

# Agreement in HPSG

Introduction to HPSG, WS 2007/2008

Monica L. Lău

Universität Tübingen

(mlau@sfs.uni-tuebingen.de)

December 2007

# Outline

## Two Views of Agreement

Derivation-based agreement

Constraint-based agreement

## Problems for Derivation-Based Agreement Theories

French

Onondaga

German

## Agreement Mismatches

Syntactic Agreement

Semantic Agreement

## Agreement in English

1. Pronoun-Antecedent Agreement

2. Subject-Verb Agreement

3. Determiner-Noun Agreement



## Material

### **Head-Driven Phrase Structure Grammar '94**

by *Carl Pollard & Ivan A. Sag*

Chapter 2, sections: 2.1 - 2.4



# Agreement

## Definition

systematic covariation of linguistic forms

1. derivation-based agreement
2. constraint-based agreement



# Outline

## Two Views of Agreement

Derivation-based agreement

Constraint-based agreement

## Problems for Derivation-Based Agreement Theories

French

Onondaga

German

## Agreement Mismatches

Syntactic Agreement

Semantic Agreement

## Agreement in English

1. Pronoun-Antecedent Agreement

2. Subject-Verb Agreement

3. Determiner-Noun Agreement



## Derivation-based agreement

- a directional process that copies or moves bundles of agreement features from a nominal onto something that agrees with it

### Terminology

- *agreement controller*: the nominal item that starts the agreement
- *agreement target*: agreeing element (i.e., the verb) that gets the agreement information transferred onto
- the agreement features of the agreement controller are somehow inherent and logically prior to those of the target



## Derivation-based agreement

- a directional process that copies or moves bundles of agreement features from a nominal onto something that agrees with it

### Terminology

- *agreement controller*: the nominal item that starts the agreement
- *agreement target*: agreeing element (i.e., the verb) that gets the agreement information transferred onto
- the agreement features of the agreement controller are somehow inherent and logically prior to those of the target



## Derivation-based agreement

- a directional process that copies or moves bundles of agreement features from a nominal onto something that agrees with it

### Terminology

- *agreement controller*: the nominal item that starts the agreement
- *agreement target*: agreeing element (i.e., the verb) that gets the agreement information transferred onto
- the agreement features of the agreement controller are somehow inherent and logically prior to those of the target





## Derivation-based agreement

- a directional process that copies or moves bundles of agreement features from a nominal onto something that agrees with it

### Terminology

- *agreement controller*: the nominal item that starts the agreement
- *agreement target*: agreeing element (i.e., the verb) that gets the agreement information transferred onto
- the agreement features of the agreement controller are somehow inherent and logically prior to those of the target



## Derivation-based agreement

- a directional process that copies or moves bundles of agreement features from a nominal onto something that agrees with it

### Terminology

- *agreement controller*: the nominal item that starts the agreement
- *agreement target*: agreeing element (i.e., the verb) that gets the agreement information transferred onto
- the agreement features of the agreement controller are somehow inherent and logically prior to those of the target

# Outline

## Two Views of Agreement

Derivation-based agreement

**Constraint-based agreement**

## Problems for Derivation-Based Agreement Theories

French

Onondaga

German

## Agreement Mismatches

Syntactic Agreement

Semantic Agreement

## Agreement in English

1. Pronoun-Antecedent Agreement
2. Subject-Verb Agreement
3. Determiner-Noun Agreement



# Constraint-based agreement

## Definition

the systematic variation in form that arises from the fact that information coming from two sources about a single object must be compatible.

- agreement does not 'flow' in one direction or the other
- subject-verb agreement is not determined by the subject or the verb alone

## Indices

- the shape of the verb is constrained when the grammar requires *structure sharing* between the INDEX value of one expression and an index specified by some other expression

### Definition

objects that keep track of the entities being discussed in the discourse

# Underspecification

## Definition

The type assigned is not a maximally-specific type

## Example

1. The salmon *swims* in the river
2. The salmon *swim* in the river.
  - the word *salmon* can be singular or plural



## Three types of agreement

There are at least three kinds of agreement:

1. *index* agreement: indices are required to be token-identical
2. *syntactic* agreement: strictly syntactic objects are identified
3. *pragmatic* agreement: contextual background assumptions are required to be consistent





# French

Predicate adjectives in French must agree with their subjects with respect to *number* and *gender*

