Test 3: idiomatic subjects

That Sarah dances fascinates John.

Sarah seems to fascinate John.

(83) * That Sarah dances wants to fascinate John.
(b) Sarah wants to fascinate John.

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Empirical basis of classification (cont.)

Test 4

That he came to her wedding wants to be tasteless.

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