Chapter 2

Person Features: Deriving the Inventory of Persons

1. Introduction

One long-standing aim of research into person has been to achieve a deeper understanding of the inventory of personal pronouns by decomposing them into a limited set of person features. The main aim of this chapter is to make a contribution to this enterprise. We will argue that a set of two privative person features is sufficient to derive the full inventory of attested pronouns and their interpretations, without generating non-attested pronouns.

In chapter 1 we showed that the cross-linguistic inventory of attested persons is a small subset of the set of theoretically possible persons. The theoretically possible persons are those that can be formed by freely combining the speaker (for which we use the symbol $i$), associates of the speaker ($a_i$), the addressee ($u$), associates of the addressee ($a_u$), and others ($o$). The generalizations that distinguish between the attested and non-attested persons are the following (repeated from (9) in chapter 1):

(1) a. There is no person that contains associates of a participant but not the participant itself.

b. There is no person that consists of others and only speaker(s) or of others and only addressee(s).

c. No person system distinguishes pluralities containing a participant but not its associates from pluralities containing that participant as well as its associates.

d. First and second person plural pronouns show an ‘associative effect’: any element contained in them other than $i$ or $u$ must be $a_i$ or $a_u$ and cannot be $o$. 

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This leaves us with three persons with a singular interpretation and four persons with a plural interpretation. Any theory of person features and their semantics must explain why this, rather than some other subset of all logical possibilities, is the inventory of attested persons.

There is limited room for manoeuvring, as a number of observations about person should be derivable from the proposed system. To mention just one, third person has an apparent ‘default’ status. Thus, third person pronouns, as opposed to first and second person ones, can be used in situations where they do not seem to have any referent. Examples are expletive pronouns that can appear in subject position in certain languages so as to avoid an EPP violation, or pronouns that appear with ‘weather’-verbs:

\[(2) \quad \begin{align*}
\text{a. } & \text{It seems that Mary has left for Paris.} \\
\text{b. } & \text{It is raining again in Edinburgh.}
\end{align*}\]

Similarly, some languages allow use of third person verb forms in the absence of an agreeing subject. Observations of this type have led to the assumption that the third person in fact has no person features (see Cysouw 2003 and references cited there), in contrast to what we will argue. We are therefore committed to show how the system to be developed can explain this behavior of the third person as well.

In section 2, we outline our basic proposal. We will define two privative person features that operate on a person space with a universal structure, and show how these features generate exactly three singular persons and four plural ones. The rest of the chapter is taken up by a discussion of how this feature system sheds light on the workings of the person system in various domains. Issues to be addressed include the use of third person as a default, the typology of honorific pronouns, the lack of person features in R-expressions, the location
of person within the extended pronominal projection, and the use of pronouns as bound variables.

2. The Basic Proposal

As noted in chapter 1, verbal agreement frequently shows 1-2 and 2-3 syncretisms, while 1-3 syncretisms are relatively rare. This pattern suggests that second person has a feature in common with both first and third person, while first and third person share no features (see (3)).

<table>
<thead>
<tr>
<th></th>
<th>First person</th>
<th>Second person</th>
<th>Third person</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3)</td>
<td>[F₁]</td>
<td>[F₁ F₂]</td>
<td>[F₂]</td>
</tr>
</tbody>
</table>

Proposals that assume this distribution of features can be found in Kerstens 1993 and Halle 1997. Kerstens uses binary features (the features that correspond to F₁ and F₂ in (3) are underlined): first person is characterized as [+UTTERANCE +SPEAKER], second person as [+UTTERANCE –SPEAKER], and third person as [–UTTERANCE –SPEAKER]. The fourth logical possibility, [–UTTERANCE +SPEAKER], is ruled out as contradictory. Halle proposes a similar system, built on the features ±PARTICIPANT (in the speech event) and ±AUTHOR. ¹

The system we propose is similar, but based on privative features. The use of privative features is familiar from a number of publications, including Harley and Ritter 2002 and McGinnis 2005, and was discussed in phonology as early as Trubetzkoy 1939. The features we will employ are PROX for ‘proximate’ and DIST for ‘distal’. The names for these features are of course not crucial to the analysis below, but are chosen to reflect the intuition that there is a parallel between the person system and the system of demonstratives (see for relevant discussion Diessel 1999, Lander and Haegeman to appear, and references mentioned
there; see also footnote 10 below).

We interpret these features as functions, following insights in Harbour 2011a,b,c, 2016. Both operate on an input set to deliver a subset as output. The initial input set for the person system represents all potential referents in a given context ($S_{i+u+o}$ in (4)). The input set has a fixed structure, already introduced informally in chapter 1. In particular, it contains a subset $S_{i+u}$, which itself contains a subset $S_{i}$. $S_{i}$ has the speaker ($i$) as an obligatory member; its other members, if there are any, are associates of the speaker and/or further individuals identified as speaker. $S_{i+u}$ has one addressee ($u$) as an obligatory member, in addition to all members of $S_{i}$; its other members, if there are any, are associates of the addressee and/or further individuals addressed by the speaker. $S_{i+u+o}$ contains all members of $S_{i+u}$; its remaining members, if there are any, are neither associates of the speaker nor of the addressee. (The idea that the input to the person system is a set of nested structures on which person features act is borrowed from Harbour 2011a. Note, however, that we treat these nested structures as sets of atoms, rather than as power sets.)

(4)

![Diagram](image)

We assume that there is a feature $\Pi$ that encodes $S_{i+u+o}$, and a dedicated category $N_\Pi$ that bears this feature. By definition, pronouns are projected from $N_\Pi$. The person features are introduced in a separate node that we will label $\text{PRS}$. In section 7 we will discuss the status of the $\text{PRS}$ node in more detail, but for now it is sufficient to assume that it combines with $N_\Pi$ and delivers $S_{i+u+o}$ to the person features that it is specified for. We now define these person features.
The feature PROX introduces a function that operates on an input set and discards its outermost ‘layer’. Applied to $S_{i+u}$ it delivers $S_{i+u}$. By contrast, DIST introduces a function that selects the outermost layer of its input set. Applied to $S_{i+u+o}$ it delivers $S_{i+u+o} - S_{i+u}$.

We assume that the various sets in (4) are ordered such that $S_i$ is the predecessor of $S_{i+u}$, while $S_{i+u}$ is the predecessor of $S_{i+u+o}$ (we will abbreviate ‘predecessor’ as Pred):

\[(5)\]
\[\begin{align*}
  a. & \quad \text{Pred}(S_{i+u}) = S_i \\
  b. & \quad \text{Pred}(S_{i+u+o}) = S_{i+u}
\end{align*}\]

If so, characterization of PROX and DIST is simple. The definitions in (6) express that PROX discards, while DIST selects, those elements that are part of the outermost layer of the input set:

\[(6)\]
\[\begin{align*}
  a. & \quad \text{PROX}(S) = \text{Pred}(S) \\
  b. & \quad \text{DIST}(S) = S - \text{Pred}(S)
\end{align*}\]

We now consider how first, second and third person readings are derived, starting with the singular (which for now we take to impose a requirement that the output set cannot contain more than one member; for more discussion, see below and chapter 3, where singular inclusive forms are analysed). The specification of the third person singular is straightforward: it should be DIST, as this feature will derive $S_{i+u+o} - S_{i+u}$, a set that excludes the speaker and any addressees.

A second person singular reading can be generated by applying both PROX and DIST. Notice that there is only one order of application that yields an interpretation. If PROX is applied first, $S_{i+u}$ is selected, a set containing the speaker (and any of their associates) and
individuals that the speaker addresses (and any of their associates). Applying DIST to this set removes Si, leaving only any addressees (and any associates) as potential members – the required result (see (7)). In the singular, this will yield a pronoun that refers to exactly one addressee.

\[
\begin{align*}
(7) \quad [\text{prs prox–dist}] \\
&= \text{dist}(\text{prox}(\text{prs})) \\
&= \text{dist}(\text{prox}(S_{i+u+o})) \quad \text{by definition} \\
&= \text{dist}(S_{i+u}) \quad \text{by (6a)} \\
&= S_{i+u} - S_i \quad \text{by (6b)} \\
&= S_u 
\end{align*}
\]

The opposite order of function application is not coherent. DIST applied to $S_{i+u+o}$ yields $S_{i+u+o} - S_{i+u}$ (a set that includes neither the speaker, nor any addressees). But this set is not layered (that is, Pred(S) is not defined for this set). Therefore, PROX cannot apply to it.

We assume that the order of function application is reflected in syntax. The notation we use to represent this is borrowed from theories according to which φ-features occur in a so-called feature geometry (see Gazdar and Pullum 1982 and Harley and Ritter 2002, among others): features representing functions applied later are dominated by features representing functions applied earlier. Thus, our representation of the second person singular is as in (9b) below. Here, PROX is the first function to be applied, and DIST represents the function applied subsequently.\footnote{In what follows, we will need to refer to the relative relationships of PRS and the various features. To this end, we will use the terms host and dependent. Thus, in the second person, PRS is the host of PROX and PROX is a dependent of PRS. Similarly, PROX and DIST stand in a
host-dependent relationship in the second person.

Consider finally the first person. Notice that in the singular just applying PROX to $S_{i+u+o}$ will not do. This is because the output it delivers, $S_{i+u}$, is a set with two obligatory members: the speaker and an addressee. Such a set obviously cannot be construed as singular. Therefore, at least in the singular, a first person reading requires that PROX is applied to the output of PROX. As PROX discards the outermost layer of its input set, this will deliver $S_i$, a set whose only obligatory member is the speaker and which therefore can be interpreted as singular:

\[
(8) \quad [\text{PRS PROX--PROX}]
\]
\[
= \text{PROX(\text{PROX(\text{PRS}))}}
\]
\[
= \text{PROX(\text{PROX($S_{i+u+o}$))}} \quad \text{by definition}
\]
\[
= \text{PROX($S_{i+u}$)} \quad \text{by (6a)}
\]
\[
= S_i \quad \text{by (6a)}
\]

The feature structures for singular persons are summarised in the table below. We use boxes to make clear that the person features are contained in the PRS node.

\[
(9) \quad \begin{array}{ccc}
\text{PRS} & \text{a. 1}^\text{st} \text{ person} & \text{b. 2}^\text{nd} \text{ person} & \text{c. 3}^\text{rd} \text{ person} \\
\text{PRS} & \text{PRS} & \text{PRS} \\
\text{PROX} & \text{PROX} & \text{PROX} \\
\text{PROX} & \text{PROX} & \text{DIST} \\
\end{array}
\]

We now turn to plural pronouns. We take number to be encoded through a NMB node, merged after PRS (see section 7.3). This node can contain a feature that marks plurality. For
now we will label this feature PL and assume that it requires that the cardinality of the output set of the person system be larger than one. (For a more detailed discussion, including a refinement of this proposal, see chapter 3.) Singular is the absence of the PL feature in NMB. There is, indeed, evidence that plural is marked and singular unmarked. First, Greenberg (1963:94) observes that “there is no language in which the plural does not have some nonzero allomorph whereas there are languages in which the singular is expressed only by zero.” Second, plural is both a target for morphological impoverishment rules and a context that triggers such rules. This behavior is typical of marked features (see Aalberse and Don 2009, 2011 and Nevins 2011).

As in the singular, the interpretation of third person plural forms is straightforward. DIST delivers a set that contains neither speaker nor addressees; adding PL simply adds the requirement that the cardinality of this set is two or more.

For second person plural forms, our proposal implies that the set selected contains at least one addressee and one or more other members. The latter can be additional addressees and/or associates of the addressee (compare also Daniel 2005).

First person plural pronouns are more complex, as here languages can make an inclusive-exclusive distinction. Inclusive first person pronouns refer to a group containing one or more speakers and one or more addressees (as well as possible associates). Exclusive first person pronouns disallow reference to any addressee (or their associates). That a language may have distinct pronouns expressing these readings follows without further stipulations. Suppose that the plural feature is simply added to the singular first person form, in which PROX applies twice (see above). Repeated application of PROX delivers $S_1$, a set containing the speaker and any contextually given associates of the speaker, but no addressees. PL indicates that the cardinality of this set is two or more, so the pronoun in this case receives an exclusive reading: it refers to one or more speakers and possible associates, but excludes reference to
any addressees.

