

CAS LX 522

Syntax I

Week 2a.
Morphosyntactic features, part II
(2.4.2-)

Complementizers

- 1) Pat will leave.
 - 2) I heard that Pat will leave.
 - 3) I wonder if Pat will leave.
 - 4) I am anxious for Pat to leave.
- It is perfectly possible to *embed* a sentence inside another one. When we do this, it is indicated with a *complementizer* (introducing a *complement clause*). Category: [C].

The *P* for v. the *C* for

- *For* is of course a preposition (*I looked for you for three hours*), but not when it is introducing clauses.
 - He headed right *for* the back row.
 - *He'd like right *for* the class to be over.
 - *He expressed interest in the class to be over.
 - Who would you vote *for* in the election?
 - *Who are you anxious *for* to win the election?

The *D* that v. the *C* that

- Same kind of thing holds for *that*.
 - 1) I liked *that* movie.
 - 2) I heard *that* movie involved guinea pigs.
- Sometimes you can replace *for* clauses with *that* clauses.
 - 1) It is important *that* Pat votes.
 - 2) It is important *for* Pat to vote.

Regrouping

- Lexical categories:
 - N: noun, V: verb,
A: adjective, P: preposition
- We started a feature decomposition of these by proposing that they are labels for feature bundles like $[\pm N, \pm V]$, which can characterize certain natural classes across categories.

Regrouping

- But there are many more than four categories.
- Aux: auxiliary, C: complementizer, Adv: adverb, D: determiner, PRN: pronoun, T: modals, ...
- So, we would need more features to make all of the distinctions. We won't pursue that, however—we'll just use the labels like N, V, A, P, D, T, C, etc.)

Feature grouping

- Features themselves seem to be grouped.
- And this is the way we'll think of them for much of the course.
- Consider: category.
- $[\pm N]$ is a feature, $[\pm V]$ is a feature. There must be others to handle D, T, C, etc. But *together* they constitute the syntactic category.

Feature grouping

- We can write this like [Cat: +N-V], and in fact we'll generally just write [N] as a shorthand for that.
- We'll see other groupings. E.g., Number could be [Number:sg,pl] (or dual). Although number will in fact be part of a larger grouping including gender and person.

Lexical items

- Recall that part of our language knowledge is the knowledge of the lexicon.
- The lexicon is a list of the "words"
- More accurately, it is a list of the things sentences are made of.
- It is traditionally considered to be where "unpredictable" information is stored. The sound, the meaning, the grammatical category, and other features.

Features of lexical items

- A lexical item is a bundle of properties. It is a meaning, linked with instructions for pronunciation, linked with syntactic properties like category.
- We represent these properties as *features*.

Features of lexical items

- Any given lexical item has:
 - a. Semantic features
 - b. Phonological features
 - c. Syntactic features
- When it comes to syntax, syntactic features certainly matter. But no language seems to arrange its sentences such that words that start with *t* are first.
- Hypothesis: Syntax can only "see" syntactic features.

English pronouns

- The English pronouns make several distinctions over and above a singular/plural distinction.
- One distinction is *person*, which is sensitive to who is talking and to whom.
- English (and most languages) distinguish three persons.

	singular	plural
first person	I	we
second person	you	you
third person	he/she/it	they

English pronouns

- We could model person with [1], [2], and [3]—except that that predicts eight distinctions, and we have only three.

	singular	plural
first person [1]	I	we
second person [2]	you	you
third person [3]	he/she/it	they

English pronouns

- Rather, we want to use two features, which only predict four. Slightly better.
- By eliminating [3], we predict a system like that below—as well as a [1,2] combination that is not morphologically distinguished in English.

	singular	plural
first person [1]	I	we
second person [2]	you	you
third person [3]	he/she/it	they

English pronouns

- What about [1,2]? There's no special pronoun form, but what would it *mean*?
- Well, [1] is the speaker, [2] is the person being spoken to. So [1,2,p] would be we (including you). Not the same as [1,p], we (excluding you).

	singular	plural
first person [1]	I	we
second person [2]	you	you
third person [3]	he/she/it	they

English pronouns

- Some languages distinguish inclusive and exclusive we morphologically, e.g., Dakota.
- No languages seem to distinguish 8 persons.

	singular	plural
first person [1]	I	we
second person [2]	you	you
third person [3]	he/she/it	they

Gender

- Many languages distinguish nouns on the basis of “gender” as well.
 - English: *she/he/it* (3rd person pronouns)
- Gender often comes in 2-3 flavors (masculine, feminine, neuter) which often corresponds roughly to biological gender where applicable.

