Introduction: Features

Features make up pronouns and are involved in agreement phenomena.

1 Pronouns

An initial question is how the information in features is encoded. There are a variety of views. One is that there are hierarchies, or, perhaps, feature-kinds and values. So, for instance, one might imagine that feminine and masculine are values for the gender feature. We might think of she and he, for instance, as being distinguished as (1) does.

(1) he
    gender
    number
    masc sing
    she
    gender
    number
    fem sing

Another view is that there are no feature-kinds, only the features, as in:

(2) he
    number
    sing
    masc
    she
    number
    sing
    fem

We can call these views ones in which the features are "privative." A non-privative view of each of these frameworks gives the features a polarity. So:

(3) he
    gender
    number
    +masc +sing
    she
    gender
    number
    -masc +sing

(4) he
    +masc +sing
    she
    -masc +sing

We have to have a system that correctly maps this structure onto the single word, she. So that's one kind of question we can investigate. And we'd like to know how these features compose semantically to give us the meaning for a pronoun and this, of course, involves knowing what the meanings of the features themselves are. Because we don't have much to look at when we look at the internal syntax of pronouns, a lot of our evidence will come from how the meanings of pronouns work.

Personal pronouns have some attributes that characterize definite descriptions as well. Both of the sentences in (5), for instance, are appropriate only in contexts in which there is a unique female individual.

(5) a. She will lead the class.
    b. The woman will lead the class.

In both cases, then, we want a semantics that has the gender and number features in the pronoun make a contribution that is similar to that made by woman in (5b). This information, moreover, is not part of the entailment of the sentence, as we can see by considering the contrasts below.

(6) a. She didn't sing.
    b. The woman didn't sing.

These sentences don't become true if the individual that the subject refers to is not female. That is, these sentences cannot mean what (7) does.

(7) The non-female individual sang.

The usual move is make that information part of the presupposition of the sentence. In the case of full DPs, this can be modeled like (8).

(8) DP
    D
    the
    NP
    woman
a. \[ [\text{the}] = \lambda P. n \text{ if } P(n) = 1, \text{ and } n \text{ is the only } x \text{ in some situation in which } P(n) = 1 \]

b. \[ [\text{woman}] = \lambda x. \text{woman}(x) = 1. \]

The denotation of \text{the} introduces the uniqueness presupposition, and the NP part supplies the information that is presupposed.

A common way of capturing the parallelism with pronouns, then, is to build them in a parallel way. See Cooper (1979), Postal (1969), Elbourne (2001) and references cited therein. (This ignores Case.)

\[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{NP} \\
\quad [\text{the}] \\
\quad \text{fem} \\
\quad \text{sing}
\end{array}
\]

We can leave the denotation of the determiner the same in these two pictures, and credit it with introducing the uniqueness presupposition and determining how it determines what force the denotation of the NP part will be. But what are the meanings of the features? And — this might be the same question — what are those features?

The gender presuppositions come through even when the pronouns are interpreted as a bound pronoun, as (10), from Sudo, indicates.

\[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{NP} \\
\quad [\text{the}] \\
\quad \text{fem} \\
\quad \text{sing}
\end{array}
\]

10. a. Every kid brushed her teeth.
   b. Some student left her notebook in my office.
   c. Only one student did her homework.

We understand the domain of every kid in (10a) to include just girls, and we understand the student in (10b,c) to be female. This is preserved, as expected, in negative contexts.

\[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{NP} \\
\quad [\text{the}] \\
\quad \text{human} \\
\quad \text{sing}
\end{array}
\]

11. Every kid didn't brush her teeth.
    Some student didn't leave her notebook in my office.
    Only one student didn't do her homework.

But compare (12) to (10a).

12. Someone left his notebook in my office.

I can say this without presupposing that the individual who left their notebook in my office is male. This seems to have to do with the gender. There’s a difference in what masculine and feminine features mean, it seems. One way of thinking about this is to assume that the masculine form is the unmarked form. That is, it has no denotation. Perhaps there is simply no masculine feature.

\[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{NP} \\
\quad [\text{the}] \\
\quad \text{sing}
\end{array}
\]

Why, then, do we understand (14) to communicate that the individual who has left is male?

14. He left.

Perhaps this comes by way of the following Gricean chain of thinking.

15. The speaker of (14) chose to say \text{he}, instead of \text{she}, so there must have been a reason for that choice. Either the the speaker knows that the person who left is not female, or the speaker doesn’t know the gender of the person that left. If the speaker didn’t know the gender of the person that left, then saying A person left would have communicated this better than (14). Hence: the speaker knows that the person that left is not female. People come in two genders, so …

Note that this reasoning relies on \text{he} referring to a person. Perhaps we should adopt (16)?

\[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{NP} \\
\quad [\text{the}] \\
\quad \text{human} \\
\quad \text{sing}
\end{array}
\]

16. he/him/his =

Or perhaps it too is derived in this Gricean manner by considering the denotation of it.
Or perhaps we can let the human/non-human information come by way of the feature-types that some of the representations we’ve been looking at have. We might consider a system like (18), for instance.