However, this is not the only possibility. Recall that in singular first person pronouns PROX has to apply twice because the output after one application contains two obligatory members, the speaker and an addressee, which is incompatible with a singular interpretation. This consideration is obviously irrelevant in the plural. If PROX applies only once, its output will be $S_{t+n}$. In combination with PL, this allows for a range of inclusive readings. Reference can be to any group that contains the speaker and at least one addressee; in addition, more speakers (if these exist, see footnote 2), addressees or associates of either can be present. These are indeed the remaining readings that a first person plural pronoun can have.

Thus, the first person exclusive plural has the same person feature structure as the first person singular, whereas the first person inclusive plural has a person feature structure distinct from this. This chimes well with an observation by Cysouw (2005:74) according to whom “the exclusive is regularly homophonous with the first person singular [while] the inclusive is hardly found to be homophonous with the first person singular”. (For related discussion, see Moskal 2014 and chapter 7, section 3.6).

We thus arrive at the following inventory of plural forms:
The introduction of the number node implies that in the singular structures, too, PRS must be analysed as being combined with NMB. The only difference with the plural structures is that in this case this node does not contain the feature PL:

In the system just outlined, the first person (inclusive or exclusive) does not form a natural class with the third person to the exclusion of the second person. Similarly, the first person inclusive does not form a natural class with the second person to the exclusion of the first person exclusive. This is relevant in view of the results of a large-scale study reported in...
Harbour 2016. Harbour looked at which systematic patterns of syncretism are attested cross-linguistically, where a systematic pattern of syncretism is a syncretism characteristic of all paradigms of a given language. He found that no language had a systematic syncretism for first and third person, or for first person inclusive and second person. On the assumption that the distribution of systematic syncretisms reflects the underlying distribution of features, this shows that no set of features is shared uniquely by the relevant combinations of persons.

The absence of systematic syncretisms of first and third person does not imply that there are no grammars that deliver such syncretisms in particular paradigms. In chapter 7, we discuss what kind of morphological rules are necessary to generate such a syncretism and we will show that grammars that contain such rules are relatively hard to acquire, accounting for the fact that such syncretisms are relatively rare.

The absence of systematic syncretisms for first person inclusive and second person is in line with a typological generalization discussed by Zwicky (1977). Zwicky argues that in languages that lack the distinction between inclusive and exclusive first person pronouns, the inclusive reading is systematically expressed by the first person, rather than the second person plural pronoun – this despite the fact that the inclusive reading covers both speaker and addressee. An account for this observation would be impossible if first person inclusive and the second person did form a natural class to the exclusion of the first person exclusive.6

As it stands, the person specifications in (9) and (10) are the only ones that can be generated by the system we propose. Recall that both PROX and DIST require a layered set as their input (see (4)-(6)). Given that $S_{furso}$ has only three layers, the number of possible feature combinations is restricted. (i) DIST always delivers an unstructured set as output, hence neither PROX nor DIST can be applied after DIST has applied. (ii) If applied to $S_{furso}$, PROX delivers a layered set. This leaves open three possibilities: after PROX has applied either (a) PROX applies again, or (b) DIST applies, or (c) neither PROX nor DIST applies. The first two
options yield an unstructured set and hence make any further application of PROX or DIST impossible. Option (c) delivers a set with two obligatory members and is hence only feasible in the plural. Consequently, our proposal allows exactly the personal pronouns that are attested and no others. (In chapter 4 we will show that the same person features suffice to analyse impersonal pronouns.)

This is not as trivial as it may seem, because there are distinct interpretations of pronouns that do not ever seem to be expressed by a distinct form. In (1c) it was already stated that no person system distinguishes pluralities containing participants but not their associates from pluralities containing participants as well as their associates. This generalization covers two universals defended in detail by Bobaljik (2008a) (his Universals 1 and 2). Bobaljik also defends the validity of a third universal. We give the full set below, adapted to our terminology regarding the person space.7

\[(12) \text{Universal 1: No language distinguishes } [i+i] \text{ from } [i+a].\]

\[\text{Universal 2: No language distinguishes } [u+u] \text{ from } [u+a].\]

\[\text{Universal 3: No language distinguishes between } [i+i+u], [i+u+u], \text{ and } [i+u+a_{i/u}]\]

Universal 1 states that no language has different forms for reference to a multitude of speakers (if this ‘choral we’ exists in the first place, see footnote 2) and reference to one speaker and one or more associates. Similarly, by Universal 2, no language has different forms for reference to a multitude of addressees and reference to one addressee and associates. Universal 3 states that no language has different forms for inclusive first person pronouns that vary in their reference according to the number of speakers, addressees and associates included.

Our system allows all these readings, but the readings grouped together in each of the
universals are not distinguished in terms of feature content. Rather, they are distinguished in terms of the population of the input set. For example, the readings mentioned in Universal 2 are all specified as [PROX–DIST]; they only differ in what elements are present in $S_{i+u} − S_i$, other than the one obligatory instance of $u$. As a consequence, the spell-out system cannot distinguish between the readings mentioned in Universal 2.

An issue not addressed yet is what parameter distinguishes languages that have the inclusive/exclusive distinction from languages that do not. It is inherent in our proposal that this must be a matter of spell-out. All languages allow the inclusive and exclusive readings associated with (10a) and (10b), and must therefore have these feature structures available in their syntax. However, not all languages have two spell-out rules for first person plural pronouns, one that mentions a single instance of PROX in its input, and one that mentions two instances of this feature. If there are two such spell-out rules, the inclusive and exclusive pronouns will have different forms. However, if there is only a spell-out rule that mentions a single instance of PROX (besides PL), this rule will be applied to both (10a) and (10b). (In general, if no more specific spell-out rule is available for a particular input, a less specified one may be applied, given Maximal Encoding; see also section 5).

3. The Interpretation of Person in Discourse

So far, we have not said anything about the relation between $S_{i+u+o}$ and the discourse context. There are three issues to consider here. First, given that the set $S_{i+u+o}$ has mostly optional members (only $i$ and $u$ are obligatorily present), the question presents itself what factors decide the population of this input set in actual discourse contexts. How much of the discourse context is represented in a given instance of $S_{i+u+o}$? Second, during a discourse, the roles of speaker and addressee can be re-assigned and the question is at what points in the linguistic structure this is possible. Third, it is not clear whether the various discourse roles
are mutually exclusive as a consequence of the logic of their semantics, or whether the appearance of exclusivity is a consequence of a pragmatic convention that can be overridden in certain circumstances.

3.1 Linking Person to Discourse

Let us first consider the first issue mentioned above: what determines the population of $S_{i+u+o}$? Our proposal is that $S_{i+u+o}$ is a purely formal object, used to construct the semantics of person. Its initial population is arbitrary from the point of view of discourse. This is not to say that the output of the person system is not connected to the actual discourse. The output set must be compatible with the context of the discourse in which a pronoun is used, which means that for every element in the output set there must be a corresponding individual in the domain of discourse. For example, use of an exclusive first person plural pronoun (which has a non-singleton $S_i$ as its output set) requires a discourse that makes available associates of the speaker. However, there is only a one-way correspondence: the discourse does not require that all individuals in the context are represented in the output set delivered by a given pronoun. For example, use of a first person singular pronoun (which implies that the output set $S_i$ is a singleton set) is perfectly admissible in a discourse context where the speaker has associates.

3.2 The Values of $i$ and $u$

We now turn to the second issue mentioned at the outset of this section, which concerns the value of the obligatory elements $i$ and $u$. The question to be addressed is at which points in the discourse these variables can be assigned a (possibly new) value. An initial guess might be that this happens at the onset of a new utterance. The speaker of this utterance would then be the value for $i$ and its addressee the value for $u$. There is evidence, however, that this is not
correct. In a number of languages, certain matrix verbs allow a shift in the value of \( i \) and \( u \) in their complement clause, with the consequence that an example like ‘John said that I will leave’ means ‘John said that he (John) will leave’. Here, the embedded \( i \) refers to the same individual as the matrix subject, while the matrix \( i \) refers to the speaker of the utterance. (For discussion of this phenomenon see Schlenker 2003, Anand and Nevins 2004 and Sudo 2012, among others). Some examples from Amharic are given in (13) (these are taken from Schlenker 2003:68; Schlenker attributes (13a) to D. Petros and quotes (13b) from Leslau 1995).

(13) a. jon jëgna nə-ññ yil-all

John hero be.PERF-1SGO 3MASC.say-AUX.3MASC

‘John says that he is a hero.’

b. min amt’a ind-al-ə-ññ al-səmma-hu-mm

what bring.IMPER-2MASC COMP-say.PERF-3MAGO NEG-hear.PERF-1SG-NEG

‘I didn’t hear what he told me to bring’.

In (13a), the embedded first person subject does not refer to the speaker, but to the subject of the main verb ‘say’ (the embedded subject is a null pronoun in this example, but we know that it is first person because of the first person agreement on ‘be’). In (13b), the second person subject of the imperative verb ‘bring’ does not refer to the addressee, but to the object of the matrix verb ‘say’ (which happens to be the speaker of the entire utterance). Schlenker shows that these are not cases of direct quotation, but require shifted values for what we call \( i \) and \( u \), a shift imposed by certain matrix verbs.

Anand and Nevins (2004) show that there is what they call a ‘shift-together’ effect in cases like the above, not just in Amharic but in a range of languages (but see footnote 13 for
possible exceptions). That is to say, if the matrix verb triggers a shift in the value of \(i\), then all first person pronouns in its complement must be interpreted in accordance with this shift. It is not possible for some first person pronouns to shift while others still refer to the value of \(i\) established in the matrix clause. The same is true, mutatis mutandis, for shifts in the value of \(u\), or indeed the value of other indexicals such as certain place and time adverbials. They further show that not only are there situations in which all indexicals shift in value, but also situations in which, for example, the first person shifts but the second person does not. Restrictions of this type appear to be governed by the matrix predicate. Similarly, whether a shift is obligatory, optional or disallowed depends on the choice of matrix predicate.

Anand and Nevins argue that the various shifts are implemented via a context-shifting operator, which in effect assigns new values to \(i\), \(u\) and/or time and place variables.\textsuperscript{12} The shift-together phenomenon can be accounted for if these operators are merged somewhere high in the left periphery of a clause, and there is a locality condition such that all instances of \(i\) and \(u\) in a clause can only take the local operator as their binder (a minimality effect).\textsuperscript{13}

We adopt Anand and Nevins’ analysis, with one extension. The reason for this extension has to do with the nature of the locality constraint mentioned above. Consider a case in which first person pronouns shift, but second person pronouns do not. On the analysis proposed by Anand and Nevins, this implies that first person pronouns in the relevant clause are locally bound by a context-shifting operator. However, second person pronouns must be bound non-locally by a matrix context-setting operator. This is schematically represented in (14a). While it will be technically possible to formulate relativized minimality conditions in such a way that this type of non-local binding is possible, it seems simpler to us to assume that the context-shifting operator also binds second person pronouns, but that the value it assigns to \(u\) is inherited by default from the matrix context operator, as in (14b).
If there is a default rule that assigns embedded context variables the same value as their matrix counterparts, we can make the straightforward assumption that every CP comes with a context operator.\textsuperscript{14} The highest in a sequence of operators acquires its values from the discourse context. Operators in embedded clauses look upward to acquire values. In the usual case, these are inherited by default from the higher operator, but in some languages certain embedding predicates may also determine values, yielding possible shifts.

That this is on the right track is confirmed by the fact that even in languages that do not allow shifted readings of first and second person pronouns, shifted readings of other indexicals can occur (see Schlenker 2003 and references cited there). For example, the interpretation of Dutch \textit{vandaag} ‘today’ in the embedded clause in (15) can be anchored to the matrix context time (that is, the time of utterance) or to the matrix event time (that is, the time at which Jan said something). The first reading is the only one available in (15a). The second reading is predominant in (15b). Schlenker analyses such phenomena as involving indexical shift pertaining to matrix and embedded context time. Note that, like other indexical shifts, the matrix verb seems to drive the process. Thus, ‘say’ allows a shift in (15b), but factual verbs like ‘forget’ do not, as illustrated in (15c). In our implementation, the embedded context operator can either inherit its temporal value from the matrix context operator by default, or it can shift to the value of the matrix event time. The interpretation of the adverbial is then regulated via local binding by the embedded operator.
Jan said yesterday that it is his birthday today.'

b. [OP<it=Wed> Jan zei gisteren<Tue> [OP<it=Wed> dat ie vandaag<Tue> jarig was]

Jan said yesterday that it was his birthday today.'

c. *[OP<it=Wed> Jan was gisteren<Tue> vergeten [OP<it=Tue> dat ie vandaag<Tue> jarig was]

Jan had forgotten yesterday that it was his birthday today.'