## Example

1. Il (masc) est heureux (masc). (He is happy)
2. \*Il (masc) est heureuse (fem). (He is happy)

## Problem

A derivation-based account will have to posit multiple lexical entries for first- and second-person pronouns

# French

Predicate adjectives in French must agree with their subjects with respect to *number* and *gender*

## Example

1. Il (masc) est heureux (masc). (He is happy)
2. \*Il (masc) est heureuse (fem). (He is happy)

## Problem

A derivation-based account will have to posit multiple lexical entries for first- and second-person pronouns

## French

Predicate adjectives in French must agree with their subjects with respect to *number* and *gender*

### Example

1. Il (masc) est heureux (masc). (He is happy)
2. \*Il (masc) est heureuse (fem). (He is happy)

### Problem

A derivation-based account will have to posit multiple lexical entries for first- and second-person pronouns



## French

Predicate adjectives in French must agree with their subjects with respect to *number* and *gender*

### Example

1. Il (masc) est heureux (masc). (He is happy)
2. \*Il (masc) est heureuse (fem). (He is happy)

### Problem

A derivation-based account will have to posit multiple lexical entries for first- and second-person pronouns



## Constraint-based account

### Example

1. Je suis heureux (masc). (I am happy)
2. Je suis heureuse (fem). (I am happy)

- on a constraint-based account, no growth in the number of pronouns is required
- the first- and second-person pronouns are unspecified for gender information
- according to what the adjective specifies, they are compatible with either masculine or feminine gender



## Constraint-based account

### Example

1. Je suis heureux (masc). (I am happy)
2. Je suis heureuse (fem). (I am happy)

- on a constraint-based account, no growth in the number of pronouns is required
- the first- and second-person pronouns are unspecified for gender information
- according to what the adjective specifies, they are compatible with either masculine or feminine gender



## Constraint-based account

### Example

1. Je suis heureux (masc). (I am happy)
2. Je suis heureuse (fem). (I am happy)

- on a constraint-based account, no growth in the number of pronouns is required
- the first- and second-person pronouns are unspecified for gender information
- according to what the adjective specifies, they are compatible with either masculine or feminine gender



## Constraint-based account

### Example

1. Je suis heureux (masc). (I am happy)
  2. Je suis heureuse (fem). (I am happy)
- on a constraint-based account, no growth in the number of pronouns is required
  - the first- and second-person pronouns are unspecified for gender information
  - according to what the adjective specifies, they are compatible with either masculine or feminine gender





## Constraint-based account

### Example

1. Je suis heureux (masc). (I am happy)
2. Je suis heureuse (fem). (I am happy)

- on a constraint-based account, no growth in the number of pronouns is required
- the first- and second-person pronouns are unspecified for gender information
- according to what the adjective specifies, they are compatible with either masculine or feminine gender



## Constraint-based account

### Example

1. Je suis heureux (masc). (I am happy)
  2. Je suis heureuse (fem). (I am happy)
- on a constraint-based account, no growth in the number of pronouns is required
  - the first- and second-person pronouns are unspecified for gender information
  - according to what the adjective specifies, they are compatible with either masculine or feminine gender





# Onondaga

- as pointed out by Chafe (1970), verbs in the Iroquoian language Onondaga are systematically marked for number
- nouns in Onondaga are typically unmarked for number



## Example

- a. cihá kahnyá-ha?  
dog barking - SINGULAR  
'The dog is barking.'
- b. cihá knihnyá-ha?  
dog barking - DUAL  
'The two dogs are barking.'
- c. cihá kŕtihnyá-ha?  
dog barking -PLURAL  
'The dogs are barking.'



## Example

### a. cihá kahnyá-ha?

dog barking - SINGULAR

'The dog is barking.'

### b. cihá knihnyá-ha?

dog barking - DUAL

'The two dogs are barking.'

### c. cihá kŕtihnyá-ha?

dog barking -PLURAL

'The dogs are barking.'



## Example

- a. **cihá kahnyá-ha?**  
 dog barking - SINGULAR  
 'The dog is barking.'
- b. **cihá knihnyá-ha?**  
 dog barking - DUAL  
 'The two dogs are barking.'
- c. **cihá kõtihnyá-ha?**  
 dog barking -PLURAL  
 'The dogs are barking.'



