Grammar 22

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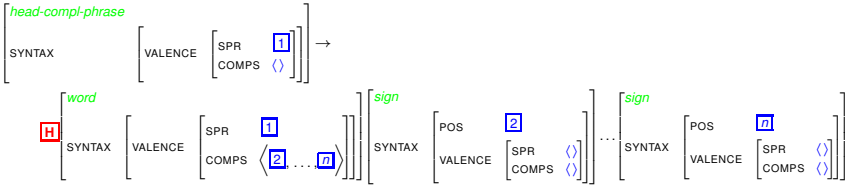
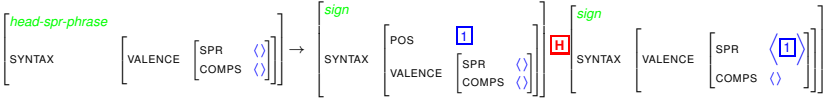
The grammar so far

There are only two grammar rules:

Head-Complement Rule:



Head-Specifier Rule:



The Head Feature Principle (HFP)

The value of HEAD of a phrase is also the value of HEAD of the phrase's head-daughter.

A typical lexical entry

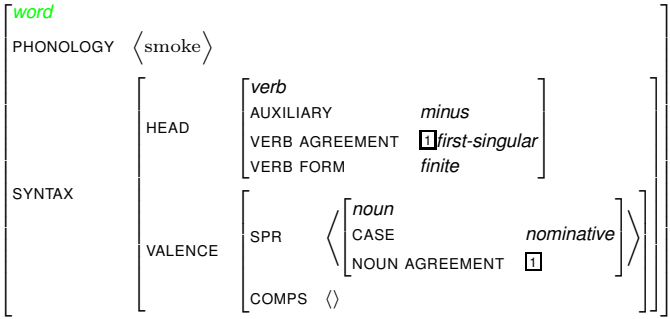


Illustration: the Head-Complement Rule

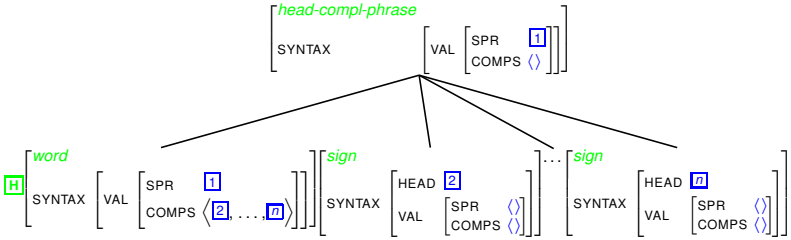
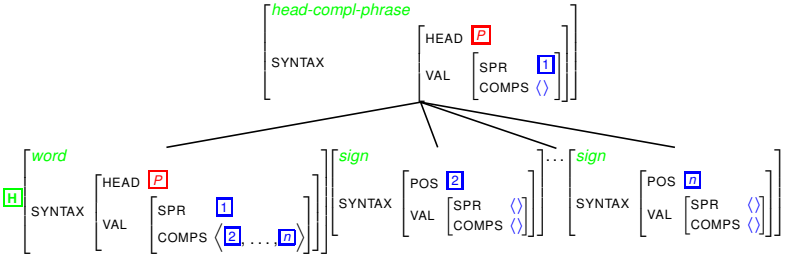


Illustration: the Head-Complement Rule + HFP



- The information in blue and green is a consequence of the Head-Complement Rule.
- The information in red is a consequence of the Head Feature Principle.

Nouns and their specifiers

We have seen that nouns can take determiners as specifiers:

(1) a. a cake
b. the cake

Nouns and their specifiers

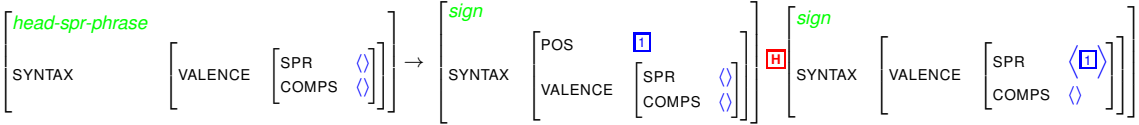
There can be at most one specifier:

(2) a. * the a cake
b. * a the cake
c. * the the cake
d. * a a cake

Question: Our grammar predicts that there can be at most one specifier. How does it do that?

