Harley and Ritter

We were looking at Harley and Ritter’s suggestion that features are organized according to a hierarchy. This hierarchy:

```
pronoun
  / 
particpant    individuation
    / 
  speaker    addressee
```

Some properties of this geometry:

1. Features are privative.
2. If G is a daughter of F, then G cannot occur without F occurring.
3. Let X and Y be combinations of features. X is more marked than Y if the representation of X requires more nodes that the representation of Y.
4. Let X (an “organizing node”) be a node in a hierarchy that can have daughters. An organizing node with no daughters is assigned a daughter node by default. (This node doesn’t count for the markedness calculation.)

For person features, this has the following consequences:

1. If `participant` is present, then the item is 1st (default) or 2nd
2. 3rd is the absence of `participant`

We have two ways, then, of expressing a default marking. The absence of something (`participant`) and the filling in of something (`speaker`).

Let’s look at how they use this geometry to express pronoun systems.

Daga (Trans-New Guinea)

```
SING  PLURAL
  / 
ne   nu
  / 
  / 
part  part
  / 
indv  indv
  / 
  / 
addressee  addressee
  / 
  / 
me  mu
  / 
  / 
  / 
  / 
  / 
  / 
  / 
part  indv
  / 
indv  indv
  / 
  / 
  / 
  / 
  / 
  / 
  / 
  / 
  /
```

Compare this to Kalihna.
Kalihna (Carib)

<table>
<thead>
<tr>
<th>SINGULAR</th>
<th>PLURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>au</td>
<td>aʔna</td>
</tr>
</tbody>
</table>

1st ex

- part
- indv
- speaker
- speaker

1st in

- part
- indv
- speaker
- addressee
- speaker
- addressee
- group

2nd

- part
- indv
- addressee
- addressee
- group

3rd

- indv
- group

Kalihna, unlike Daga, has a non-default speaker feature, and this allows participant to contain both speaker and addressee. Suppose that we understand the meaning of speaker and addressee to be as in (4a,b). Then we could use predicate conjunction to give a meaning to part when it has them both.

4. a. $[\text{speaker}] = \lambda x. x$ is the speaker
   b. $[\text{addressee}] = \lambda x. x$ is addressed by speaker
   c. $[kixko] = \lambda x. x$ is speaker and addressed by speaker

But now, we have to figure out min means. It can't simply mean that the cardinality of the group is one. As its name suggests, they must have in mind that it means something like the “smallest cardinality possible.” If kixko refers to a group that includes the speaker and those addressed by the speaker, then the smallest cardinality would be two?

It seems to me that they are assuming that speaker can refer to a plurality, which is perhaps questionable. Perhaps they have in mind something like (5).

5. $[\text{speaker}]$ = refers to a group that includes the speaker.

So here’s the typology this predicts.

6. If a language has the features speaker and addressee, it will have an exclusive/inclusive distinction.

They suggest this derives:

7. A language will not have an inclusive person if it does not have a 2nd person.

Let’s now look at how this system handles systems where there is more than just a singular/plural split. They offer Tonkawa as an illustration of a system with a dual.

Tonkawa (Coahuiltecan)

<table>
<thead>
<tr>
<th>SINGULAR</th>
<th>PLURAL</th>
<th>DUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ca’veya</td>
<td>geuca’ga</td>
<td>geucaya</td>
</tr>
</tbody>
</table>

1st

- part
- indv
- min
- group

2nd

- part
- indv
- min
- addressee
- group

3rd

- indv
- group

part -> speaker, when unoccupied.

But now, we have to figure out min means. It can't simply mean that the cardinality of the group is one. As its name suggests, they must have in mind that it means something like the “smallest cardinality possible.” If kixko refers to a group that includes the speaker and those addressed by the speaker, then the smallest cardinality would be two?

It seems to me that they are assuming that speaker can refer to a plurality, which is perhaps questionable. Perhaps they have in mind something like (5).