## Example

- a. **cihá kahnyá-ha?**  
 dog barking - SINGULAR  
 'The dog is barking.'
- b. **cihá knihnyá-ha?**  
 dog barking - DUAL  
 'The two dogs are barking.'
- c. **cihá kŕtihnyá-ha?**  
 dog barking - PLURAL  
 'The dogs are barking.'





## Example

- a. cihá kahnyá-ha?  
dog barking - SINGULAR  
'The dog is barking.'
- b. cihá knihnyá-ha?  
dog barking - DUAL  
'The two dogs are barking.'
- c. cihá kŕtihnyá-ha?  
dog barking - PLURAL  
'The dogs are barking.'



## Example

- a. cihá kahnyá-ha?  
dog barking - SINGULAR  
'The dog is barking.'
- b. cihá knihnyá-ha?  
dog barking - DUAL  
'The two dogs are barking.'
- c. cihá kŕtihnyá-ha?  
dog barking -PLURAL  
'The dogs are barking.'



## Example

- a. cihá kahnyá-ha?  
dog barking - SINGULAR  
'The dog is barking.'
- b. cihá knihnyá-ha?  
dog barking - DUAL  
'The two dogs are barking.'
- c. cihá kŕtihnyá-ha?  
dog barking -PLURAL  
'The dogs are barking.'



## Example

- a. cihá kahnyá-ha?  
dog barking - SINGULAR  
'The dog is barking.'
- b. cihá knihnyá-ha?  
dog barking - DUAL  
'The two dogs are barking.'
- c. cihá kɔtihnyá-ha?  
dog barking -PLURAL  
'The dogs are barking.'



## Example

- a. cihá kahnyá-ha?  
dog barking - SINGULAR  
'The dog is barking.'
- b. cihá knihnyá-ha?  
dog barking - DUAL  
'The two dogs are barking.'
- c. cihá kɔtihnyá-ha?  
dog barking -PLURAL  
'The dogs are barking.'



## Example

- a. cihá kahnyá-ha?  
dog barking - SINGULAR  
'The dog is barking.'
- b. cihá knihnyá-ha?  
dog barking - DUAL  
'The two dogs are barking.'
- c. cihá kɔtihnyá-ha?  
dog barking -PLURAL  
'The dogs are barking.'



# Onondaga

- derivational analysis: feature-copying that would result in three distinct lexemes for each noun in this language
- constraint-based analysis: only one lexeme for each noun - one that is unspecified for number





## German

- German nouns and adjectives typically exhibit far more paradigm slots than distinct lexical forms
- derivation-based account: there must be a distinct lexical entry for each paradigm slot

	SING	PLUR
NOM	Tisch	Tische
GEN	Tisches	Tische
DAT	Tisch	Tischen
ACC	Tisch	Tische

# German

- constraint-based account: the number of nominal lexemes can be reduced to the number of distinct inflected forms

FORM	GEND	NUM	CASE
Tisch	MASC	SING	¬GEN
Tisches	MASC	SING	GEN
Tische	MASC	PLUR	¬DAT
Tischen	MASC	PLUR	DAT



# Classification of Languages

- assignment of *gender* can be:
  - grammatical
  - natural
- when it comes to the way languages assign gender, we come up with 2 types of languages:
  1. *natural gender languages*
  2. *syntactic gender languages*



## Natural Gender Languages

- a specialization of language in which at least some living things' grammatical genders are determined by their sex
- gender distinctions correspond to semantic sortal distinctions:
  - sex
  - human/nonhuman
  - animate/inanimate
- Example: English



## Syntactic Gender Languages

- **common nouns are more or less arbitrarily assigned to genders**
- a particular referential index will bear a certain value for the gender feature
- the entity to which that index is anchored in the discourse is appropriately classified by a common noun belonging to the corresponding gender class
- Examples: French, German, Romanian



## Syntactic Gender Languages

- common nouns are more or less arbitrarily assigned to genders
- a particular referential index will bear a certain value for the gender feature
- the entity to which that index is anchored in the discourse is appropriately classified by a common noun belonging to the corresponding gender class
- Examples: French, German, Romanian



## Syntactic Gender Languages

- common nouns are more or less arbitrarily assigned to genders
- a particular referential index will bear a certain value for the gender feature
- the entity to which that index is anchored in the discourse is appropriately classified by a common noun belonging to the corresponding gender class
- Examples: French, German, Romanian



## Syntactic Gender Languages

- common nouns are more or less arbitrarily assigned to genders
- a particular referential index will bear a certain value for the gender feature
- the entity to which that index is anchored in the discourse is appropriately classified by a common noun belonging to the corresponding gender class
- Examples: French, German, Romanian