This is not a peculiarity of vandaag ‘today’. As shown in (16), it also holds for other adverbials anchored to a context time.

(16) a. [OP<it=Wed> Jan zei gisteren<Tue> [OP<it=Wed> dat ie overmorgen<Fri> jarig is]

Jan said yesterday that he overtomorrow yeary is

‘Jan said yesterday that it is his birthday the day after tomorrow.’

b. [OP<it=Wed> Jan zei gisteren<Tue> [OP<it=Tue> dat ie overmorgen<Thu> jarig was]

Jan said yesterday that he overtomorrow yeary was

‘Jan said yesterday that it was his birthday the day after tomorrow.’

It is striking that in these examples the tense of the embedded verb seems to be sensitive to whether or not a shift takes place. There is an extensive literature on this phenomenon in a variety of languages (see, among others, Enç 1987, Abusch 1988, Kratzer 1998, Schlenker 1999, von Stechow 2003, and Khomitsevich 2007). We cannot discuss this literature here, but simply conclude that the generalization for Dutch is that any shift must be signalled by past
tense, even if the time referred to is in the future with respect to both the matrix context-time and the matrix event time, as in (16b). The absence of a shift is compatible with both past and present tenses (which then receive the same range of interpretations as in root contexts, because the matrix context time is inherited by default by the embedded context operator).

We close this section with a brief discussion of what might appear to be a clause-internal shift in the value of \( u \). When addressing a group, it is possible to use multiple instances of a second person singular pronoun to refer to different members of that group. A Dutch example of this type is given in (17).

(17)  
\[
\text{Jij begeleidt jou en jij begeleidt jou.}
\]

\[
\text{you accompany you and you accompany you}
\]

‘You\(_1\) will accompany you\(_2\) and you\(_3\) will accompany you\(_4\).’

At first sight, this phenomenon is unexpected, as the proposal outlined above rules out such clause-internal shifts. However, arguably the example does not, in fact, require a shift. Rather, the context operator assigns multiple values to the addressee variable (a possibility required independently to deal with homogeneous readings of plural second person pronouns, see footnote 3). The use of a singular pronoun in this context requires that one of these values is selected to the exclusion of the others. This explains the necessity of contrastive focus on second person pronouns used in this way, as exclusion of alternatives is exactly the semantic effect of contrastive focus. Indeed, the strong pronouns in (17) cannot be replaced by their weak counterparts, as weak pronouns cannot be focussed:
Other consequences of the assumption that every CP contains a context-operator will be discussed in chapter 6.

3.3 Co-incidence of Discourse Roles

The final issue to be discussed in this section again concerns the values of the various discourse roles. In the usual case, these roles seem to be mutually exclusive, in that the person functioning as speaker will not also be the addressee, and so on. The question we are interested in here is whether this is a matter of discourse conventions, or a consequence of the semantics of the person system. Within the theory outlined above, this effect must be a matter of discourse convention, because there is nothing inherent in the notions $i$, $u$ and $o$ that makes it impossible for a single individual to be associated with more than one of these roles. This is not true, however, of all theories of person. Consider the well-known feature system proposed by Halle (1997), mentioned in section 2:

$\begin{array}{c}
\text{PARTICIPANT} \\
\text{AUTHOR} \\
\end{array}
\begin{array}{ccc}
+ & 1 & * \\
- & 2 & 3
\end{array}$

This feature system predicts that, within the domain of a single context-operator, it should not be possible for a first and second person pronoun to refer to the same individual. Neither should it be possible for a third person pronoun to refer to the same individual as referred to by either a first or second person pronoun. This is because the feature system explicitly
contains negative values. For instance, if something is specified as \textit{--AUTHOR} (as both second and third person pronouns are), it cannot refer to an individual that acts as author.

There are several observations that indicate that in certain situations or styles the same individual can be referred to by pronouns that have different person specifications. One example is formed by self-talk. Here, the same individual that acts as \textit{i} also acts as \textit{u}, as in (20) (for examples of this kind see also Holmberg 2010:186). With respect to the second example, it is important to note that English does not permit shifts in the values of \textit{i} and \textit{u} between the matrix and an embedded clause (see above).

\begin{description}
\item[(20) a. (Context: John discovers he has a winning lottery ticket.)] 
\begin{quote}
I\textsubscript{John} can\textquotesingle\textquotesingle t believe your\textsubscript{John} luck!
\end{quote}
\item[(b. (Context: Mary, an athlete, is at the start of an important race.)] 
\begin{quote}
Come on, I\textsubscript{Mary} know you\textsubscript{Mary} can do it!
\end{quote}
\end{description}

Of course, there are many facts about self-talk that require further research. As Holmberg shows, the first and second person pronoun are not in free variation when you are talking to yourself.\textsuperscript{15} This may suggest a possible solution for proponents of a system as in (19). One might argue that what is happening in self-talk is that the speaker imagines there to be two individuals in the domain of discourse, a speaker and a distinct addressee, the latter being a particular guise of the former. The problem with this assumption is that it predicts that it should be possible in self-talk to use a first person plural pronoun to refer to these two individuals. For many speakers, however, this is not possible.\textsuperscript{16}
(21)  

a. (Context: John discovers he has a winning lottery ticket.)

\[ I_{\text{John}} \text{can’t believe your}_{\text{John}} \text{luck!} \]

*If we hurry, we can still collect the money today.

b. (Context: Mary, an athlete, is at the start of an important race.)

Come on, \( I_{\text{Mary}} \text{know you}_{\text{Mary}} \text{can do it!} \)

*If we win, we’ll have a glass of champagne afterwards.

It is also possible for the same individual to function as both \( i \) and \( o \). This can happen, for instance, when two people are speaking about a third person, who overhears them:

(22)  

(\text{Context: Marie and Piet are discussing Mien’s ability to take care of herself, not knowing that Mien is in the next room.})

Marie to Piet: \textit{Mien must really go to a care-home think you also not}  

‘Mien should really go to a care home, don’t you think?’

Mien: \textit{Ik_{Mien} denk dat ze_{Mien} dat niet wil!}  

\[ I \text{ think that she } that not wants \]

‘I think she won’t like that!’

A similar context allows for the same individual to function as both \( u \) and \( o \):
(23) (Context: Mummy says that someone should tie Sam’s shoe laces.)

Sam to Daddy: Hoorde je dat? Iemand moet Sam’s schoenveters strikken!

Daddy: heard you that someone must Sam's shoe-laces tie

‘Did you hear that? Someone should tie Sam’s shoe laces!’

Daddy Ja, JijSam moet z’nSam schoenveters strikken!

to Sam: yes you must his shoe-laces tie

‘Yes, YOU should tie his shoe laces!’

These effects, then, favor an analysis of person in terms of privative features.

4. The Third Person as Default

A striking characteristic of the person system proposed above is that the third person is not a ‘non-person’, but is characterised by a specific feature structure. While this is not unique to our proposal (see, for instance, Nevins 2007), it goes against a traditional idea according to which only first and second person have a feature specification while ‘third person’ is the absence of any person information (see for instance Forchheimer 1953, Harley and Ritter 2002, Béjar and Rezac 2003, Cysouw 2003, Kayne 2003, Anagnostopoulou 2005, Adger and Harbour 2007). One important argument that has been given for this view is the fact that the third person behaves as a default. This expresses itself in various ways. One is that expletive pronouns are invariably third person. The English data in (24) are typical in this respect.

(24) a. It seems /*seem that Vitesse won.

b. *I/*You seem that Vitesse won.
In the same vein, so-called default agreement, which is the inflection showing up on a verb in the absence of an agreeing argument, must be third person singular. In Dutch, an example of default agreement can be found in the impersonal passive:

(25) Nog jaren is/*ben/*bent/*zijn naar een oplossing gezocht.

_still years be-3SG/be.1SG/be.2SG/be.PL for a solution searched_

‘People searched for a solution for many years.’

The fact that in our system the third person does have a feature gives rise to two questions. First, we need to explain why the third person behaves as a default. Second, especially in view of our use of privative features, we would expect some element in the system to be characterised by the absence of person features. If this is not the third person, we may wonder what the relevant pronoun is. In this section we will focus primarily on the issue of defaults. We will also touch on the issue of featureless items, but this is explored in more detail in chapter 4.

We first consider the fact that expletive pronouns are consistently third person forms. Any explanation must be rooted in the observation that such pronouns do not have a reference. We therefore assume that a pronoun can only function as an expletive if its φ-feature specification can deliver an empty set. The definition of DIST, the feature that characterizes third person pronouns, indeed makes this possible. Recall that DIST selects the outer layer in (4) \((S_{\text{tur+o}} - S_{\text{tu}})\). But given that the only obligatory members of \(S_{\text{tur+o}}\) are one speaker and one addressee, which are contained in the rejected inner layers of (4), DIST may deliver an empty set.

Precisely because both inner layers of (4) contain an obligatory member, PROX, which discards the outer layer of its input set, can never yield an empty set. Therefore, first and
second person pronouns cannot be used as dummies.

The logic behind this proposal, namely that expletive pronouns must deliver an empty set, also explains why they must be singular. A plural specification would require the cardinality of the pronoun’s output set to be greater than one (see chapter 3, section 2.4). This is obviously not true of the empty set. We have analyzed singular as the absence of a plural specification. This allows the pronoun’s output set to be a singleton set (in the normal case) or the empty set (in the case of expletive pronouns).

Our analysis of expletive pronouns extends to default agreement. As we have illustrated in (25), agreement morphology that shows up on the verb in the absence of an agreeing argument must be third person singular. It is generally assumed that φ-features cannot be interpreted in verbs (compare the distinction between interpretable and uninterpretable features in Chomsky 1995). The rationale for this is that features that force a nominal reference are incompatible with verbal semantics. There are two ways to deal with a verb inflected for φ-features. The normal procedure is that the features are identified with features of the agreeing nominal argument (compare checking theory; also see chapter 5 for more detailed discussion). But if there is no such argument, the structure can still be licit as long as the φ-features present in the verb need not be given any reference at all. As we have just seen, the only form that allows this absence of reference is the third person singular.17 (A different issue is why in structures like (25) the verb should carry φ-features to begin with. We assume that it is simply a morphological property of a language whether or not finite verbs carry φ-features. If they do, this is the case in any context.)

We conclude that the default status of third person singular does not militate against its carrying a person feature. In fact, there are arguments supporting the view that third person does have feature content. A first argument is that, as we will show in chapter 7, cross-linguistic patterns of syncretism require that second person shares a feature with first person
and a (different) feature with third person. This can, of course, only be the case if third person has feature content to begin with. A number of further arguments are discussed in Nevins 2007. One involves the ‘spurious se’ phenomenon in Spanish (see Perlmutter 1971, Bonet 1995, among others). In Spanish, a sequence of a third person dative clitic and a third person accusative clitic does not surface as the expected le lo. Rather, the dative clitic (le) is replaced by se, which in other contexts functions as a reflexive or impersonal clitic. An example illustrating this is given in (26) (adapted from Bonet 1995).

(26) a. *A Pedro, el premio, le lo dieron ayer.

   to Pedro the prize 3.DAT 3.ACC gave-PL yesterday

b. A Pedro, el premio, se lo dieron ayer.

   to Pedro the prize SE 3.ACC gave-PL yesterday

   ‘As for Pedro and as for the prize, they gave it to him yesterday.’

The spurious se phenomenon is likely to be an example of dissimilation of adjacent clitics (see, for instance, Grimshaw 1997a). Nevins shows that this dissimilation cannot be purely phonological in nature, but must be based on avoidance of a sequence of adjacent morphemes with identical feature specifications. He demonstrates that the simplest formulation of the relevant rule must make reference to a third person feature:

(27) Delete/alter the features corresponding to 3rd person on a dative when it precedes another 3rd person.
Formulations that try to avoid making reference to a third person feature are either inadequate empirically, or say the same thing as (27) in artificially complex terms (see Nevins 2007 for detailed discussion).

Of course, there is nothing wrong as such with a pronoun lacking feature content. Ruling out this possibility would require an additional stipulation. Therefore, if third person does have feature content, we would expect there to be some other type of pronoun that is characterised by a lack of person features. Such a pronoun would refer to the entire input set $S_{i+u+o}$. This yields a pronoun with a very broad reference. We will argue in chapter 4 that this type of pronoun indeed exists. In particular, certain impersonal pronouns, exemplified by Dutch *men*, are best analysed as featureless (see also Egerland 2003b).