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<tr>
<td>ca’veya</td>
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</tr>
</tbody>
</table>

1st

- part
- indv
- min
- group

2nd

- part
- indv
- min
- addressee
- group

3rd

- indv
- group

part -> speaker, when unoccupied.

Here we must understand group to mean something like:

8. $[\text{group}] = \lambda x. x$ has more than one atom, where $x$ is a group.
We’d have to work out the precise meaning for \( \text{min} \), but the goal would be to find a way of having it combine with \( \text{group} \) to require that the group be the minimal number greater than one. (Note that it cannot give us a cardinality of zero.) As evidence for treating dual as a combination of singular and plural, they say “Tonkawa pronouns support this analysis: the dual appears to be made up of a prefix from the plural attached to a singular base.”

So, similar to the part/speaker issue, their system predicts:

(9) If a language has \( \text{min} \) and \( \text{group} \), then it has dual.

They suggest this derives:

(10) A language will not have a dual number if it does not have a plural number.

Also derived, because of the way \( \text{indiv} \) is interpreted when it has nothing else in it:

(11) A language will not have a plural if it does not have a singular.

And so:

(12) A language will not have a dual if it does not have both a singular and a plural.

These two systems can combine — they offer Chinook as an example.

Chinook

<table>
<thead>
<tr>
<th>1(^{st}) sing</th>
<th>2(^{nd})</th>
<th>1(^{st}) ex plur</th>
<th>1(^{st}) in</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing</td>
<td>dual</td>
<td>plural</td>
<td></td>
</tr>
<tr>
<td>naika</td>
<td>ntaika</td>
<td>ntcika</td>
<td></td>
</tr>
<tr>
<td>tXaika</td>
<td>lXaika</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kwakiutl

<table>
<thead>
<tr>
<th>1(^{st}) sing</th>
<th>2(^{nd})</th>
<th>1(^{st}) ex plur</th>
<th>1(^{st}) in</th>
</tr>
</thead>
<tbody>
<tr>
<td>-En</td>
<td>-Es</td>
<td>-Enuxu</td>
<td>-Ens</td>
</tr>
<tr>
<td>part</td>
<td>part</td>
<td>part</td>
<td>part</td>
</tr>
<tr>
<td>addr</td>
<td>spkr</td>
<td>spkr</td>
<td>addr</td>
</tr>
</tbody>
</table>

part → spkr, when it is empty

I didn’t quite understand this system.

For number systems that include a fourth value, which is either paucal or trial, they suggest that there is a feature \( \text{aug} \), which is a dependent of \( \text{min} \). They say:

We propose a feature Augmented to express the notion that, conceptually, the paucal consists of the smallest possible group (two) plus one (trial) or a few more (paucal).

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An illustration of a system with this feature is Boumaa Fijian.

There is no singular form of the 1\(^{st}\) inclusive. But there was in Kalihna. I wonder if that is a pattern: if you have dual and 1\(^{st}\) inclusive, then there is no singular form. It shows up again in all the languages they discuss with the dual – the first inclusive never has a singular form. Does that follow from their system?

We get more clues about the meanings of the speaker and addressee features from their treatment of languages that have number distinctions in the first person, but nowhere else. The suggest (14).
(15)

Boumaa Fijian

1st ex

- sing yau
  part indv
  spkr min

plur 'eimami
  part indv
  spkr group

- dual 'eirau
  part indv
  spkr min group

- paucal 'eitou
  part indv
  spkr min group

1st in

- 'eta
  part indv
  spkr addr group

- 'etaru
  part indv
  spkr addr min group

- 'etatou
  part indv
  spkr addr min group

aug

2nd

- i'o
  part indv
  addr min

- 'emunuu
  part indv
  addr group

- 'emudrau
  part indv
  addr min group

- 'emudou
  part indv
  addr min group

aug

3rd

- 'ea
  part indv
  min

(i)ra
  part indv
  group

(i)rau
  part indv
  min group

(i)ratou
  part indv
  min group

aug
Putting Aug in this position in the geometry is intended to derive:

(16) A language will not have a paucal/trial number if it does not have a dual number.