## Aggregate vs. Nonaggregate

- the plural vs. singular agreement corresponds to an aggregate vs. nonaggregate (atomic) mode of individuation of the referent
- when a *nonaggregate* entity is referred to: singular agreement
- when an *aggregate* is referred to: plural agreement



## Reference Transfer

- was studied by Nunberg (1977)
- the agreement is between the agreement target and the referent of an NP and not the syntactic NP

### Example

- The hash browns at table nine *is* being eaten.
- The hash browns at table nine *are* being eaten.
- even though the NP *the hash browns at table nine* is inherently plural, when its referent is transferred to a nonaggregate entity, we have singular subject-verb agreement.

## Reference Transfer

- was studied by Nunberg (1977)
- the agreement is between the agreement target and the referent of an NP and not the syntactic NP

### Example

1. The hash browns at table nine *are*/\**is* getting cold.
  2. The hash browns at table nine *is*/\**are* getting angry.
- even though the NP *the hash browns at table nine* is inherently plural, when its referent is transferred to a nonaggregate entity, we have singular subject-verb agreement.

## Reference Transfer

- was studied by Nunberg (1977)
- the agreement is between the agreement target and the referent of an NP and not the syntactic NP

### Example

1. The hash browns at table nine *are*/\**is* getting cold.
  2. The hash browns at table nine *is*/\**are* getting angry.
- even though the NP *the hash browns at table nine* is inherently plural, when its referent is transferred to a nonaggregate entity, we have singular subject-verb agreement.

## Reference Transfer

- was studied by Nunberg (1977)
- the agreement is between the agreement target and the referent of an NP and not the syntactic NP

### Example

1. The hash browns at table nine *are*/\**is* getting cold.
  2. The hash browns at table nine *is*/\**are* getting angry.
- even though the NP *the hash browns at table nine* is inherently plural, when its referent is transferred to a nonaggregate entity, we have singular subject-verb agreement.

## Reference Transfer

- was studied by Nunberg (1977)
- the agreement is between the agreement target and the referent of an NP and not the syntactic NP

### Example

1. The hash browns at table nine *are*/\**is* getting cold.
  2. The hash browns at table nine *is*/\**are* getting angry.
- even though the NP *the hash browns at table nine* is inherently plural, when its referent is transferred to a nonaggregate entity, we have singular subject-verb agreement.

## Reference Transfer

- was studied by Nunberg (1977)
- the agreement is between the agreement target and the referent of an NP and not the syntactic NP

### Example

1. The hash browns at table nine *are*/\**is* getting cold.
  2. The hash browns at table nine *is*/\**are* getting angry.
- even though the NP *the hash browns at table nine* is inherently plural, when its referent is transferred to a nonaggregate entity, we have singular subject-verb agreement.





## Relative Pronouns

- English relative pronouns appear to agree with the head noun with respect to a feature that corresponds closely to the notion of *humanness*
- BUT: the feature specification in question cannot simply be a syntactic property of the head noun
- Barlow (1988): the choice of *who* vs. *which* is tied to the referent of a given phrase

### Example

- The volcano *which*/\**who* has been dormant for a century erupted.
- The volcano *who* just left the room was Bill's kid.



## Relative Pronouns

- English relative pronouns appear to agree with the head noun with respect to a feature that corresponds closely to the notion of *humanness*
- BUT: the feature specification in question cannot simply be a syntactic property of the head noun
- Barlow (1988): the choice of *who* vs. *which* is tied to the referent of a given phrase

### Example

- The volcano *which*/\**who* has been dormant for a century erupted.
- The volcano *who* just left the room was Bill's kid.



## Relative Pronouns

- English relative pronouns appear to agree with the head noun with respect to a feature that corresponds closely to the notion of *humanness*
- BUT: the feature specification in question cannot simply be a syntactic property of the head noun
- Barlow (1988): the choice of *who* vs. *which* is tied to the referent of a given phrase

### Example

1. The volcano *which*/\**who* has been dormant for a century erupted.
2. The volcano *who* just left the room was Bill's kid.



## Relative Pronouns

- English relative pronouns appear to agree with the head noun with respect to a feature that corresponds closely to the notion of *humanness*
- BUT: the feature specification in question cannot simply be a syntactic property of the head noun
- Barlow (1988): the choice of *who* vs. *which* is tied to the referent of a given phrase

### Example

- The volcano *which*/\**who* has been dormant for a century erupted.
- The volcano *who* just left the room was Bill's kid.