(18) a. she =

Now let’s consider the meaning of sing. Should we treat this too as a predicate? Maybe something like (19).

(19) \[\text{sing} = \lambda x. x \text{ has exactly one atom. } x \text{ varies over groups.} \]

(Understand “group” to be a set of one or more individuals.) It appears that this information, like gender, is not part of the main assertion of the sentence.

(20) She didn’t leave ≠ The not-singular group of females left.

So, we could put the sing feature along with the fem feature inside the complement of [[the]].

(21)

Now we need to understand how these two features combine to give us a meaning for the NP they are in. Kratzer (2009) makes the interesting suggestion that we are just doing the normal syntax-semantics mapping here. The rules of semantic composition, and how they apply, are the same for features as they are for words. So we could use predicate conjunction in this case:

(22) \[\text{NP} = \lambda x. \text{ all the atoms of } x \text{ are female, and there is exactly one atom in } x, \text{ where } x \text{ varies over groups.} \]

On this view, then, she refers to a group in some situation if that group has only one individual in it, that individual is female, and there is no other such group in that situation.

Sauerland (2003) argues that plural is the absence of singular. It conveys the absence of singularity and, through a chain of Gricean reasoning like that illustrated above, leads to the implication that the group referred to is plural. He points to examples where a plural pronoun does not refer to a plural as evidence:

(23) Everyone, should leave their shoes on.

A part of the meaning of some of the pronouns we’ve looked at so far is as a bound variable. A technology employed to provide that meaning is an index. We allow DPs to come with indices, and cook up a semantics that interprets them in the requisite ways. So:
In Heim and Kratzer (1998), the indices get a different interpretation depending on whether they are on the binder or the bindee. In the bindee, they get an interpretation that makes the pronoun a variable. How does the index get incorporated into the pronoun? Maybe it’s a feature too? We can think of the proposal in Elbourne (2005) in those terms, I think.

As we’ve seen, her provides the information necessary to understand that the student is female, when her is bound by exactly one student. That doesn’t happen with (26). Maybe that’s because first person pronouns cannot have an index in them, and so cannot be understood as bound variables.

But then there are examples in which first person pronouns do seem to behave like variables. That, for instance, would be a way of understanding the ambiguity of (28), from Kratzer (2009).

(28) Only I take care of my child.
   a. ≈ I take care of my child and no one else takes care of my child.
   b. ≈ I take care of my child and no one else takes care of their child.

As the paraphrase of the second meaning makes clear, the genitive pronoun is a variable on this reading. Interestingly, however, it doesn’t range over individuals that are first person. These are called fake indexicals, and they will be part of our examination too.

2 Agreement

Features are referenced by agreement processes as well.

(29) a. I am tired.
   b. They are tired.
   c. She is tired.

As we can discover things about the composition of the features on pronouns (and other DPs) by studying how they get involved in agreement phenomena. Sometimes we see, for instance, that whether a verb’s form involves the features found on a local DP depends on what those features are. In Icelandic, for instance, finite verbs agree with DPs that follow if those DPs are close, and nominative, and also of a certain feature composition. (These examples from Cherlon Ussery’s UMass dissertation.)
(31)  a. Mörgum kennurum mundi/*mundum virðast við
    many.dat teachers.dat.pl would.3sing/*1plur seem  we.nom.plur
    (vera) hæfr.
    (be) competent
    ‘We would seem competent to many teachers.’
    b. Mörgum kennurum mundi/mundu virðast þeir
    man.dat teachers.dat.plur would.3sing/3plur seem  they.nom.plur
    (vera) hæfr.
    (be) competent
    ‘They would seem competent to many teachers.’

The third singular form of the finite verb is taken to be the “default,” that is, how
the verb is expressed when it doesn’t agree (=? has no features?). What we see from
(31a) is that the finite verb here must be in the default – it cannot agree with the
following DP, which is in the first person plural. By contrast, in (31b), it can either
not agree or agree with the following DP, which, here, is a third person plural.

Also, the locality condition on Agreement seems to be sensitive to features, as
we can see from contrasts like the following. (One dialect of Icelandic, also from
Cherlon Ussery’s UMass dissertation.)

(32)  a. Einum málfræðingi líkaði/líkuddu þessar hugmyndir.
    one linguist.dat liked.3sing/2plur these ideas.nom.plur
    ‘The ideas pleased one linguist.’
    b. Það líkaði/*líkuddu einum málfræðingi þessar hugmyndir.
    ‘there’ liked.3sing/*3plur one linguist.dat these ideas.nom.plur
    ‘These ideas pleased on linguist.’

Here what we see is that if the finite verb is able to agree with a DP that follows, as
in (31b) or (32a), it loses that ability if another DP comes between them. Maybe the
locality condition agree, then, is something like: must match the “closest” features.
We could use that to probe when features exist, then.

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