Evidence for their node-counting method of computing markedness comes from the relative frequencies of the systems illustrated. For person and number systems they report:

<table>
<thead>
<tr>
<th>system</th>
<th>no. of lngs</th>
<th>% of lngs</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st, 2nd, 3rd</td>
<td>52</td>
<td>57</td>
<td>English</td>
</tr>
<tr>
<td>1st, 1st ex, 2nd, 3rd</td>
<td>32</td>
<td>35</td>
<td>Ojibwa</td>
</tr>
<tr>
<td>1st, 2nd, (demonstratives for 3rd)</td>
<td>5</td>
<td>5</td>
<td>Ainu</td>
</tr>
<tr>
<td>1st in, 1st ex, 2nd (demonstratives for 3rd)</td>
<td>2</td>
<td>2</td>
<td>Halh</td>
</tr>
</tbody>
</table>

There are some other typological generalizations that they aim to understand with this geometry. One is:

(17) a. Gender distinctions are rare in 1st and 2nd person, and
   b. If there are gender distinctions in 1st and 2nd person, they are present in 3rd person too.

They say:

This is due to the fact that a gendered 1st or 2nd person pronoun involves elaboration of both major organizing nodes but a gendered 3rd person pronoun involves only elaboration of the Individuation node.

(Harley and Ritter 2002, p. 509)

Does this depend on something like (20).

(20) If there are pronouns built from independent nodes A and B, then there must be pronouns built from just A and just B.

I wonder what (20) follows from.

They note that this also predicts:

(21) There should never be more number distinctions in 1st and 2nd than in 3rd.

They report that Guarani and Kosati are counterexamples.

<table>
<thead>
<tr>
<th></th>
<th>sing</th>
<th>plur</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>anó</td>
<td>kosnó</td>
</tr>
<tr>
<td>2nd</td>
<td>isnó</td>
<td>hasnó</td>
</tr>
<tr>
<td>3rd</td>
<td>ibisnó</td>
<td></td>
</tr>
</tbody>
</table>

They suggest that the 3rd person pronouns do indeed have group or min in them, but that the form is merely syncretic. Evidence for this is that when the 3rd pronoun is in an agreement relation, the agree-er is either singular or plural.

The reason for putting Class inside the node that also holds number distinctions is Greenberg’s 36:

(23) If a language has the category of gender, it always has the category of number.

They say they know of no exceptions. How is this derived? To have gender, the INDV node must be present. They assume that if that INDV node is present, then there must be a way of interpreting it as a bare node, and this “would be uninterpretable in a system with gender, but not number.” (p. 514) I don’t follow this.

The geometry also derives, they claim, Greenberg’s Universals 37 and 45.

(24) Universal 37
A language never has more gender categories in nonsingular numbers than in the singular.

(25) Universal 45
If there are any gender distinctions in the plural of the pronoun, there are some gender distinctions in the singular also.

Universal 37 just follows from the geometry, and the idea that absence of group in a pronoun that has indv active is singular. Universal 45 requires something close to (20):

(26) If independent nodes A, B and C are active in a language, and there are pronouns that combine A and B, then there are pronouns that combine A and C.
Both (20) and (26) express something like:

(27) Maximize Paradigm
    Let A, B, C, … be independent nodes that are active in a language. L. Build
    pronouns that express all combinations of A, B, C, ….

This can't be an absolute requirement, only a pressure.

2 Sudo

Recall that the feature information in a pronoun seems to have the same kind of
semantic role that an NP has in definite descriptions.

(28) 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 (29) does.

(29) 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 (30).

(30) DP
    \[\text{D} \quad \text{NP}\]
    \[\text{the} \quad \text{woman}\]
    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 the introduces the uniqueness presupposition, and the NP part
supplies the information that is presupposed. We could do that with pronouns too.