## Relative Pronouns

- English relative pronouns appear to agree with the head noun with respect to a feature that corresponds closely to the notion of *humanness*
- BUT: the feature specification in question cannot simply be a syntactic property of the head noun
- Barlow (1988): the choice of *who* vs. *which* is tied to the referent of a given phrase

### Example

- The volcano *which*/\**who* has been dormant for a century erupted.
- The volcano *who* just left the room was Bill's kid.

## Relative Pronouns

- English relative pronouns appear to agree with the head noun with respect to a feature that corresponds closely to the notion of *humanness*
- BUT: the feature specification in question cannot simply be a syntactic property of the head noun
- Barlow (1988): the choice of *who* vs. *which* is tied to the referent of a given phrase

### Example

- The volcano *which*/\**who* has been dormant for a century erupted.
- The volcano *who* just left the room was Bill's kid.

# Singular Plurals

## Example

1. Doing phonology problems and drinking vodka *makes* me sick.
2. Steak and okra *appears* to bother Kim.
  - there is a conflict between the agreement features of the subject NP and those that the singular verb normally demands of its subject
  - what about purely syntactic analyses of subject-verb agreement ?



## Collectives

- collective nouns can denote:
  - a nonaggregate entity
  - an aggregate of entities

### Example

The Chicago Bears *are/is* ? a large football team.

- the connection between the mode of individuation and the mode of agreement





## Collectives

- in many contexts either the aggregate or the nonaggregate mode of individuation is possible

### Example

1. The faculty *is* voting *itself* a raise.
2. The faculty *are* voting *themselves* a raise.
3. \*The faculty *is* voting *themselves* a raise.
4. \*The faculty *are* voting *itself* a raise.

# Outline

## Two Views of Agreement

Derivation-based agreement

Constraint-based agreement

## Problems for Derivation-Based Agreement Theories

French

Onondaga

German

## Agreement Mismatches

Syntactic Agreement

**Semantic Agreement**

## Agreement in English

1. Pronoun-Antecedent Agreement

2. Subject-Verb Agreement

3. Determiner-Noun Agreement

## Collective nouns

- in discourse, a speaker can employ a new index for an old referent
- signals a change in how that referent is being individuated

### Example

The Senate just voted *itself*/*\*themselves* another raise. Most of them were already overpaid to begin with.

- semantically & pragmatically we can switch from a nonaggregate entity to an aggregate of entities

# Binding

- when binding is involved (syntax) we cannot switch

## Example

- That dog is so ferocious, *it* even tried to bite *itself*/\**himself*.
  - That dog is so ferocious, *he* even tried to bite *himself*/\**itself*.
- anaphors must be coreferenced with an antecedent
  - the properties of the antecedent's index must match with the anaphor's index.



# HPSG Theory

A theory that incorporates:

- *semantic* information
- *pragmatic* information
- *syntactic* information

# Types of Agreement

There are 3 basic types of agreement in English:

1. *pronoun-antecedent* agreement
2. *subject-verb* agreement
3. *determiner-noun* agreement

# Types of Agreement

There are 3 basic types of agreement in English:

1. *pronoun-antecedent* agreement
2. *subject-verb* agreement
3. *determiner-noun* agreement

# Types of Agreement

There are 3 basic types of agreement in English:

1. *pronoun-antecedent* agreement
2. *subject-verb* agreement
3. *determiner-noun* agreement



# Outline

## Two Views of Agreement

Derivation-based agreement

Constraint-based agreement

## Problems for Derivation-Based Agreement Theories

French

Onondaga

German

## Agreement Mismatches

Syntactic Agreement

Semantic Agreement

## Agreement in English

1. Pronoun-Antecedent Agreement

2. Subject-Verb Agreement

3. Determiner-Noun Agreement



## Coindexing

- pronoun-antecedent agreement is realized by coindexing
- agreement features: *person*, *number*, and *gender*
- do not confuse *coindexing* with *coreference* !

### Example

[The cornerstone]<sub>i</sub> of each building bears the initials of the mason who laid it<sub>i</sub>.