Nouns and their specifiers

The answer is given by the form of the Head-Specifier Rule:



Answer:

1. The rule requires the head to be looking for exactly one specifier.
2. The resulting phrase has an empty SPR-valence. This prevents it from being used as head in another Head-specifier phrase again!

Nouns and their specifiers

So far so good!

But: Grammar 21 can license the sentences in (3), but not the ones in (4):

(3) a. a cake
    b. the cake

(4) a. my cake
    b. Kim's cake
    c. The student's cake

Question: Why is that?

Nouns and their specifiers

Grammar 21 cannot license the following sentences:

(5) a. my cake
b. Kim's cake
c. The student's cake

There are 2 separate reasons for this:

1. So far, the grammar lacks words for genitive (= possessive) pronouns like *my*, *your*, etc.
2. Secondly, the grammar does not permit us to form phrases with possessive *'s*, like *Kim's* or *the student's*.

Creating words for possessive pronouns

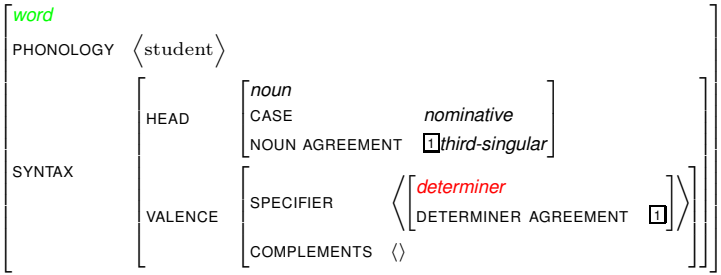
The first shortcoming of Grammar 21 is easy to remove. We add lexical entries like the following one to the lexicon:

$$\begin{bmatrix} \textit{word} & & \\ \text{PHONOLOGY} & \langle \text{my} \rangle & \\ \text{SYNTAX} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{noun} & \\ \text{CASE} & \textit{genitive} \\ \text{NOUN AGREEMENT} & \textit{first-singular} \end{bmatrix} \\ \text{VALENCE} & \begin{bmatrix} \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \end{bmatrix} & \end{bmatrix}$$

This is a good start. But it will not be sufficient to license phrases like *my cake*! Can you see why?

Nouns and their Specifiers

Look at the lexical entry of a typical common noun:



Answer:

- The noun is looking for a specifier of part of speech *determiner*, but the part of speech of *my* is *noun*!

Possible solution: change the part of speech of *my* to *determiner*.

Unfortunately, that will not work, because genitive pronouns behave differently from determiners! In what respect?

Possessive pronouns are not determiners

Head nouns require of their determiner specifiers that they agree with them:

(6) a. this cake
    b. * this cakes

(7) a. * those cake
    b. those cakes

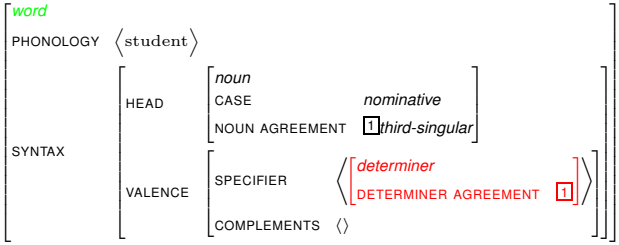
But possessive pronouns need not agree with the head noun:

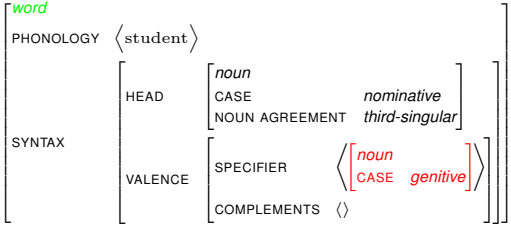
(8) a. my cake(s)
    b. your cake(s)
    c. her cake(s)
    d. our cake(s)
    e. your cake(s)
    f. their cake(s)

Conclusion: possessive pronouns are nouns, as their name suggests, not determiners!