If the hypothesis that certain impersonal pronouns are featureless is correct, we can understand why it is *se*, rather than some other clitic, that acts as the replacement form for *le* in (26). One of the uses of *se* in Spanish is as an impersonal pronoun, which implies on our view that it can be analysed as lacking feature content. Indeed, this is exactly what Grimshaw (1997a) argues. This means that a simple rule of feature deletion (or impoverishment, as this process is generally known) suffices to account for the *le - se* alternation. The rule in question is given in (28). The third person clitic pronoun carries the feature $\text{DIST}$ in syntax. This must be the case in order for the correct interpretation to obtain. However, before the pronoun is phonologically realised it undergoes the rule in (28).

\[(28) \quad \text{DIST} \rightarrow \emptyset / [\text{CLITIC} \_\_][\text{CLITIC} [\text{DIST}]]\]

The result is that the form that realises the clitic in the context of another third person clitic is the one specified as realising the empty feature set (that is, *se*).

A variant of the rule in (28) is found in two varieties of Catalan discussed in Walkow
2012. Here, it is the rightmost clitic that undergoes impoverishment of its third person feature when preceded by another third person clitic. The two varieties differ in the order within the cluster, one having an order in which the indirect object clitic is rightmost and one having an order in which the direct object clitic is rightmost. For both, the rule in (29) holds. (Note that in Catalan the clitic that remains is not entirely featureless, but spells out case; hence, what surfaces is not the impersonal clitic found in Spanish.)

(29) \[ \text{DIST} \rightarrow \emptyset / [\text{CLITIC} \ [\text{DIST}]] [\text{CLITIC} \ _\ _] \]

Note that in the theory proposed here a pronoun that lacks person features must refer to the input set \( S_{i\top u\top o} \), as no selection from this set is made. Given that the input set contains two obligatory elements \( i \) and \( u \), the pronoun necessarily has referential properties. The proposal therefore predicts that featureless pronouns cannot act as dummies. Indeed, the Dutch impersonal pronoun \( \text{men} \) cannot be used as an expletive, see (30).

(30) *Men schijnt dat men regent.

\[
\text{one seems that one rains}
\]

\begin{quote}
\text{‘It seems that it rains.’}
\end{quote}

5. Effects of Maximal Encoding

In the previous sections we have developed our basic proposal for the featural decomposition of persons, and shown how this accounts for the cross-linguistic inventory of pronouns and their interpretation. When we consider individual languages, however, the interpretation associated with pronominal forms is not only dependent on the interpretation of the pronoun’s own \( \varphi \)-features, but also on which competing pronominal forms are present. This
is because of Maximal Encoding, a principle introduced in chapter 1 (section 6). The relevant definitions are repeated here for convenience:

(31) *Maximal Encoding*

A mapping \( R \rightarrow R^* \) is licit only if \( R^* \) is the maximal expression of \( R \) at the relevant level of representation.

(32) \( R^* \) expresses \( R \) maximally if there is no alternative \( R' \) that encodes more properties of \( R \) or encodes these properties in more locations.

Consider the phonological realization of strong subject pronouns in Dutch. The following spell-out rules are relevant:\(^{18}\)

(33) a. \( \{D \text{ PROX}\} \leftrightarrow /ik/ \) 
    b. \( \{D \text{ PROX DIST}\} \leftrightarrow /jij/ \) 
    c. \( \{D \text{ DIST}\} \leftrightarrow /hij/zij/het/ \) 
    d. \( \{D \text{ PROX PL}\} \leftrightarrow /wij/ \) 
    e. \( \{D \text{ PROX DIST PL}\} \leftrightarrow /jullie/ \) 
    f. \( \{D \text{ DIST PL}\} \leftrightarrow /zij/ \)

As noted in chapter 1, the general effect of Maximal Encoding for spell-out is that where two or more rules may realize a syntactic feature structure, the rule that realizes the most features must be used. For example, if the syntactic input is the second person singular (see (9b)), then any of the rules in (33a-c) may in principle be applied, as the structural description of each of these rules is compatible with the input. (The rules in (33d-f) cannot be applied, as they mention the feature PL, which is absent in (9b). Hence the structural description of these rules is not met.) The choice between (33a-c) is determined by Maximal Encoding: (33b) realizes a superset of the features realized by (33a) and (33c). Therefore, in the realization of a second
person singular pronoun, the spell-out rule in (33b) blocks the spell-out rules in (33a) and (33c). It goes without saying that in the realization of, say, a first person singular pronoun, (33b) will not have this blocking effect, as it cannot spell out (9a).

Dutch does not have separate forms that express the inclusive and exclusive readings of the first person plural pronoun, although the distinction must exist in the syntax on the assumptions made above (see footnote 9). As noted, this situation can be described as an underspecification of the set of spell-out rules available in the language. The rule in (33d) mentions [PROX PL]. Since there is no alternative form that marks repeated application of PROX (that is, no rule of the form in (34a)), (33d) will be used to realize both the inclusive and exclusive first person pronoun.

(34) a. \{D PROX PROX PL\} ⇔ /a/

   b. \{D PROX PL\} ⇔ /b/

In languages that do make the distinction between inclusive and exclusive first person plural pronouns, Maximal Encoding will have the effect that rules of the form in (34a) will block rules of the form in (34b) when the feature structure present in syntax contains two instances of PROX (that is, in the exclusive reading).\(^{19}\) Hence, in such languages, rules of the form in (34b) can only be used for inclusive first person plural pronouns. Conversely, rules of the form in (34a) can not be used for such pronouns, as their structural description (which mentions two instances of PROX) in that case does not match the pronominal feature structure (which has only one instance of PROX).

Maximal Encoding is not only relevant to the realization, but also to the interpretation, of the various objects in (9) and (10). In chapter 1, we already noted that the principle explains why the interpretative effect of the absence of a feature depends on what alternative feature
structures are available in the language. Thus, a pronoun not specified as plural in a language that does have plural pronouns will typically be interpreted as singular (in principle, the cardinality of the output set could also be zero, an issue to which we turn in chapter 3). In a language that lacks plural pronouns, an unspecified pronoun can receive either a singular or a plural interpretation. A further example of the interpretative effect of Maximal Encoding is mentioned in the next section.

It is interesting to note that on the proposal developed here, there cannot be LF competition (governed by Maximal Encoding) between different persons in the same way that there can be between different numbers. The reason for this is that person representations at LF are not compatible with more than one person interpretation, even when they have fewer features. For example, it may seem that a feature structure [DIST] competes with the more fully specified [PROX–DIST]. However, the former cannot possibly be interpreted as referring to a set containing \( u \), and is therefore not in competition with the latter for encoding such a set. This is a general property of the person system proposed here, which can be traced back to the fact that the input set has a specific structure and population. Even the most underspecified pronoun, not containing any person feature, is incompatible with an interpretation equal to any specific person. Rather, as already suggested, it must be interpreted as a particular type of impersonal (generic or arbitrary) pronoun. The implication is that any underspecification for person in the pronominal system of a language must be a matter of PF. In syntax, the person distinctions discussed so far are universal.

6. Honorifics

Above we have given an account of the inventory of persons as it is conceived of in much of the literature. However, there is reason to think that this does not exhaust all possible feature structures grouped under the PRS-node. In particular, there is evidence for a further feature in
the person system, one that encodes politeness.

Typologically, a distinction exists between so-called ‘referent honorifics’ and ‘addressee honorifics’ (see for instance Brown and Levinson 1987). Referent honorifics are markers of honorificity that can pertain to the referent of a nominal expression. They are not limited to any particular person in principle, but in many languages they pertain to second persons only. By contrast, addressee honorifics convey respect to the addressee, without necessarily referring to them. The honorifics we are interested in here are those that are part of the person system, that is, polite alternatives to regular second person pronouns.

Such honorifics can take different forms. Some languages have dedicated polite pronouns, that is, pronouns that do not occur elsewhere in the pronominal paradigm. The example we will consider below is Dutch u (not to be confused with the symbol u we use to reference the addressee element in Si+u+s). Another common option is to recruit an independently existing pronoun as a polite form. In French, for example, vous is a plural second person form, which can be used as a polite form of address in the singular. Similarly, in German the third person plural pronoun sie is recruited as an honorific. We will discuss below which independently available forms can be used in this way, and why, but first we consider the feature structure of honorific addressee pronouns.

Our basic proposal is quite straightforward: we analyse all such honorifics as involving a feature HON. HON is different from the person features discussed so far in two ways. First, for obvious functional reasons, pronouns that carry HON must be formally distinct from the informal addressee forms in the language (it makes no sense to be polite if this is indetectable to the addressee). Second, HON does not affect the reference of the pronoun in which it is present: it delivers the same set as it receives (see (35b)). However, it adds the information that relevant members in that set are honourable. In languages with addressee-oriented referent honorifics only second person pronouns have a polite form, so HON must come with
an appropriate selectional restriction (see (35a)). The semantic effect of \( \text{HON} \) is not that it makes a selection out of its input set, but rather that all addressees contained in its input set are identified as honourable (see (35b,c)).

\[(35)\]  
\[\text{a. } \text{HON selects } [\text{PROX DIST}]\]  
\[\text{b. } \text{HON}(S) = S\]  
\[\text{c. If } x \in \text{HON}(S) \land x = u, \text{ then HONOURABLE}(x)\]

The interpretation of pronouns in systems that encode honorificity is partly governed by Maximal Encoding. In languages that have distinct honorific pronouns, use of the general second person pronoun implies familiarity. In languages that lack honorific pronouns, use of the general second person pronoun has no such effect (compare English \textit{you}, for example).

On the definition in (35), associates of the addressee(s) are not marked as honorific through the application of \( \text{HON} \). This accounts for the following observation by Daniel Harbour (personal communication). If one addresses a friend and uses a second person plural pronoun to refer to that friend and his honourable but absent parents, the familiar form will be used, without this implying any familiarity towards the parents. However, if one addresses the parents, using a second person plural pronoun to refer to them and their son, then the polite form must be used if honorificity is intended, without this implying any formality towards the son. We illustrate this with the Dutch examples in (36) (see below on the singular agreement on the verb when \( u \) is used).
a. (Context: I am addressing the son.)

Gaan jullie / #Gaat u nog wel eens samen op vakantie?

*go*-PL you.PL *go*-2SG you.HON yet indeed sometimes together on holiday

‘Do you still sometimes go on holiday together?’

b. (Context: I am addressing the parents.)

#Gaan jullie / Gaat u nog wel eens samen op vakantie?

*go*-PL you.PL *go*-2SG you.HON yet indeed sometimes together on holiday

‘Do you still sometimes go on holiday together?’

Notice that this observation necessitates that \( S_{i+u} \) – \( S_i \) can contain associates of \( u \). If all members of this set were addressees, it would be impossible to explain why use of the polite pronoun does not necessarily mark all of them as honorific.

With (35) in place, we can add the pronominal structures in (37) to the cross-linguistic inventory:

(37)  
\[ \begin{array}{c|c}
| & a. Singular & b. Plural \\
\hline & \text{NMB} & \text{NMB} \\
\text{NMB} & \text{PRS} & \text{PRS} \\
\text{PRS} & \text{N}_{\Pi} & \text{N}_{\Pi} \\
\text{2\textsuperscript{nd} person polite} & & \\
\end{array} \]

We now look in some more detail at the various ways in which politeness is marked overtly in pronouns. The simplest way in which this can be done is by having a dedicated spell-out rule for polite forms. Dutch, for example, has the spell-out rule in (38), which
specifically mentions HON in its structural description.

\[38\] \{D PROX DIST HON\} \Leftrightarrow /u/

The form \(u\) can have both singular and plural referents, although it systematically triggers singular agreement on the verb. This is illustrated in (39).

\[39\] a. Hebt \(u\) in uw eentje deze hele kamer geschilderd?

\textit{have-2SG you.HON in your.HON one-DIM this whole room painted}

‘Have you painted this whole room on your own?’

b. Of hebt \(u\) elkaar geholpen bij het schilderen?

\textit{or have-2SG you.HON each.other helped by the paint-INF}

‘Or have you helped each other paint?’

c. *Of hebben \(u\) elkaar geholpen bij het schilderen?