- the definite description does not have a referent



## Accidental coreference

- two NP tokens have distinct indices that are anchored to the same referent

### Example

- It isn't true that nobody voted for John<sub>*i*</sub>. **John**<sub>*j*</sub> voted for him<sub>*i*</sub>. (both uses of John refer to the same person)
- He<sub>*i*</sub> [pointing to Richard Nixon] voted for Nixon<sub>*j*</sub>.

## Natural gender languages

- pragmatics: the pronoun *she* has to agree with a feminine noun

### Example

John<sub>*i*</sub> (fem) thinks she<sub>*i*</sub> (fem) is smart.

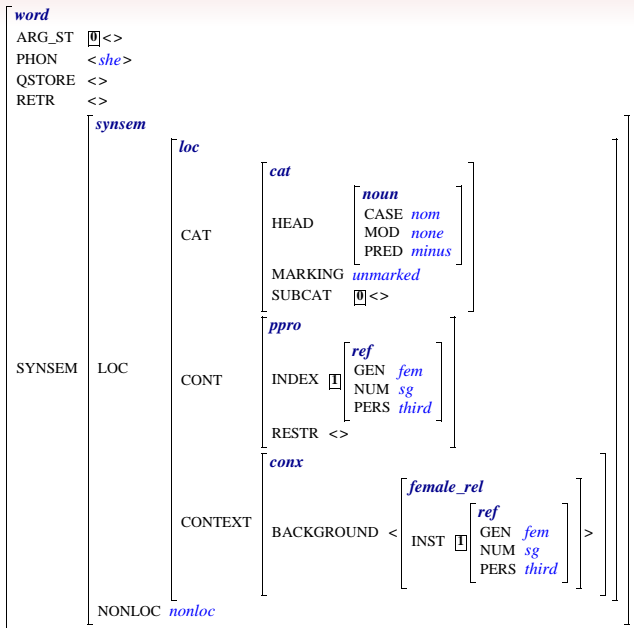
- nouns that are unspecified for gender:

### Example

My neighbor<sub>*i*</sub> thinks he<sub>*i*</sub>/she<sub>*i*</sub> is smart.



lexicon:she





## Grammatical gender languages

- common nouns lexically specify a gender value on the index
- a different pragmatic constraint: an entity can serve as the anchor for an NP index only if the index's agreement features coincide with those of a common noun that effectively classifies that entity at a level of granularity appropriate to the context

### Example

1. Elle/\*Il est très longue.
2. It<sub>fem</sub>/It<sub>masc</sub> is very long. (pointing to a table)



## Grammatical gender languages

- common nouns lexically specify a gender value on the index
- a different pragmatic constraint: an entity can serve as the anchor for an NP index only if the index's agreement features coincide with those of a common noun that effectively classifies that entity at a level of granularity appropriate to the context

### Example

1. Elle/\*Il est très longue.
2. It<sub>fem</sub>/It<sub>masc</sub> is very long. (pointing to a table)



## Grammatical gender languages

- common nouns lexically specify a gender value on the index
- a different pragmatic constraint: an entity can serve as the anchor for an NP index only if the index's agreement features coincide with those of a common noun that effectively classifies that entity at a level of granularity appropriate to the context

### Example

1. Elle/\*Il est très longue.
2. It<sub>fem</sub>/It<sub>masc</sub> is very long. (pointing to a table)





## Grammatical gender languages

- common nouns lexically specify a gender value on the index
- a different pragmatic constraint: an entity can serve as the anchor for an NP index only if the index's agreement features coincide with those of a common noun that effectively classifies that entity at a level of granularity appropriate to the context

### Example

1. Elle/\*Il est très longue.
2. It<sub>fem</sub>/It<sub>masc</sub> is very long. (pointing to a table)



## Grammatical gender languages

- common nouns lexically specify a gender value on the index
- a different pragmatic constraint: an entity can serve as the anchor for an NP index only if the index's agreement features coincide with those of a common noun that effectively classifies that entity at a level of granularity appropriate to the context

### Example

1. Elle/\*Il est très longue.
2. It<sub>fem</sub>/It<sub>masc</sub> is very long. (pointing to a table)

# CASE

- co-indexation information does not include CASE information:

## Example

We<sub>i</sub> can't stand for people to disagree with us<sub>j</sub>.