Nouns either select for determiners or for genitive pronouns

This means that besides the first word below, we also need the second one:





Nouns either select for determiners or for genitive pronouns

More precisely, for each common noun family we need the following 8 words:

Word form	Number	Case	Specifier
student	*singular*	*nominative*	*determiner*
student	*singular*	*accusative*	*determiner*
students	*plural*	*nominative*	*determiner*
students	*plural*	*accusative*	*determiner*

Word form	Number	Case	Specifier
student	*singular*	*nominative*	*noun* [*genitive*]
student	*singular*	*accusative*	*noun* [*genitive*]
students	*plural*	*nominative*	*noun* [*genitive*]
students	*plural*	*accusative*	*noun* [*genitive*]

Lexemes and words for common nouns

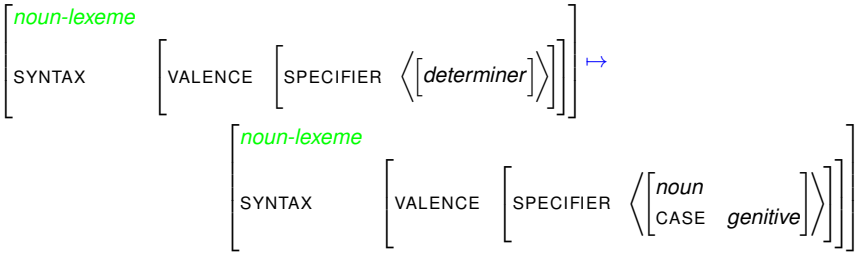
Our grammar licenses the first 4 words through lexical rules that take the following lexeme as input:

$$\begin{bmatrix} \textit{noun-lexeme} & & \\ \textsc{phonology} & \langle \text{student} \rangle & \\ \textsc{syntax} & \begin{bmatrix} \textsc{head} & \textit{noun} \\ \textsc{valence} & \begin{bmatrix} \textsc{specifier} & \langle [\textit{determiner}] \rangle \\ \textsc{complements} & \langle\rangle \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

With a single lexical rule that takes the lexeme above as input it is possible to also license the 4 additional common noun words at the bottom of the previous slide. Do you see how that can be done?

The Genitive Pronoun Lexical Rule for common nouns

For every common noun lexeme in the grammar that selects a determiner as specifier, the new rule will create another one that only differs in selecting a possessive pronoun as specifier:



Exercises

1. How many solutions will the grammar return, when you parse the string *student*?
2. How many of the solutions will be words and how many of them will be lexemes?
3. Repeat both exercises for the string *students*!

The *'s*-genitive

By adding the Genitive Pronoun Lexical Rule, Grammar 22 is now able to license the first sentence below.

(9) a. my cake
b. Kim's cake
c. The student's cake

Next, we will take care of the *'s*-genitive. This requires two small additions to Grammar 21.

The *'s*-genitive

We begin by studying the following pattern:

(10) a. the cake
b. Kim's cake
c. The student's cake

We now reason as follows:

1. The underlined expressions in (b) and (c) as a whole behave like the determiner in (a).
2. This suggests that they have the same function, namely the function of specifier of the common noun head *cake.*

This conclusion is supported by the fact that a genitive cannot cooccur with either another genitive or another specifier of the noun:

(11) a. * Kim's Robin's cake
b. * Kim's the cake
c. * the Kim's cake
d. * my Kim's cake
e. * Kim's my cake

The *'s*-genitive

So, we have evidence that the *'s*-genitive is a single constituent.

But, what kind of constituent is it?

1. Is the *'s*-genitive a word or a phrase?
2. What is its part of speech?

The first question is easy to answer based on the following examples:

(12) a. Kim's cake
b. Kim's neighbors's cake
c. Kim's neighbor's sister's cake

And so on: this pattern shows that the *'s*-genitive can consist of more than one word and hence can be a phrase.