(31) DP
    \[\text{D} \quad \text{NP}\]
    \[\text{[the]} \quad \text{fem} \quad \text{sing}\]

I also, at the outset, suggested that we adopt as working hypothesis, Kratzer (2009)'s
idea that the means by which features semantically combine in a pronoun is the
same as that available to phrase constituents. So if we take (32), we get from she
that it refers to something only if that something is the unique female singular.

(32) a. \[\text{[fem]} = \lambda x. n \text{ if } n \text{ is the unique group all the atoms in which are female}\]
    b. \[\text{[sing]} = \lambda x. n \text{ if } n \text{ has no more than one atom}\]

Pronouns are also thought to be borne with indices. For free pronouns, these
indices are used to fix their referent. I think the function of indices overlaps with
the function I have assigned to the, and so I don't know if we really need both. But
I'll put them both in. One way of doing that, which is inspired by Elbourne (2005)
would be to let indices be part another argument for the.

(33) \[\text{[the]} = \lambda n \lambda P. n \text{ if } P(n) = 1, \text{ and } n \text{ is the only } x \text{ in some situation in which } P(n) = 1\]

The shape of pronouns will now be something like:

(34) DP
    \[\text{D} \quad \text{NP}\]
    \[\text{the} \quad \text{1} \quad \text{NP}\]
    \[\text{fem} \quad \text{sing}\]

The reason pronouns are thought to be equipped with indices is that pronouns
have an ability that other definite descriptions don't have: they can be interpreted
as bound variables. This is accounted for by letting the semantics have a rule of
interpretation that applies just to indices and that gives the bound variable reading.
That rule, then, will apply only to those expressions that have indices, and so to
pronouns but not other DPs. We have:

(35) Every student should praise herself.
There is a confusing thing about using the same index in the pronoun and the \( \lambda \)-expression. You have to think of the \( \lambda \)-expression as giving the index it contains a different interpretation.

As we saw from Sudo’s talks, the presupposition introduced by features interacts with quantifiers in particular ways.

(36)  
\begin{enumerate}
  \item No student praised herself.
    presupposes that all the students in the domain of \textit{no} are female.
  \item Some student praised herself.
    presupposes that the student in the domain of \textit{some} which satisfies \textit{praised self} is female.
\end{enumerate}

Features are like other presuppositions in this regard.

(37)  
\begin{enumerate}
  \item No student stopped smoking.
    presupposes that all the students in the domain of \textit{no} are former smokers.
  \item Some student stopped smoking.
    presupposes that the student in the domain of \textit{some} which satisfies \textit{stopped smoking} is a former smoker.
\end{enumerate}

How this happens, and why it is slightly different depending on the quantifiers involved, we will assume comes from a theory of presupposition projection and nothing about what the features means plays a crucial role. What’s important for us is that the meaning of a feature plays the same role in giving the referent for a free pronoun as it does it providing the meaning of these quantificational structures.

Note that we will have to negotiate the uniqueness presupposition introduced by \textit{the} in these quantificational structures. Perhaps we should think that there is no \textit{the} in bound pronouns, and consequently no uniqueness presupposition. Or maybe we should let the quantifiers quantifying over the domains in which the uniqueness presupposition is satisfied. I’m just going to bracket this issue.

Interestingly, first and second person pronouns do not seem to have the same ability to be bound variables.

(38)  
\begin{enumerate}
  \item * Exactly one student criticized myself, namely me
  \item * Exactly one student, did my homework.
\end{enumerate}

\textit{compare:}
\begin{enumerate}
  \item Exactly one student criticized herself, namely Mary.
  \item Exactly one student, did her homework.
\end{enumerate}

One might worry that what goes wrong in (38) and (39) is related to what goes wrong in (40).

(40)  
\begin{enumerate}
  \item ?? A suited professor should be more articulate.
  \item ?? A French student should eat more often.
\end{enumerate}

But Sudo points to:

(41)  
* The present author/speaker likes myself.