Phi-features (ϕ -features)

- Collectively, person, number, and gender features are referred to as ϕ -features.
- These are the features that are generally involved in subject-verb agreement.
- We group them together because they seem to have their effects together (that is, not separately).

Case features

- English pronouns change form also depending on where they are in the sentence.
I) He left. I saw him. He saw me.
- The information about syntactic position is encoded by case features.
 - In English, case is only visible on pronouns.
 - In many other languages, case is visible on all nouns (and sometimes on words modifying nouns, like adjectives or determiners).

Case names

- In English, we distinguish nominative (on subjects), genitive (on possessors), and accusative (elsewhere)

Singular			Plural		
Nom	Acc	Gen	Nom	Acc	Gen
I	me	my	we	us	our
you	you	your	you	you	your
he	him	his	they	them	their
she	her	her	they	them	their
it	it	its	they	them	their

Features & pronunciation

- Lexical items are bundles of features. Like [Acc, I, sg, PRN].
- At the A-P interface [Acc, I, sg, PRN] is interpreted as “me”
- The syntactic system arranges these lexical items into sentences, and then hands the result off to the A-P and C-I systems (at the interfaces)

Singular			Plural		
Nom	Acc	Gen	Nom	Acc	Gen
I	me	my	we	us	our
you	you	your	you	you	your
he	him	his	they	them	their
she	her	her	they	them	their
it	it	its	they	them	their

Features & pronunciation

- Not every distinction: *The structure of the paradigm can give us clues as to how the interface rules work.*
 - Only 3rd person singular distinguishes gender.
 - 2nd person does not distinguish number or between Nom and Acc.
 - 3rd person singular feminine doesn't distinguish between Acc and Gen.

Singular			Plural		
Nom	Acc	Gen	Nom	Acc	Gen
I	me	my	we	us	our
you	you	your	you	you	your
he	him	his	they	them	their
she	her	her	they	them	their
it	it	its	they	them	their

Verbal features

- Some features are specific to verbs.
- [past], for example, differentiating *write* from *wrote*, *kick* from *kicked*. This is a *tense* feature.
- Some languages have a special form of the verb for the future as well; [future].

Verbal features

- We can characterize present tense as being non-past, non-future.
- In English, future is expressed in other ways, with a modal (*will*) or with the verb *go*. English does not seem to make use of the [future] feature; in English there is just past and non-past.
 - Cf. duals and the use of [sg] on nouns.

Participles

- English verbs can also take on a *participle* form: *writing, written*.
- Not tense, but *aspect*.
 - ▶ The *-ing* form (“present participle”) comes after *be*, indicating a continuing event.
 - ▶ The *-en* form (“past participle”) comes after *have*, indicating a completed event.
- Tense can still be expressed—on the auxiliary: *I have written, I had written, I am writing, I was writing*.

Participles

- Adger’s proposal:
 - ▶ Present participle: [V, part] (*writing*)
 - ▶ Past participle: [V, part, past] (*written*)
- I distance myself from that because it is not at all clear that the [past] feature in Adger’s past participle has anything in common with the [past] feature in an actual past tense. A better name would be, e.g., [perf].

Bare verb/infinitive

- 1) I want to win the lottery.
- The bare form of the verb (often appearing after *to*) is the *infinitive*.
 - We will assign infinitive forms the feature [Inf].
 - The fact that the infinitive is a bare verb (no suffixes or other inflection) in English may be something of a coincidence. Other languages mark the infinitive with a special verb form, on a par with participles or tensed verbs.