\textit{or have.PL you.HON each.other helped by the paint-INF}

There are two possible accounts for this behavior, which make use of underspecification and impoverishment, respectively. The first account is that Dutch does not morphosyntactically specify number in polite pronouns. In other words, the polite pronoun \(u\) is specified as in (37a) and does not have a plural counterpart. As a result, Maximal Encoding does not block a plural interpretation (see the discussion in section 5). Note that number agreement on the verb will be the default singular in the absence of number information in the subject.

The second account assumes that there is a singular-plural distinction in polite pronouns in syntax, which is, however, obliterated by an impoverishment rule targeting both the pronoun and the verb before spell-out. In Ackema and Neeleman 2013a we opted for the
second account on the basis of data that we now think are inconclusive. Given that both accounts are compatible with the facts of Dutch, we remain agnostic, but will for the sake of concreteness adopt the account based on syntactic underspecification (though nothing hinges on this in what follows).

As noted, instead of using a dedicated pronoun to express politeness, a language may recruit independently existing pronouns and assign them a polite second person interpretation. The question is which pronouns allow this, and why. We can rule out the second person singular pronoun, because polite second person singular pronouns must be formally distinct from familiar second person singular pronouns for functional reasons, as already mentioned above.

Our general proposal is that a personal pronoun can be recruited as a polite second person pronoun in case the set of features present in syntax can be successfully connected to the right semantics by rules of impoverishment that apply at LF and/or successfully connected to a phonological form by rules of impoverishment that apply at PF. The starting point for this process is a syntactic feature specification that must be independently available in the language. The correct semantics for a second person polite pronoun can only be delivered by a feature structure \([\text{PROX DIST HON}]\), and therefore this must be the feature structure presented to the mapping rules that connect syntax and semantics.

We first consider the possibility of LF-impoverishment as a means of recruiting existing pronouns as polite forms of address; the possibility of PF-impoverishment is discussed later. LF-impoverishment involves the deletion of features after syntax and before interpretation. Although the term may be unfamiliar, the idea is hardly new. It is used, for example, in accounts of why verbs recruited as support verbs typically have less specific semantics than verbs that are not recruited in this function, the idea being that support verbs are derived by deletion of semantic content, and that such deletion must be minimised (see for instance
Grimshaw 1997a,b). Nevins (2008), who calls the process deprivation, explicitly discusses it
as a counterpart to the more familiar notion of impoverishment at PF (after syntax and before
spell-out).

On the assumption that there is no feature insertion at LF, but only feature deletion, the
syntactic source for recruited polite pronouns must contain the features \([\text{PROX DIST HON}]\). This
means that pronouns specified in syntax as first or third person can never give rise to an
interpretation as a second person polite pronoun via LF-impoverishment. What is possible,
however, is that a pronoun specified as \([\text{PROX DIST HON PL}]\) undergoes LF-impoverishment of
its number feature. This in effect delivers a pronoun underspecified for number, which is
therefore compatible with both a singular and a plural polite second person reading (compare
our discussion above of the dedicated polite pronoun \(u\) in Dutch). After all, Maximal
Encoding only applies in the presence of an opposition in feature content, and this is
obliterated by the rule in (40).

\[(40) \quad \text{PL} \rightarrow \emptyset / [\_\_ \text{HON}] \quad \text{(at LF)}\]

It is common for languages to use second person plural pronouns to mark politeness. An
example of this pattern is found in French, where \(vous\) can have both a polite singular and
plural interpretation (examples from Wechsler 2011:1016):

\[(41) \quad \text{a. Vous êtes loyal.} \]

\[\text{you.PL be.2PL loyal.MASC.SG} \]

‘You (one male addressee, polite) are loyal.’
b. Vous êtes loyaux.

\textit{you.PL be.2PL loyal.PL}

‘You (addressee + associate(s), potentially polite) are loyal.’

Such pronouns are syntactically specified as plural, but undergo the LF-impoverishment rule in (40). The input delivered to the spell-out system is the feature structure present in overt syntax. Given that French does not have a designated spell-out rule for pronouns specified for \textit{HON}, this input will be realised by the same form that realises the regular second person plural pronoun.\textsuperscript{22}

As expected, polite \textit{vous} allows both a singular and a plural construal. At the same time, the presence of the \textit{PL} feature in syntax ensures that the agreeing verb will systematically show up in its plural form. Hence, (41a) does not have a variant as in (42).

\begin{align*}
(42) \quad & *\textit{Vous es loyal}. \\
& \textit{you.PL be.2SG loyal.MASC.SG} \\
& \text{‘You (one male addressee, polite) are loyal.’}
\end{align*}

An interesting twist in the French data is that, in contrast to the finite verb, the predicative adjective in (41) shows singular agreement when polite \textit{vous} has a singular construal. The contrast between verbal and adjectival agreement in examples like (41) is sometimes referred to as ‘mixed agreement’; see Corbett 2006, Wechsler 2011, and Wechsler and Hahm 2011. Our take on this is that adjectival agreement, at least in the case at hand, is an instance of so-called semantic agreement (see also Corbett 2006:231 on similar cases from Bulgarian). We will come back to the analysis of semantic agreement in chapter 6. For now, we can summarise our position as follows. Semantic agreement is not, in fact, a form of agreement at
all (see also Ackema 2014). Rather, in the case at hand, it consists of information in the adjective that encodes the presupposition that the adjective’s external argument has a particular cardinality. This presupposition must match the semantic properties of the subject in order for the sentence to make interpretive sense. Thus, in (41a) the adjective comes with the presupposition that its external argument is singular, which is compatible only with a singular construal of vous.

The second means of recruiting an existing pronominal form as a polite pronoun is through PF-impoverishment. Any rule of PF-impoverishment will have to operate on the required syntactic input \([\text{PROX DIST HON (PL)}]\) if the pronoun is to be assigned the right interpretation at LF. Reduction of this input through feature deletion can yield either \([\text{PROX (PL)}]\) or \([\text{DIST (PL)}]\). These feature bundles will be spelled out by the form that otherwise realises the first person inclusive, or the third person (singular or plural). Notice that for the plural forms, there will also have to be LF-impoverishment for number.

An example of a language in which third person forms have been recruited as polite pronouns is German. In current standard German, the third person plural form \(\text{sie}\) is used as such. Simon (2003) discusses the history of the German polite address system and shows that in earlier stages of the language third person singular forms could be used in the same way. As just discussed, such forms must involve PF-impoverishment, and in particular the rules in (43) (the rule in (43a) pertains to present-day German; (43b) is the historical rule).

(43) a. \(\text{PROX} \rightarrow \emptyset / [\_ \text{DIST HON PL}]\)  
    \hspace{1cm} (at PF)

b. \(\text{PROX} \rightarrow \emptyset / [\_ \text{DIST HON}]\)  
    \hspace{1cm} (at PF)

The rules in (43) are underspecified for syntactic category. As a result, they also apply to any verb that syntactically agrees with a polite pronoun. Indeed, such verbs must show third
person, rather than second person, agreement:

(44) Haben/*Habt/*Hast Sie das Geld?

\(have-3\text{PL}/have-2\text{PL}/have-2SG\ you.HON\ (\text{lit:they})\ the\ money\)

‘Do you (polite) have the money?’

It need not surprise us that the verbal agreement undergoes the same rule of impoverishment as the polite pronoun. After all, the source for recruitment is an existing structure with a third person pronoun, including the agreement that such a pronoun triggers.

Integral to our account of third person pronouns used as polite forms of address is that they are syntactically distinct from true third person pronouns. The surface similarity is only established at PF. We therefore expect to see some reflexes of this divergent syntactic specification. Such reflexes indeed exist. For German, Simon (2003) points out a number of phenomena that show that polite \textit{Sie} behaves, syntactically, like a second rather than a third person pronoun. One clear syntactic difference between polite \textit{Sie} and third person \textit{sie} is that polite \textit{Sie} can show up in structures of close apposition, in common with second person pronouns but as opposed to the plural third person \textit{sie} (examples adapted from Simon 2003:101):

(45) a. ihr Finnen

\textit{you.PL Finns}

‘you Finns’

b. *sie Finnen

\textit{they Finns}

‘them Finns’

c. Sie Finnen

\textit{you.PL.HON Finns}

‘you (polite) Finns’
A further difference concerns relative clauses. Subject relative clauses that take a second person pronoun as antecedent repeat this pronoun in the relative clause, while relative clauses with a third person antecedent do not show this behavior. Again, polite Sie patterns with second person, rather than third person, pronouns in this respect (examples adapted from Simon 2003:102):

(46) a. Ihr, die *(ihr) Bücher sammelt, besitzt fünf Ausgaben der Bible.

\[
\text{you.PL who you.PL books collect own five editions the.GEN bible}
\]

‘You (plural), who collect books, own five editions of the bible.’

b. Sie, die (*sie) Bücher sammeln, besitzen fünf Ausgaben der Bible.

\[
\text{they who they books collect own five editions the.GEN bible}
\]

‘They, who collect books, own five editions of the bible.’

c. Sie, die *(Sie) Bücher sammeln, besitzen fünf Ausgaben der Bible.

\[
\text{you.PL.HON who you.PL.HON books collect own five editions the.GEN bible}
\]

‘You (polite), who collect books, own five editions of the bible.’

The final pronoun that can be recruited as a polite second person pronoun according to the proposal above is the first person inclusive. While this seems to be rare, there are examples, discussed in detail in Cysouw 2005 and references cited there. A case in point is Muna, as described by Van den Berg 1989. In this language, the inclusive pronoun intaidi is used as a polite form of address, uninflected in the singular and affixed with the marker -imu in the plural (data from Van den Berg 1989:51):
Notice that the inclusive pronoun is formally distinct from both the exclusive and the second person familiar pronoun.

Similar to the case of the third person just discussed, our analysis of the use of inclusive pronouns as polite forms of address is based on PF-impoverishment (here of the feature $\text{DIST}$), and therefore we predict that, syntactically, these forms should behave differently from their formally identical true inclusive counterparts. There is a distinct paucity of evidence in this area, simply because only few languages have been reported to use inclusive pronouns as polite forms of address in the first place.

Note, however, that at least in Muna the polite pronoun $\text{intaidi}$ triggers an agreeing form of the verb not found elsewhere in the paradigm, in particular, not with the actual inclusive pronoun $\text{intaidi}$ (nor with the informal second person form $\text{ihintu}$). Van den Berg describes the relevant verb form as containing a specific honorific agreement marker $\text{to-}$. In our terms, this indicates that in syntax there is a $\text{HON}$ feature in the polite version of $\text{intaidi}$, which is absent in the inclusive incarnation of this form.

In sum, we have seen that through LF- or PF-impoverishment a language may recruit as a polite form of address the second person plural, third person singular or plural, or first
person inclusive pronoun. The two types of pronoun that cannot be recruited as a polite form of address through either form of impoverishment are the first person singular and the first person exclusive plural. LF-impoverishment cannot deliver the feature structure required for a second person interpretation if given \([\text{PROX PROX (PL)}]\) as input, while PF-impoverishment cannot derive a feature structure \([\text{PROX PROX (PL)}]\) from a \([\text{PROX DIST HON (PL)}]\) input.\(^{26}\)

This appears to be an adequate description of the typology of honorific pronouns in languages that do not have a dedicated polite pronoun. We are not aware of any language in which a first person singular is recruited as a polite form of address. With regard to exclusive pronouns, Cysouw (2005:225) notes that their use as polite addressee form is not attested in any known language.

To conclude, the typology of polite forms of address follows from the feature structures proposed here. Their analysis merely requires the introduction of a \text{HON}-feature and the option of impoverishment at LF and/or PF.

### 7. Consequences for the Morphosyntax of PRS

#### 7.1 Introduction

In the previous subsections, we have outlined the system of person features and their semantics. Our proposal has consequences for the syntactic context in which PRS, the node hosting person features, can find itself. We will show that these consequences are the following. (i) R-expressions cannot be specified for person. (ii) NMB cannot be merged prior to PRS. (iii) Categories specified for person cannot be combined with an intersective (or subsective) modifier.

We have argued that PRS takes an input set (represented by \(\Pi\)) and delivers it to the person system. This implies that the semantics of PRS is an identity function over sets:
As a consequence, $[\text{PRS}–\text{PROX}–\text{DIST}]$ has the semantics $\lambda P.\text{DIST}(\text{PROX}(P))$.