First and second person pronouns also do not introduce presuppositions in the same way that gender does. (These data from Stokke 2010.)

(42) context: a baby boy is sleeping. Mary, mistaking him for a girl, says:
    She is sleeping.

The judgement is that (42) is true, but fails the presupposition. But:

(43) context: André has gone mad and thinks he is Napoleon. As the doctors try to calm him, he says:
    I won the Battle of Austerlitz!
The reported judgment here is that (43) is false.

This could be explained if first and second person are not predicates, like _fem_ is, that invokes a presupposition. Instead, we could think of them as being names for participants in a context. They are indexicals, then, like _here_ which refers to a particular part (a location) of a context.

(44) Where \( C \) is a context
   a. \( [\text{first}] \) = refers to speaker in \( C \).
   b. \( [\text{second}] \) = refers to addressee in \( C \).

This could also, as Kratzer (2009) suggests, prevent first and second person pronouns from being gendered.

(45) \[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{NP} \\
\text{the} \\
\text{NP}^\dagger \\
\text{fem} \quad \text{first}
\end{array}
\]

Plausibly, the only rule of interpretation that would put _fem_ and _first_ together would be functional application:

(46) \( \lambda x \ x\text{’}s \text{atoms are female(speaker in } C) = \text{the speaker in } C \text{ is female} \)

That will make the semantic type of \( \text{NP}^\dagger \) <\text{>,>}, and that kills the rest of the computation. This, then, would explain why gender distinctions don’t happen with first and second person. We’d have to find a way to model those languages that do show gender distinctions in first and second person. Does this, if successful, undermine the reasons for putting gender in a separate node from first and second? That is, does it undermine the reasons Harley and Ritter gave for putting gender in INDV rather than PART?

Of course, if this is the right way of thinking, then we cannot treat number as predicates too, as that would prevent first and second person from having number features in them, and that’s really not right.

An interesting problem for the indexical view of first and second person is found in examples like (47).

(47) Only I did my homework.

This can mean:

(48) I did my homework and no one else did their homework.

It’s the “no one else did their homework” component of the meaning that has a bound variable in it, and so somehow we need “my” to invoke a variable here.

To get a better picture of what makes this example special, we should understand how _only_ works. First, it interacts with focus.

(49) a. Jim only danced with Julie.
    Jim danced with Julie and Jim did nothing else with Julie.
    b. Jim only danced with Julie.
    Jim danced with Julie and Jim danced with no one else.

A way of doing this that is modeled on Rooth (1992).

(50) If IP contains a focus marked constituent \( \alpha \), then in addition to its normal denotation it invokes the presupposition that:
   a. The background \( B \), contains a non-singleton set of propositions all of which = \( [\text{IP}] \), except possibly for the value assigned to \( \alpha \).
   b. One of those propositions is \( [\text{IP}] \).

Pretend that _only_ always scopes over IP, then we can define its meaning with (51).

(51) \( [\text{only}] = \lambda B \lambda p. p \text{ is true and no other element of } B \text{ is true.} \)

Let’s see this in action.

(52) Only [Jim] \( \lambda l \text{ did his }_1 \text{ homework.} \)

If we assume that the binding rule makes _his_ \( _1 \) have the same value that is given to \( \text{Jim}_F \), then \( B \) is going to have propositions like (53) in it.

(53) a. Jim did Jim’s homework.
    b. Paul did Paul’s homework.
    c. Sally did Sally’s homework.

Notice that _masc_ does not project into all the propositions in \( B \). What _only_ adds to the meaning of _Jim_ \( _1 \text{ did his }_1 \text{ homework} \) is that all of the propositions in (53) are false except for (53a).

Now we can see the problem posed by (47). There is no index in _my_, and so \( B \) has propositions like (54).