Verb agreement

- Verbs very often (across languages) agree with the subject in ϕ -features as well.
- 1) I eat bagels.
2) He eats bagels.
3) They eat bagels.
- However, *eat* isn’t really “plural” in any sense. Plurality is a property of the subject, but it is *reflected* in the morphology of the verb.

Verb agreement

- In English, only *finite* verbs show agreement (those that are not infinitives or participles).
- In fact, only *present tense* verbs do, with the single exception of the *copula* (*be*).
- In other languages, agreement sometimes appears on other forms. Participles, for example, sometimes agree with their object. Infinitives very rarely agree with anything.

A brief excursion

- We’ve determined that English differentiates past and nonpast, and Adger suggests looking at this as a *privative* distinction, between having the feature [past] and not having it.
- So far, this makes the same combinatorial predications as a binary feature [\pm past] would
- Is there any way to decide which is better?

The morphology of be

- There are only five different pronunciations of the verb *be* for the 12 cells in the paradigm.
- Suppose our features are privative.
- Suppose that our pronunciation rules at the interface look at the feature bundle and determine the pronunciation.

		[past]	
		[pl]	[pl]
[1]	am	are	was
[2]	are	are	were
	is	are	were

The morphology of be

Pronunciation rules:

- The way this works is that the *most specific rule that matches the features* takes priority.
 - [pl,past] = were
 - [pl] = are
- Features not mentioned don't matter.
- [1, pl, past] yields "were", [1, pl] "are", ...

		[past]	
		[pl]	[pl]
[1]	am	are	was
[2]	are	are	were
	is	are	were

The morphology of be

- Notice that *am* and *is* only appear in one cell; they are the most specific.
- *Was* appears in 2.
- *Are* appears in 4.
- *Were* appears in 4.

		[past]	
		[r']	[r']
[1]	:	:	e
[2]	:	v	e
	:	:	e

The morphology of be

- Pronunciation rules?
 - [pl, past] → were
 - [1, past] → was
 - [2 past] → were
 - [3, past] → was
 - [pl] → are
 - [1] → am
 - [2] → are
 - [3] → is
- More rules than pronunciations! Two rules each for *were*, *was*, and *are*.
- But what if we could refer to the *absence* of [pl]?

		[past]	
		[pl]	[pl]
[1]	am	are	was
[2]	are	are	were
	is	are	were

The morphology of be

- If our features were binary, we could come up with a much more economical set of pronunciation rules, one per pronunciation.
- Notice also that *were* which occupies the most cells in the paradigm, is treated as a *default*. You pronounce *were* if no other rule matches.

		[-past]		[+past]	
		[-pl]	[+pl]	[-pl]	[+pl]
[+1]	[-2]	am	are	was	were
[-1]	[+2]	are	are	were	were
[-1]	[-2]	is	are	was	were

The morphology of be

- Possible support for viewing these features as binary valued rather than privative. You can write pronunciation rules either way, but one system is significantly more elegant.

Pronunciation rules

- [-2,+1,-past,-pl] → am
- [-2,-past,-pl] → is
- [-past] → are
- [-2] → was
- [] → were

		[-past]		[+past]	
		[-pl]	[+pl]	[-pl]	[+pl]
[+1]	[-2]	am	are	was	were
[-1]	[+2]	are	are	were	were
[-1]	[-2]	is	are	was	were

Bibliographical note, comment on the

- This view of the syntax-morphology interface, when you get out to the literature, generally goes by the name “Distributed Morphology”—so named because the pronunciation rules are relatively separated from the syntactic rules. The primary reference is Halle & Marantz (1993) (in Adger’s bibliography).

Comment on the future

- For our purposes in this class, we will not actually spend much more time analyzing pronunciation rules or even worrying about whether the features should be privative or binary—we will usually simply label feature bundles like [+N,-V] as [N], [-pl] as [sg]. But this is a convenience, there are interesting questions to explore at this lower level as well—outside of this class, though, because we have plenty of other things to do.