- coindexing between the two plural pronouns, even though they do not agree on values for the syntactic feature CASE

# Outline

## Two Views of Agreement

Derivation-based agreement

Constraint-based agreement

## Problems for Derivation-Based Agreement Theories

French

Onondaga

German

## Agreement Mismatches

Syntactic Agreement

Semantic Agreement

## Agreement in English

1. Pronoun-Antecedent Agreement

2. Subject-Verb Agreement

3. Determiner-Noun Agreement



## Subject-Verb Agreement

- the verb specifies the index values of items on its SUBCAT list
- verbs specify information about the indices of their subject NPs so as to be able to assign semantic roles to their subjects
- agreement features: *person* and *number*

# Outline

## Two Views of Agreement

Derivation-based agreement

Constraint-based agreement

## Problems for Derivation-Based Agreement Theories

French

Onondaga

German

## Agreement Mismatches

Syntactic Agreement

Semantic Agreement

## Agreement in English

1. Pronoun-Antecedent Agreement

2. Subject-Verb Agreement

3. Determiner-Noun Agreement

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
- \*every men
- \*all man
- all men (plural index)

- we can see this through the SPEC feature:

nonaggregate/aggregate

every specifies that the index of the HEAD is [PLUR] and the index of the SPEC is [SING]  
 all specifies that the index of the HEAD is [PLUR] and the index of the SPEC is [PLUR]



## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
- \*every men
- \*all man
- all men (plural index)

- we can see this through the SPEC feature:

nonaggregate/aggregate

every specifies that the index of the HEAD is PLURAL

all specifies that the index of the HEAD is PLURAL





## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

nonaggregate/aggregate

every man<sub>PL</sub> that the HEAD is PLURAL

\*every men<sub>PL</sub> that the HEAD is PLURAL

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

nonaggregate/aggregate

every man<sub>SPEC</sub> that the HEAD is PLURAL

\*every men<sub>SPEC</sub> that the HEAD is PLURAL

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

nonaggregate/aggregate

every man [SPEC:nonaggregate] HEAD: [PLURAL]

\*every men [SPEC:nonaggregate] HEAD: [PLURAL]

\*all man [SPEC:aggregate] HEAD: [PLURAL]

all men [SPEC:aggregate] HEAD: [PLURAL]

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

nonaggregate/aggregate

every man SPEC HEAD: PLURAL

\*every men SPEC HEAD: PLURAL

\*all man SPEC HEAD: PLURAL

all men SPEC HEAD: PLURAL

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

### nonaggregate/aggregate

- every* specifies that the index of its HEAD be [NUM sg]
- all* specifies that the index of its HEAD be [NUM pl]

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

### nonaggregate/aggregate

- every* specifies that the index of its HEAD be [NUM sg]
- all* specifies that the index of its HEAD be [NUM pl]

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

### nonaggregate/aggregate

- every* specifies that the index of its HEAD be [NUM sg]
- all* specifies that the index of its HEAD be [NUM pl]

## Determiner-Noun Agreement

- determiners agree in the aggregate/nonaggregate distinction

### Example

- every man (singular index)
  - \*every men
  - \*all man
  - all men (plural index)
- we can see this through the SPEC feature:

### nonaggregate/aggregate

- every* specifies that the index of its HEAD be [NUM sg]
- all* specifies that the index of its HEAD be [NUM pl]



## Problematic cases

The class of collective nouns that denote social organization that depart from the patterning (of being individuated as either nonaggregate or aggregate):

### Example

1. John's family *is* destroying *itself*.
2. John's family *are* destroying *themselves*.
3. \*John's family *is* destroying *themselves*.
4. \*John's family *are* destroying *itself*.



## Problematic cases

### Example

1. Every faculty *is*/\**are* homogeneous.
  2. Every faculty *meets*/\**meet* on a monthly basis.
  3. All faculty *\*is/are* required to submit the midterm grades.
  4. All faculties *\*meets/meet* on a monthly basis.
- unlike class/caste collective nouns, the social-organization collectives denote entities that are individuated as nonaggregate

## Problematic cases

### Example

1. Every family has problems.
2. Every family gets together for the holidays.
3. All family *\*is/\*are* asked to bring a dessert or a salad.
4. All families are asked to bring a dessert or a salad.

### Unresolved

Why castes and social organizations differ with respect to the mode of individuation.

## Conclusions

- the three kinds of agreement view agreement in terms of *structure-sharing of indices*
- different mechanisms at different levels:
  - CONTEXT (pronoun-antecedent agreement)
  - SUBCAT (subject-verb agreement)
  - SPEC (determiner-noun agreement)