(54) a. I did my homework.
    b. Paul did my homework.
    c. Sally did my homework.
The only reading *only* can deliver, then, is one that says every proposition in (54) is false except (54a). That is a reading for this sentence, but not the one we're after. What we're after is something that would allow B to be:

(55)  a. I did my homework.
     b. Paul did Paul's homework.
     c. Sally did Sally's homework.

Because this problem arises just in sentences where the bound variable reading is part of what makes up the background, one might be tempted to think that we could find the solution there too. That is, maybe when we create the alternative propositions with the focus mark, we should allow the pronoun and its antecedent to covary even if they aren't in the relation that indices encode. Maybe, for instance, it's enough that I and my have the same referent for them to create propositions in the background that covary. That won't work, though, because it would predict that (56) has the reading that (47) does.

(56) Only the present speaker did my homework.
     Only this idiot did my homework.

A popular solution from Kratzer (1998) is to imagine that the morphology on pronouns need not always be semantically interpreted. The way she implements that idea is (very roughly) with the following two assumptions.

(57)  a. A pronoun can be made up of just an index. (these are known as *minimal pronouns*)
     b. If a pronoun is bound by α, then its morphological form is determined by the union of its features and α's features.

This makes bound pronouns systematically ambiguous. They could be minimal pronouns bound by something that fully determines their morphological form. Or they could be borne with the features that determine their form. In the first case, the pronoun's meaning will not necessarily match its form. In the second case, it will.

The alternative to this approach that Sudo offers is to make person features something that combines semantically with an index. So we have things like:

(58)  

   \[
   \begin{array}{c}
   \text{you} \\
   n_{\text{second}} \\
   \end{array}
   \quad
   \begin{array}{c}
   \text{me} \\
   n_{\text{first}} \\
   \end{array}
   \quad
   \begin{array}{c}
   \text{she} \\
   D \\
   NP \\
   \end{array}
   \]

The assignment function provides an interpretation for person features.

(59)  a. g(n second) = the addressee
     b. g(n first) = the speaker
     c. g(n third) = neither addressee nor speaker

Indices always come with person features. If a pronoun is bound, it must be bound by an index+person pair of the same kind. Since all pronouns now have indices, and can be bound, the semantics we've seen for third person pronouns will port over to the first and second. And notice that since person features are not assumed here to be predicates that are one of the arguments of *the*, they are not presuppositional.

Both these accounts predict that first and second person pronouns will only give rise to the bound variable interpretations when they are bound, that is c-commanded, by another first or second person term.

Another place where it looks like the features on a bound pronoun can be ignored semantically is illustrated by the contrast in (60).

(60)  a. * They are the smartest student.
     b. * We are the smartest student.
     \[\text{compare:}\]
     She is the smartest student.
     c. They think that they are the smartest student.
     d. We think we are the smartest student.

The second occurrence of *they* in (60b) seems to get interpreted as a singular. We could use the minimal pronoun approach here, or cook up an interpretation for number that types the indices as well.

Here's one last kind of case discussed in Sudo. These were first brought to the discussion of fake indexicals by Hotze Rullman, I believe, but their existence goes back to a paper by Jim Higginbotham. They are situations where a pronoun is bound by distinct binders.
(61) Each of the students told each of the professors that their meeting was fun. Here, the plural feature on their doesn’t seem to be interpreted in the normal way: the variables the pronoun contains are over singulars. The person feature is controlled, it seems, but the persons of the binders:

(62) Each professor told me that we should have a meeting this week. The c-command restriction seems to be violated here.

(63) a. The students John and Mary taught think they will win $100.
   b. The people who voted for me and John thought that we would win the election.
   c. The people who voted for Mary and Sue thought we were married.
   d. The people who voted for Mary and Sue thought you were married.

Let the Index node have more than one index.

Heim’s spell out rules:

(64) A pronoun with a set index $I$ is
   a. first person, if some $i \in I$ is first person;
   b. second person, if no $i \in I$ is first person and some $i \in I$ is second person;
   c. third person, otherwise.

References