The part of speech of the *'s*-genitive

If the *'s*-genitive is the specifier of a common noun, then its part of speech must either be *determiner* or *noun* [*genitive*].

Because NP+s behaves so similarly to *the*, we will treat *'s* as a *determiner*.

The internal structure of *'s*-genitive determiner phrases

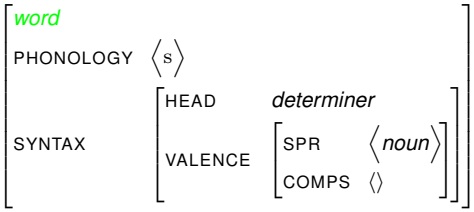
The string before the *'s* of an *'s*-genitive DP is an NP:

Kim (snores).	*Kim's (cake)*
The student (snores).	*The student's (cake)*
The hard-working student (snores).	*The hard-working student's (cake)*
The student from Frankfurt (snores).	*The student from Frankfurt's (cake)*

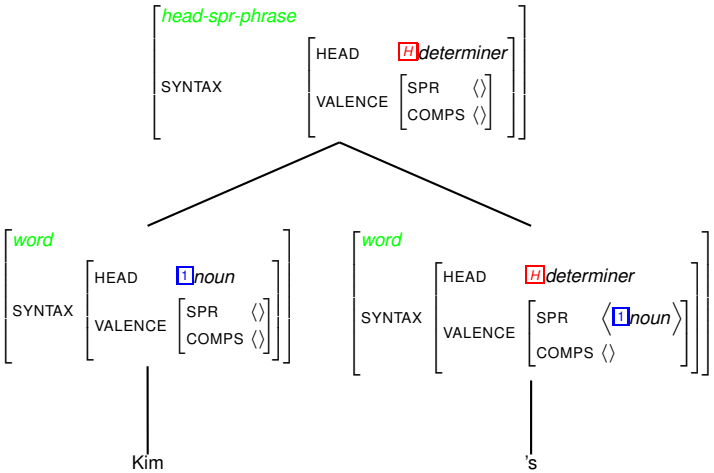
This suggests two things:

1. There is a word *s* whose part of speech is *determiner.*
2. *s* selects no complement, but a specifier of part of speech *noun.*

The lexical entry of the genitive *'s* (First version)