Given that the interpretation of PROX and DIST is dependent on the input set $S_{i\rightarrow r\rightarrow a}$, which has the layered structure described in section 2, PRS must always combine with a node containing $\Pi$ in the nominal projection in which the person features are interpreted. We therefore expect that pronouns can be built from an invariant stem expressing $N_{\Pi}$ that combines with distinct person markers. It is common for $N_{\Pi}$ to remain silent, which is not surprising given that its presence is predictable from the presence of person features. However, there may be cases in which $N_{\Pi}$ and PRS are spelled out separately. It has been observed that in a number of languages strong pronouns consist of a person/number morpheme and a separate root. As Siewierska (2004:19) notes, “etymologically the generic pronominal root is often the word for person, body, self or the verb ‘to be’ or ‘exist’”. There is some discussion in the literature about the synchronic function of such roots, see for instance Keegan 1997, Jelinek 1998, Cardinaletti and Starke 1999, and Siewierska 2004. At least in some cases, we take these roots to spell out $N_{\Pi}$. Consider the Shuswap pronominal paradigm in (49) (from Déchaine and Wiltschko 2002:414, adapted from Kuipers 1974 and Lai 1998).

(49) Shuswap independent pronouns

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 n-tsets-we7</td>
<td>wll-enwi7-kt (PL-EMPH-1PL)</td>
</tr>
<tr>
<td>(1SG-EMPH-DEIC)</td>
<td>wll-enwi7-s-kucw (PL-EMPH-3-EXCL)</td>
</tr>
<tr>
<td>2 7-enwi7</td>
<td>wll-enwi7-mp (PL-EMPH-2PL)</td>
</tr>
<tr>
<td>(2SG-EMPH)</td>
<td>wll-enwi7-s (PL-EMPH-3)</td>
</tr>
<tr>
<td>3 newi7-s</td>
<td></td>
</tr>
<tr>
<td>(EMPH-3)</td>
<td></td>
</tr>
</tbody>
</table>
The relevant morpheme is glossed by Déchaine and Wiltschko as EMPH (for ‘emphatic’), but we suggest it is a realization of NΠ. Notice that the relevant root is located between morphemes that express person and number, and must therefore have a position low in the pronoun’s extended projection, in line with this suggestion:

\[(50) \quad [\text{PL} \ [\text{NΠ PRS}]]\]

7.2 R-Expressions do Not Have Person

If it is correct that person features are defined in terms of the function Pred, and that Pred in turn is defined in terms of the sets Si, SΠ+u and SΠ+u+o (section 2), we expect that PRS cannot combine with a regular R-expression, as R-expressions do not deliver SΠ+u+o: they differ from pronouns in their head not having the Π-feature that introduces this set. Hence, we predict that R-expressions cannot be specified for person (but see chapter 5 for discussion of an apparent exception). This explains why there are no first or second person R-expressions. A first person R-expression, for instance, would refer to the speaker and would obligatorily trigger first person agreement. It is certainly possible to use an R-expression to refer to the speaker or addressee (see for instance Collins and Postal’s 2012 discussion of what they term ‘imposters’). However, this is never accompanied by obligatory first or second person agreement, where obligatory agreement is understood to be syntactic agreement triggered as a lexical property of the R-expression. As far as we know, no such R-expressions exist. For instance, the Dutch and English examples in (51) are possible in certain registers, with the DP subject referring to the speaker. Nonetheless, these DPs cannot license first person agreement, let alone that they obligatorily require it:
(51) a. Deze jongen gaat/*ga morgen fijn vissen.

goes this boy tomorrow nicely fish

‘I’m happy that I’m going out fishing tomorrow.’

b. The present author thinks/*think that this is not justifiable.

Further evidence that R-expressions like those in (51) are not specified as first person comes from the observation that in discourse they can easily be used ironically to refer to the addressee, as well as the speaker:

(52) A: Yours Truly has been awarded a Knighthood.  (Yours Truly = speaker)

B: Well, then Yours Truly must be absolutely thrilled.  (Yours Truly = addressee)

(53) A: Deze jongen gaat dit weekend lekker vissen.  (deze jongen = speaker)

goes this boy this weekend nicely fish

‘I’m going out fishing this weekend!’

B: Maar weet deze jongen wel dat het gaat regenen?  (deze jongen = addressee)

knows this boy well that it goes rain

‘But do you realise there will be rain?’

It goes without saying that the equivalent is not possible with pronouns, because pronouns have a fixed association with i, u or o, as outlined earlier. The following is impossible, for example (no matter how ironic B’s reply is intended to be):

(54) A: I have been awarded a Knighthood.  (I = speaker)

B: #Well, then I must be absolutely delighted.  (I = addressee)
(55) A: Ik ga dit weekend lekker vissen.  

    I go this weekend nicely fish

    ‘I’m going fishing this weekend!’

B: Maar weet ik wel dat het gaat regenen?

    but know I well that it goes rain

    ‘But do you realise there will be rain?’

Similar observations can be made for R-expressions that refer to the addressee.

Our proposal predicts that R-expressions cannot carry a third person feature either. At first sight, this seems unlikely, given that R-expressions trigger what appears to be third person agreement. However, since default agreement necessarily takes the form of third person agreement (see section 4), this is not a particularly compelling argument. If R-expressions indeed do not have person features they would be expected to trigger default person agreement.

There is evidence that R-expressions are not like third person pronouns. Their reference can contain speaker or addressee, as already illustrated in (51)-(53), and as corroborated by the examples in (56), in which a first or second person pronoun refers back to an R-expression (underlining is used to indicate intended coreference).\(^{29}\) By contrast, a third person pronoun cannot be antecedent for a first or second person pronoun, as illustrated in (57). This follows if third person pronouns are specified as DIST, while R-expressions are not. (Note that in (56) the Dutch can be replaced by a proper name like the Millers without this affecting the judgements, indicating that these do not depend on the antecedent being interpreted generically.)
(56) a. Anyone who knows the Dutch realizes they no longer wear wooden shoes.
   b. Anyone who knows the Dutch realizes we no longer wear wooden shoes.
   c. Anyone who knows the Dutch realizes you no longer wear wooden shoes.

(57) a. Anyone who knows them realizes they no longer wear wooden shoes.
   b. *Anyone who knows them realizes we no longer wear wooden shoes.
   c. *Anyone who knows them realizes you no longer wear wooden shoes.

The absence of person features in R-expressions means that such expressions cannot impose restrictions as to which persons are included in their reference. This makes it possible to construe the set that an R-expression refers to as one containing speaker or addressee. A third person pronoun, however, explicitly encodes (via DIST) that it selects a part of the person space that excludes speaker and addressee, and therefore coreference with a first or second person pronoun is impossible. We will come back to this difference between R-expressions and third person pronouns in chapter 5.30

Similar examples to the ones in (56), but with a singular R-expression as antecedent, are not always felicitous (see for instance Collins and Postal 2012:20-21, who report considerable speaker variation in this respect). However, they are not impossible. For a start, it is relatively unproblematic to have a first or second person pronoun refer back to an R-expression across a sentence boundary:
(58) a. Deze jongen gaat van het weekend lekker vissen.

   *this boy goes of the weekend nicely fish*

   Ik heb er echt zin in.

   *I have there really appetite in*

   ‘I’ll go for some great fishing this weekend. I’m really looking forward to it.’

b. Yours Truly has been nominated for the Royal Society Medal.

   Not that I care, of course.

(59) a. (Context: The doctor is visiting Kobus. Kobus has served coffee, and asks the doctor the following.)

   Wil de dokter ook een koekje? Of vindt u dat niet gezond?

   *wants the doctor also a biscuit or find you that not healthy*

   ‘Would the doctor like a biscuit as well? Or do you think that’s not healthy?’

b. (Context: A Member of Parliament addressing the Speaker of the House:)

   Could the Speaker allow more time for this debate? You allowed this when we discussed the first draft of this bill.

Even within a single sentence, co-reference between a singular R-expression and a first or second person pronoun is not excluded:
(60) a. Hoewel deze jongen in het weekend liever vist,

     although this boy in the weekend rather fishes

moet ik zondag de voordeur verven.

     must I Sunday the front-door paint

‘Although I prefer to go fishing in the weekend, I have to paint the front door this Sunday.’

b. As for Yours Truly, I was in full-on glutton mode. (Jim Finnerty, A pleasant stroll to Everest, p.339)

Nevertheless, there appears to be a contrast between singular and plural R-expressions in that the latter permit this kind of co-reference more easily. The examples in (56b,c) are entirely unobjectionable, while their singular counterparts in (61b,c) are degraded.

(61) a. Anyone who knows this Dutchman realizes he no longer wears wooden shoes.

     b. ??Anyone who knows this Dutchman realizes I no longer wear wooden shoes.

     c. ??Anyone who knows this Dutchman realizes you no longer wear wooden shoes.

Given the examples in (59)-(60), this cannot be a matter of grammar. We assume, instead, that the use of an R-expression normally triggers the presupposition that its denotation is not exhaustively identical to i and/or u. That is, whenever an R-expression includes i or u in its denotation, it also includes some other individuals. In the singular, this presupposition cannot be met if the R-expression refers to i or u. There are circumstances in which this presupposition can be suppressed, however. For example, the Dutch case in (59a) represents the use by certain speakers of R-expressions as polite forms of address. In other cases (e.g. (58)-(60)), suppression of the presupposition is tied to a particular ‘jolly’ style of speech. To
our mind, plural DPs that refer exhaustively to *is* or *us* trigger exactly the same kind of stylistic effect as found in the singular (in contrast to expressions like *the Dutch* in (56)):

(62) a. Wat *de huidige auteurs* betreft, *wij* denken niet dat *dit* voorstel *werkt.*

‘As far as the current authors are concerned, we don’t think this proposal works.’

b. Ik wil *voor de trouwe luisteraars* graag een plaatje draaien,

‘I would like to play a disc for all my loyal listeners now, as a thank-you for all your messages.’

We conclude that R-expressions do not have person features that determine their reference. They never obligatorily trigger first or second person agreement, and they can be co-referent with any pronoun.31

7.3 Number above Person

Our proposal about the nature of PRS has a number of other consequences, which become apparent once we assume that UG requires that grammars are designed so as to preserve information encoded by φ-features in the interpretation of a DP. We formulate this ‘design principle’ as in (63). It is not intended to be a principle that is part of individual grammars. Rather, it requires that grammars contain conditions that imply that no violations of (63) can ever occur.
Preservation of $\Phi$

Any operation applied in a DP must be information-preserving with regard to the semantic contribution of $\phi$-features.

An operation is information-preserving if it comes with the guarantee that it will not destroy the information encoded by $\phi$-features. The exact effects of Preservation of $\Phi$ depend on the nature of the operations involved and on the nature of the $\phi$-features present in the DP.

A first result of (63), in conjunction with our characterization of the person system, is that number must be interpreted after person. Number specifies the cardinality of its input set, but does not change this set in any way. Hence, information contributed by person features is preserved when number is added. (See chapter 3 for more discussion on the nature of the number system and its interaction with person.)

Suppose, however, that number were interpreted before person. Number would then specify the cardinality of $S_{t+u+o}$ (which is delivered by $N_{II}$). This is necessarily plural, as this set contains at least two obligatory members, $i$ and $u$. Interpreting person next may destroy this number information, since the person features may select a singular set (for example, if $PRS$ contains $PROX-PROX$ and $S_i$ does not contain any associates). Recall that an operation is information-preserving only if it comes with the guarantee that it will not destroy the information encoded by $\phi$-features. Therefore, application of person is not information-preserving with respect to number, but application of number is information-preserving with respect to person.

We assume that in this case Preservation of $\Phi$ is implemented in grammars through a restriction on the interpretation of number. In particular, we assume that plural $NMB$ is specified as follows (this will be revised in our discussion of the number system in chapter 3, but the restriction on the input set of the number feature will stay in place):
The effect of (64) is that the number feature cannot be directly applied to N₁, but can be applied to a set delivered by the person system. This is compatible with a DP-internal structure in which NMB e-commands PRS or in which NMB and PRS are combined into a single node (on such conflation of functional structure, see for instance Platzack 1983, Bayer, Schmid and Bader 2005, Citko 2008, and chapter 3). In the latter situation, the interpretative system can simply choose to interpret person first, in line with our proposed principle. What is excluded, however, is a structure in which PRS e-commands NMB. In such a structure, compositionality requires that person is interpreted after number, which implies that (64) will be violated.

