Introduction to HPSG

Agreement

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Derivational vs. constraint-based approach to agreement

Derivational Approach:
- A directional process that either copies or moves bundles of agreement features from a nominal (agreement controller) onto something that agrees with it (agreement target)
- The agreement features of the agreement controller are inherent and logically prior to those of the target.
- The verb agrees with the subject.

Constraint-based Approach:
- Two elements that participate in an agreement relation specify (partial) information about a single linguistic object.
- Information coming from two sources about a single object must be compatible.

Agreement features

In LFG, agreement is done in the f-structure.
- Subject provides some information about what has to be true of itself
- Verb provides some information about what has to be true of its subject

(1) [the salmon 
   PER 3rd]

(2) [you 
   PER 2nd]

(3) [swims 
   SUBJ 3rd
   NUM sing]

The salmon swims vs. *You swims

Indices

HPSG has a similar method of agreement, but in the case of subject-verb agreement, it occurs between index values

(4) [PHON
    SYNSEM|LOC|CONT|INDEX
    PER 3rd
    the salmon]

(5) [PHON
    SUBJ
    LOC|CONT|INDEX
    PER 3rd
    NUM sing]

These indices are objects that keep track of entities being discussed in the discourse
Underspecified agreement information

Agreement information seems to flow in one direction or another in a sentence.

(6) a. The salmon that had been swimming up the river was returning to spawn.
b. The salmon that was swimming up the river had returned to spawn.

A constraint-based analysis of agreement includes:

- a theory of what kinds of objects are affected by agreement processes,
- an account of necessary specifications in lexical entries
- a theory of the constraints that establish the token identity of the relevant agreeing structures.

Three possible kinds of agreement:

- index agreement
- syntactic agreement (e.g. for case values)
- pragmatic agreement (contextual background)

Problems for derivation-based agreement theories

French showcases agreement between the subject and a predicative:

(7) a. Je suis heureux.
    I am happy (masc.)
b. Je suis heureuse.
    I am happy (fem.)

Multiple lexical entries for first and second-person pronouns in order to explain the above agreement patterns.

Syntactic vs. semantic agreement

Common assumption: agreement information in English is syntactic in nature.
Words are assigned complex syntactic categories consisting of bundles of specifications, including agreement features person, number, and gender.

Alternative view:

- The agreement attributes per, num, and gend are not specified as part of syntactic categories,
- but belong the content as part of the referential indices.
- Agreement features help conversants to keep referential indices distinct from each other.
Problematic cases for a syntactic view of agreement

There are cases of agreement in English, where the agreement target is agreeing with the referent of an NP and not the syntactic NP.

(8) a. The ham sandwich at table six is getting restless.
    b. The dean's office approved the proposal.

Agreement is often guided by this transferred reference, rather than any inherent agreement properties of the phrase itself.

(9) a. The hash browns at table nine are/*is getting cold.
    b. The hash browns at table nine is/*are getting angry.

⇒ Once an interpretation is made, it stays that way syntactically.

Collective noun agreement

Compare the first sentence with the second:

(10) a. The faculty is voting itself/*themselves another raise.
    b. The faculty are voting themselves a raise.
    c. * The faculty is voting themselves a raise.
    d. * The faculty are voting itself a raise.

Semantically/Pragmatically, one can switch between a nonaggregate entity and an aggregate of entities, but not when binding is involved because binding is syntactic.

▶ The following kinds of agreement should be treated in a unified fashion:
  ▶ Pronoun-antecedent agreement
  ▶ Verb-argument agreement
  ▶ Determiner-noun agreement

Agreement in English

Thus, we want a theory which can have access to both semantic/pragmatic information (e.g. establishing the collective's index) and syntactic information (co-indexing).
Pronoun-antecedent agreement proceeds by coindexing. But how/where do we account for the facts that:

- in English, pronoun-antecedent agreement is by natural gender?
- in French, pronoun-antecedent agreement is by grammatical gender?

Natural gender languages

The fact that she has to agree with a female/feminine noun is a pragmatic fact:

(12) Mary/Sandy/John thinks she is smart.

John sounds odd in this context because we don’t normally think of John as being a female name, but it is possible. Many nouns will be unspecified for their gender:

(13) My neighbour thinks she/he is smart.

Lexical entry for she

Lexical entry for I

Likewise, I is pragmatically linked to the speaker:

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Lexical entry for she

Lexical entry for I
Grammatical gender languages

Languages with grammatical genders have common nouns which lexically specify a gender value on the index

- The pragmatic restrictions are different than in natural gender languages
  - The gender does not have to be anchored to background information
- Need some sort of anchoring condition which restricts pronouns to have the gender of the noun of the item in question

(14) *Elle/*Il est très longue.

Itfem/Itmasc is very long.

‘It [a table being pointed to] is very long.’

Determiner-noun agreement

Determiners and nouns agree in various properties in various languages, including an aggregate/nonaggregate distinction in English:

(15) a. every man
    b. *every men
    c. *all man
    d. all men

Capture this through the spec feature:

- every specifies that the index of its head be [num sg]
- all specifies its head to be [num pl]

Subject-verb agreement

We already saw how verb-argument agreement works:

In fact, in some sense it’s not really “agreement” at all

- The verb specifies the (partial) index values of items on its subcat list
  - The verb itself does not have index values
- Note that this could be applied to objects (e.g., Welsh) or to other properties, such as noun class (e.g., Bantu)

Uniform treatment?

The three kinds of agreement we’ve looked at

- all state agreement in terms of structure-sharing of indices
- but the exact mechanisms used (context, subcat, spec) are all different, reflecting the different ways the categories are related