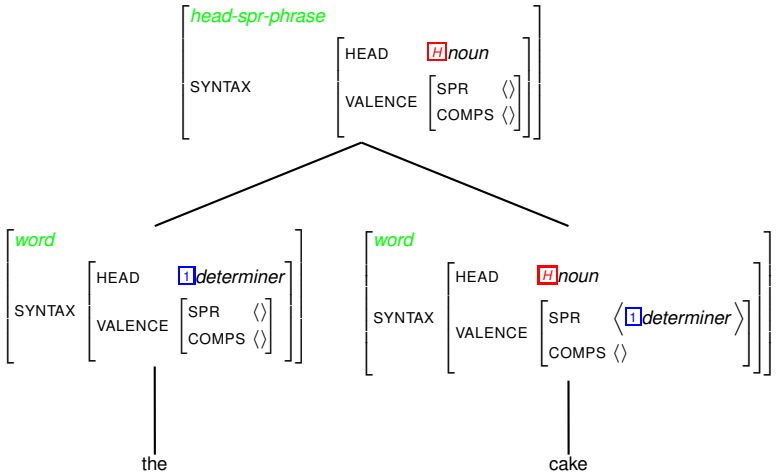


Projecting a phrase from the *'s*-genitive



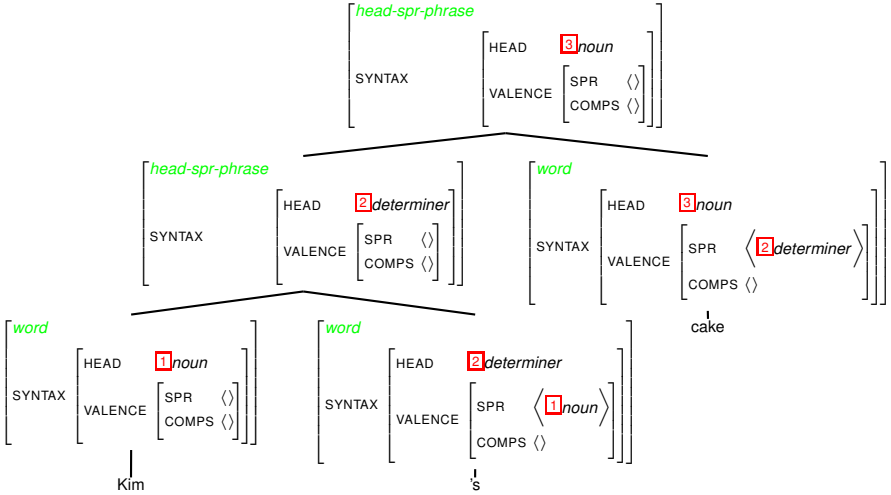
Licencing NPs with determiners as specifiers

The specifier is a determiner word:



Licencing NPs with determiners as specifiers

The specifier is an *'s*-genitive determiner phrase:



Licencing NPs with determiners as specifiers

There is one more loose end:

(13) a. Kim's cake
b. Kim's neighbor's cake
c. * I's cake
d. * you's cake
e. * she's cake

1. What do all the ungrammatical examples have in common?
2. What distinction is the grammar missing that is responsible for this problem.
3. How does the grammar need to be modified to account for the pattern above?

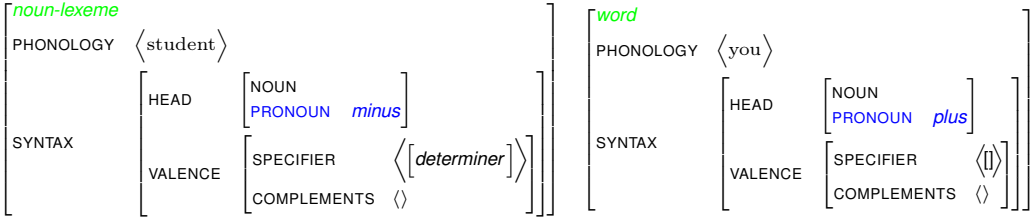
The genitive 's requires a non-pronoun as specifier

Problem: our grammar presently does not make a distinction between pronouns and non-pronouns!

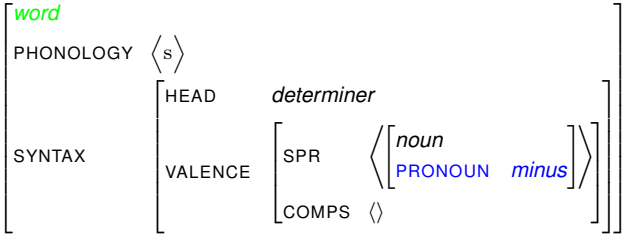
But, that is of course easy to do:

Since this distinction is only relevant for nouns, we add a feature PRONOUN to the part of speech *noun*, with possible value *boolean* and its two subtypes *plus* and *minus*.

Illustrative lexical entries:



The lexical entry of the genitive *'s* (Final version)



This predicts exactly the pattern that we need.

The expressions in blue are [PRONOUN *minus*], the ones in red are [PRONOUN *plus*]:

(14) a. Kim's cake
b. Kim's neighbor's cake
c. * I's cake
d. * you's cake
e. * she's cake

Summary

We started this lecture by stating that Grammar 21 can license the sentences in (15), but not the ones in (16):

(15) a. a cake
b. the cake

(16) a. my cake
b. Kim's cake
c. The student's cake

Grammar 22 can license all of the sentences above. To that end, we made the following changes:

1. We added lexical entries for genitive pronouns.
2. We added a lexical entry for the possessive word *'s*.
3. We added a two-valued feature PRONOUN to the part of speech noun and changed the lexical entries of all nouns accordingly.