The data suggest that this is the right result (see also Harbour 2016). There are many languages whose pronouns fuse person and number. There are also languages in which pronouns are built from a person stem that is inflected for number. A straightforward example is Japanese, where, for instance, ‘we’ is built from the word for ‘I’ (watashi) and a plural suffix (see chapter 3). The evidence that the person information constitutes the base is twofold. First, the plural suffix also attaches to regular nouns. Second, inflectional affixes in Japanese are generally suffixes, not prefixes. Some varieties of English show the same pattern in the second person, as these have a distinct plural form built from the singular form you by addition of a number marker; examples are youse and y’all (see Hickey 2003 and references cited there). Other cases are given in Daniel 2013, a chapter in the WALS on the expression of number in pronouns. According to Daniel’s data, there are 42 languages in his sample that show this morphological pattern. Significantly, Daniel does not mention a
category of pronoun that is built by attaching a person affix to a number stem. To the best of our knowledge, such pronouns do not exist, confirming that PRS may not c-command NMB.

7.4 Pronouns and Modification
A second result of (63) is that intersective modifiers can never be merged with a pronoun, as we will now explain. For a start, such modifiers must occur below NMB if (63) is correct. If they were to merge above NMB, they could destroy the information encoded by the number features. For example, the plural form old men could express a singular. Even though NMB encodes that its input set has a cardinality larger than one, subsequent intersection with the set of old things might result in a singleton set. Precisely this is forbidden by (63). Therefore, if a language is to have an operative number system, intersective modifiers must select a category lower than NMB.

For the same reason, intersective modifiers should be located below PRS. Suppose such a modifier were merged after PRS. The person features deliver a particular subset of \(S_{i+uo} \) as their output. Preservation of \( \Phi \) demands, then, that no operation can be applied that could yield a different set as output. But this is exactly what intersective modification does: its output is a proper subset of its input set. Hence, attaching an intersective modifier after person has applied is not information-preserving.

We assume that in this case Preservation of \( \Phi \) is again implemented through a selectional restriction, this time on intersective modifiers:

\[(65) \quad \text{Intersective modifiers select NP.}\]

The implication is that in pronouns intersective modifiers must attach below PRS. However, this leads to a different problem. PRS needs as its input the structured set \(S_{i+uo} \) delivered by
Since the person features are defined only in relation to this set. However, an intersective modifier when applied to \( N \), since the person features are defined only in relation to this set. However, an intersective modifier when applied to \( N \) delivers a set whose members both meet the description of the modifier and are elements in \( S_{i+u+o} \). However, if the modifier is truly intersective, this set will not equal \( S_{i+u+o} \), as some elements of the latter will be discarded. The consequence of this is that the predecessor relations that structure \( S_{i+u+o} \) (see section 2) no longer apply, so that the set resulting from intersection is not a suitable input to the person features.\(^{32}\)

If intersective modifiers can neither be located above nor below \( \text{PRS} \), they must be in complementary distribution with person information. Indeed, \( \text{R-expressions} \), which we argued lack person information, can be combined with both intersective and non-intersective modifiers. Pronouns, on the other hand, only combine with non-intersective modifiers. We illustrate this using relative clauses and PPs. Consider the Dutch examples of modification of pronouns in (66).

\[
(66) \quad \text{a. Ik met mijn grote mond stond zo weer buiten.} \\
I \text{ with my big mouth stood right again outside} \\
\text{‘I, being such a loud-mouth, found myself in the street again right away.’} \\
\text{b. Wij met onze warme jassen aan hadden geen last van de kou.} \\
we \text{ with our warm coats on had no bother of the cold} \\
\text{‘We, with our warm coats, were not bothered by the cold.’} \\
\text{c. Jullie die in tranen voor ons staan zijn hierbij vergeven.} \\
\text{you.PL that in tears before us stand are hereby forgiven} \\
\text{‘You, who are standing before us in tears, are hereby forgiven.’}
\]

These examples only permit a reading in which the modifier is not intersective, but applies to every individual in the denotation of the pronoun. It will be clear that the modifier in (66a)
must be non-intersective. After all, the pronoun denotes a singleton set containing just the speaker. The sentence in (66b) cannot mean that only those among us who had warm coats were not bothered by the cold; rather, it implies that all of us had warm coats and hence were not bothered by the cold. Similarly, (66c) implies that all of you were standing before us in tears.

At first sight, things are less clear when third person pronouns are modified. There are clear cases where a modifier is interpreted non-intersectively with respect to a third person pronoun. An example is the following:

(67) De mensen uit Groningen zeiden dat zij, die nu eenmaal al twee uur in de trein hadden gezeten, als eerste naar binnen mochten.

The people from Groningen said that they, already having been on the train for two hours, were allowed to enter first.

However, such examples exist alongside cases in which the modifier seems to have an intersective flavour:

(68) Zij die hun kaartje nog hebben mogen nu naar binnen, maar zij die hun kaartje kwijt zijn moeten achter aansluiten.

The people who still have their ticket can go inside now, but the people who have lost their ticket must join the back of the queue.
It is not difficult to show, however, that examples of this type do not, in fact, have an intersective interpretation. If they had, it should be possible for the pronoun to be coreferential with some R-expression in the context, with the modifier selecting a subset out of the set introduced by this R-expression. This is clearly impossible though. The example in (69) is ungrammatical on the reading indicated by the translation. (Here and below, underlining indicates intended co-reference; binding is indicated by coindexation). It is grammatical on a different reading in which the people from Amersfoort claimed that all and only those who still have their ticket should be allowed entry. (The core difference between the two readings concerns the status of people from outside Amersfoort who still have a ticket; they would be refused entry on the intended, but ungrammatical, reading.)

\[(69) \quad *\text{De mensen uit Amersfoort beweerden dat alleen zij die hun kaartje nog hebben naar binnen mogen.}\]

\[\text{the people from Amersfoort claimed that only they that their ticket still have to inside may.}\]

\[\text{‘The people from Amersfoort claimed that those amongst them who still had their tickets are allowed to go in.’}\]

What seems to be going on instead is that the relative clause identifies the reference of the pronoun. That is to say, the denotation of the pronoun consists of all and only those that meet the description given in the relative clause.\(^{33}\) The disjunction in (68) conspires to suggest a restrictive (intersective) reading of the relative clauses, but this is only the result of the mistaken assumption that the pronoun \textit{zij} ‘they’ refers to the same set of people in the two clauses. In reality, two different groups of people are contrasted, with the relative clause merely helping to identify the reference of the pronouns. That this is possible is demonstrated
by the grammaticality of (70). Here, the different denotations of the pronouns are determined deictically.

(70) ZIJ mogen nu naar binnen, maar ZIJ moeten achter aansluiten.

_they may now to inside but they must behind join_

‘THEY are allowed to go in now, but THEY must join the back of the queue.’

Note that similar cases also exist with singular pronouns:

(71) Hij die het laatste kaartje heeft gekocht mag nu naar binnen.

_he that the last ticket has bought may now to inside_

‘The person who bought the last ticket may now enter.’

This confirms that the relative clause cannot be intersective in these cases, since no proper subset can be selected from a singleton set (other than the empty set, which is clearly not relevant here).

The hypothesis that relative clauses can identify the reference of a pronoun implies that the whole constituent is like an R-expression in that its denotation is determined internally to it.\(^{34}\) This may shed some light on the fact that pronouns thus modified behave like R-expressions syntactically: they can neither be bound by, nor be coreferential with, a c-commanding R-expression (compare Condition C of the Binding Theory). Even on the otherwise permitted identificational reading, examples like the following are ungrammatical:
(72) a. *[Elke groep reizigers], beweerde dat [zij die hun kaartje nog hadden],

    every group travellers claimed that they that their ticket still had

naar binnen mochten.

    to inside may.PST

‘Every group of travellers claimed that they were allowed to go inside as they still had their tickets.’

b. *De mensen uit Groningen zeiden dat zij die uit het verre noorden kwamen

    the people from Groningen said that they from the far North came

als eerste naar binnen mochten.

    as first to inside may.PST

‘The people from Groningen said that they were allowed to enter first, as they came from the far north.’

The example in (72b) can be distinguished from (67) on the basis of its intonation. The latter requires focus on the pronoun and intonational breaks before and after the relative clause. None of these properties hold of ‘identificational’ relative clauses like the one in (68). Coreference in (67) is allowed because here the relative clause does not identify the reference of the pronoun zij. Whereas the DP zij die hun kaartje nog hebben ‘they who still have their ticket’ in (68) refers to exactly those people who still have their ticket, a DP like ZIJ, die hun kaartje nog hebben ‘THEY, who still have their tickets’ in (67) refers to a group of people whose identity is determined by the pronoun’s antecedent. All the relative clause tells us in this case is that the people in question happen to still have their tickets, but it is entirely possible that there are other people not contained in the denotation of the pronoun who still have their tickets as well.
In conclusion, the principle in (63) seems well-motivated. In combination with the semantics proposed for person features, it correctly predicts that pronouns do not allow intersective modification. It also has the consequence that if NMB and PRS are not conflated, then NMB must c-command PRS, which appears to be in line with the data. We will argue in chapter 4 that (63) has other desirable consequences, in particular with regard to the interpretation of generic and arbitrary pronouns.

8. Bound Pronouns

So far, we have concentrated on the referential use of pronouns. However, it is well known that pronouns have a second use as bound variables. Our theory of person should of course at least be compatible with the bound variable interpretation of pronouns. In this section, we will argue that no adjustment of our theory of person features is required to deal with the distinction between referential and bound pronouns. However, specific assumptions must be made about the way φ-features function in bound pronouns.

Our core hypothesis is that bound pronouns are variables and that the φ-features they contain impose restrictions on this variable and thereby on the element that binds it. This can be done in one of two ways. Either the features of the pronoun are used to impose limitations on the φ-feature content of the antecedent (via agreement), or they are used to limit its interpretive domain (see also Heim 2008 and references mentioned there). In the former case, the relevant φ-feature must be present in the antecedent. In the latter case, the φ-feature in the pronoun is used to construct a semantic restriction on the variable, and the choice of antecedent must be compatible with that restriction. (This is comparable to the standard treatment of φ-features in bound variable pronouns as introducing presuppositions on the range of the variable; see Cooper 1979 and Heim and Kratzer 1998). The general idea that φ-features in bound pronouns are either interpreted or licensed under agreement, in which case
they are not interpreted, is very similar to the proposals in von Stechow 2003 and Kratzer 2009. Kratzer’s implementation of this idea differs from that of von Stechow in that she assumes that features licensed under agreement are not generated in the pronoun but copied onto it from the antecedent in the PF-branch in the grammar. Essentially following von Stechow, we assume instead that agreement provides a license for non-interpreted features in the pronoun. However, the choice of implementation has no empirical consequences, as far as we can tell.

It is easiest to demonstrate the two ways in which φ-features can contribute to the properties of a bound pronoun by considering gender features first, as these are sometimes interpreted and sometimes licensed under agreement. We will use Dutch to illustrate these options. In R-expressions, standard Dutch has a two-way distinction in formal gender, with nouns specified as neuter or non-neuter (the latter are usually said to have common gender). We assume, essentially following Toebosch (2011), that neuter corresponds to the absence of gender, while common gender nouns are specified as \([\text{GENDER}]\). The pronominal system makes a three-way gender distinction in the singular (though not the plural): there are neuter, masculine and feminine singular pronouns, which we respectively analyse as having no gender features, being specified as \([\text{GENDER}]\), and being specified as \([\text{GENDER FEMININE}]\). Note that according to Maximal Encoding use of an underspecified pronoun where a more highly specified pronoun is available has the effect of negation of the missing features.

The choice of a pronoun under coreference works as follows. If a pronoun is selected on the basis of the formal features of the antecedent, then a masculine pronoun must take a common gender antecedent and a neuter pronoun must take a neuter antecedent. (A feminine pronoun cannot be used in this case, given that there is no formal feminine gender in R-expressions). If the pronoun is chosen on the basis of the semantics of the antecedent, then a masculine pronoun is used for a male referent, a feminine pronoun for a female referent, and
a neuter pronoun for nonindividuated referents, such as the referent of mass nouns (for a
detailed description of the system, see Audring 2009).

These alternatives are on a par in principle, but their use is subject to certain rules. In
particular, if a pronoun has the GENDER feature and its antecedent has biological gender, then
the pronoun must be chosen on the basis of the semantics of the antecedent. Thus, if the
antecedent is a common gender noun that refers to a female (for example, de vrouw ‘the
woman’), use of the default masculine pronoun hij is excluded, even though this pronoun
could in principle be licensed through syntactic agreement. Instead, the feminine pronoun zij
must be used, which is licensed semantically. By contrast, if the antecedent is a neuter noun
that refers to a female (for example, het meisje ‘the girl’), use of the neuter pronoun het is
permissible, alongside use of the feminine pronoun zij. As a neuter pronoun does not encode
[GENDER], the above rule does not apply, and therefore it is sufficient for pronoun and
antecedent to match in formal feature content. (For related discussion, see Corbett 1991:228
ff.).

This system is also at work when a pronoun functions as a bound variable. The gender
features in a bound pronoun can either impose restrictions on the formal feature content of
the antecedent quantifier via agreement, or on the individuals in its domain via the imposition
of a semantic restriction on the variable. This is evident when the quantifier has a head noun
that is formally neuter, but whose denotation contains female individuals. In that case a
bound pronoun can be feminine or neuter, but not masculine:

(73) a. [Elk meisje], denkt dat ze gaat winnen.
    
    each girl thinks that she goes win

    ‘Each girls thinks that she will win.’
b. [Elk meisje], denkt dat het, gaat winnen.

*each girl* thinks that *it* goes win

‘Each girl thinks that she will win.’

c. *[Elk meisje], denkt dat-ie, gaat winnen.

*each girl* thinks that-*he* goes win

‘Each girl thinks that she will win.’

The example in (73a) illustrates the possibility of the pronoun imposing a semantic restriction; (73b) illustrates the use of gender to impose a formal restriction; (73c) is unacceptable, because the gender features of the pronoun cannot be used to impose either a semantic or a formal restriction.

When the antecedent is a quantifier headed by a common gender noun that refers to humans whose gender is left unspecified, both the masculine and feminine pronoun can act as a bound variable, but with contrasting effects. Since the masculine pronoun is specified as [GENDER], the domain of the antecedent quantifier must contain either male referents only or both male and female referents, as in (74a). Use of the female pronoun, which is specified as [GENDER FEMININE], implies that the domain of the antecedent quantifier exclusively contains female referents, as in (74b).

(74)  a. [Elke student], denkt dat-ie, gaat winnen.

*each student* thinks that-*he* goes win

‘Each student thinks that they will win.’

b. [Elke student], denkt dat ze, gaat winnen.

*each student* thinks that *she* goes win

‘Each student thinks that she will win.’
In sum, gender features in bound pronouns may either impose formal or semantic restrictions on their binder.

We now turn to number. Number in bound pronouns can only impose a formal restriction on its binder, not a semantic one. In order to see why, consider what its semantic contribution would be. In general, semantically interpreted $\varphi$-features in bound pronouns say something about the elements in the domain of the quantifier by imposing a semantic restriction on the bound variable. Hence number would encode whether or not there is a plurality of such elements. Thus, if a bound pronoun is plural, and $PL$ is interpreted, then the quantifier should range over a non-singleton set. This is unproblematic. If the pronoun is singular, then the quantifier should range over a singleton set. Crucially, this is problematic. Arguably, quantification over a singleton set is not permitted (see also Hinterwimmer 2008; for more discussion, see chapter 4, section 3). This means that absence of $PL$ in bound pronouns may not be construed as the negation of plurality. Therefore, plural is not semantically contrastive in bound pronouns, which leaves as the only option that its presence is licensed because it imposes a formal restriction on its binder.

This accounts for the data below, which follow straightforwardly if the number specification of bound pronouns reflects the feature content of their binder. (Notice that (75a) is grammatical on a reading in which each boy thinks that the group of boys will win. This is not a bound-variable reading).

(75) a. *[Elke jongen], denkt dat ze, gaan winnen.

\[
\text{each boy} \quad \text{thinks that they go \ win}
\]

b. [Elke jongen], denkt dat hij, gaat winnen.

\[
\text{each boy} \quad \text{thinks that he \ go \ win}
\]

‘Each boy thinks that he will win.’
We finally turn to person. Here, a great deal hinges on whether the binder is an R-expression or has person features itself. We begin by considering pronouns bound by quantifiers like *every boy* or *each boy*, which, being R-expressions, do not have person features. With such quantifiers, the situation is the reverse of what we have seen with number: person features on bound pronouns cannot be licensed by agreement, and must therefore impose a semantic restriction on the variable, and thus an indirect restriction on the domain of the quantifier. The consequence is that only third person pronouns can act as variables bound by a regular quantifier, as we will now argue.

Consider an example with a bound third person pronoun, such as (75b). The pronoun contains the feature Dist, whereas its binder *elke jongen* ‘each boy’ does not contain any person features. Therefore, Dist imposes a semantic restriction, not a formal one. In particular, the variable introduced by the pronoun must range over the set $S_{ir^u} - S_{ir^u_{ir^u}}$ which contains only os:

\[
(77) \quad \forall x, \text{x=boy}, [x \text{ thinks that } x, x \in S_{ir^u} - S_{ir^u_{ir^u}}, \text{will win}]
\]

This interpretation is coherent, because the boys in the set under discussion can be construed as others.\textsuperscript{37}
If person features in bound pronouns must have an interpretive effect, then first and second person bound pronouns should lead to a semantic representation in which the variable introduced by the pronoun must range over \( S_i \) or \( S_{i+u} \) in the first person and \( S_{i+u} \) in the second. The result is that first and second person pronouns cannot, in fact, be bound by regular quantifiers. We show this using the examples in (78a) and (78b), neither of which allows the bound variable reading described in (78c).³⁸

(78) a. *\([\text{Elke jongen}], \text{denkt dat } i \text{ ga winnen.}\)
   
   each boy think that I go win

   b. *\([\text{Alle jongens}], \text{denken dat } we_i \text{ gaan winnen.}\)
   
   all boys think that we go–PL win

   c. \( \forall x, x=\text{boy}, [x \text{ think that } x, x \in S_i, \text{ will win}]\)

In these examples, the pronoun must be translated as a variable plus a restriction (\( x, x \in S_i \)), while the quantifier is translated as an operator and a restriction (\( \forall x, x=\text{boy} \)). Binding has the consequence that for every boy an element in \( S_i \) must be chosen that is identical to that boy. The problem is that there is no guarantee that the speaker will be included in the subset of elements taken from \( S_i \) under quantification. For example, the speaker might be female, in which case all the elements from \( S_i \) paired with the boys over which the quantifier ranges must be associates, and cannot be the speaker. This means that a bound-variable construal of a first person pronoun runs foul of Preservation of \( \Phi \), the ‘design principle’ that states that the preservation of the semantic contribution of \( \varphi \)-features must be guaranteed at the level of the pronominal DP (see section 7.3).

Earlier instantiations of Preservation of \( \Phi \) restricted operations that apply within a pronominal DP. In the case of bound variable pronouns, however, what needs to be
constrained is the relation between the QP and the restriction on the bound variable that originates in the pronoun’s $\varphi$-features. We propose, then, that Preservation of $\Phi$ is implemented in this domain through the grammatical condition in (79).

(79) Let $R_\varphi$ be a restriction on a variable, and $S$ be the set of elements selected under quantification. If inclusion of $i$ in $R_\varphi$ is encoded, it must be guaranteed that $S$ contains $i$, and if inclusion of $u$ in $R_\varphi$ is encoded, it must be guaranteed that $S$ contains $u$.

Condition (79) expresses that those elements obligatorily included in the set that forms the restriction on the variable introduced by the pronoun must be guaranteed to be contained in the range of the quantifier. Thus, PROX in the first person pronoun in (78a) encodes the inclusion of the speaker in the restrictor of the variable, but as explained there is no guarantee that the speaker is included in the set of elements selected under quantification. By the same logic, second person pronouns cannot be bound by regular quantifiers, as there is no guarantee that the addressee will be included in the individuals selected from $S_{i+u} - S_i$ under quantification:

(80) a. *[Elke jongen], denkt dat je$_i$ gaat winnen.

\begin{itemize}
\item each boy thinks that you$_{sg}$ go win
\end{itemize}

‘Each boy thinks that he will win.’

b. $\forall x, x=\text{boy}, [x\text{ think that } x, x \in S_{i+u} - S_i, \text{ will } \text{ win}]$

Since the reasoning above depends solely on the quantificational element not having person features, we expect that other R-expression quantifiers cannot bind first or second person
pronouns either. This seems correct.40

(81) a. *Er denkt [een jongen], dat ik ga winnen.

\[
\text{there thinks a boy that I go win}
\]

‘A boy thinks that he will win (namely me).’

b. \(\exists x, x=\text{boy}, [x \text{ think that } x, x \in S_{i}, \text{ will win}]\)

Our account predicts that there are situations in which a first or second person pronoun can act as a bound variable. To begin with, first or second person bound plural pronouns can occur if the variable is construed as ranging over elements that are systematically paired with speaker or addressee. This is because on such a construal, \(i\) or \(u\) are not contained in the set over which the variable ranges (although of course they help define this set), and therefore they are not part of its restriction. However, if \(i\) or \(u\) are not part of the variable’s restriction, (79) is not applicable. Examples of this type, which go by the name of partial binding, indeed exist, as observed by Partee (1989) and further discussed by Rullmann (2004), amongst others. Rullmann provides the following examples:41

(82) a. [Every woman I date], wants us, to get married.

\[\forall x, x=\text{woman that I date}, [x \text{ wants } i \text{ and } x, \{i \ x\} \subset S_{i}, \text{ to get married}]\]

b. [Every woman you date], wants you, to get married.

\[\forall x, x=\text{woman that you date}, [x \text{ wants } u \text{ and } x, \{u \ x\} \subset S_{i+u}-S_{i}, \text{ to get married}]\]

A second situation in which a bound variable reading is available for first and second person pronouns is where the binder is itself a pronoun. As pronouns are of course specified for person features, the complications we noted when the binder is a personless R-expression
do not arise. Consequently, examples like the following are unobjectionable on a bound-variable reading:\footnote{42}

\begin{align}
\text{we} & \text{ think each that we the other go beat} \\
\text{\‘We each think that we will beat the other.'}
\end{align}

b. \text{you.PL think each that you.PL the other go beat} \\
\text{\‘You each think that you will beat the other.’}

When the antecedent is a pronoun, singular first and and second person pronouns also permit a bound-variable interpretation. This is exemplified by sentences like the ones below, noted by Heim (2002, 2008) and references mentioned there. In (84) and (85), \emph{my} and \emph{your} must be bound variables in order to account for the fact that the elided VP permits a sloppy reading (see Reinhart 1983). Binding is necessary in (86) in order to account for the fact that the sentence permits an interpretation on which the speaker did their homework, but no other person did theirs.

\begin{align}
\text{I} & \text{ did my homework and John did } e_{VP}, \text{ too.} \\
\text{\quad b. } i & \lambda x \text{ [x did x’s homework] and John } \lambda x \text{ [x did x’s homework]}
\end{align}

\begin{align}
\text{You} & \text{ did your homework and John did } e_{VP}, \text{ too.} \\
\text{\quad b. } u & \lambda x \text{ [x did x’s homework] and John } \lambda x \text{ [x did x’s homework]}
\end{align}
(86)  a. Only I, did my, homework.

       b. $i \lambda x [x \text{ did } x's \text{ homework}]$

       c. No $x, x \in \{\text{Bill, Susan, …}\}, [x \text{ did } x's \text{ homework}]$

In sum, no changes are necessary to the proposed system of $\varphi$-features in general and person features in particular in order to deal with bound-variable interpretations of pronouns. The $\varphi$-features of a bound pronoun always impose restrictions on their binder, which are either formal or interpretive. Which of these two options are available in practice depends on various factors, including the nature of the feature make-up of the binder. This means that different $\varphi$-features will behave in different ways, even though they belong to the same system.$^{43}$

9. Conclusion

The feature system described in this chapter exhausts our typology of person.$^{44}$ There are two privative person features, PROX and DIST. These features represent functions that operate on an input set and deliver an output set. The initial input set is an abstract representation of the domain of discourse. The output set is a subset of this. The system delivers three persons with a singular interpretation and four persons with a plural interpretation.

This feature system is different from a number of alternative proposals in that the third person has feature content. Nonetheless, it predicts that only the third person can act as an expletive. It can be shown that only the person feature that delivers third person interpretation can also deliver an empty set as output. (There are featureless pronouns as well, but these are a type of impersonal pronoun, which will be discussed in chapter 4).

The theory has a number of other consequences. First, it predicts that R-expressions cannot be specified for person. We put forward several pieces of evidence in support of this
result. Second, the proposal can be used to generate a typology of polite pronouns that is descriptively adequate. Third, in combination with a principle of Preservation of Φ, it requires that NMB is merged higher in the structure than PRS. This appears to be in line with cross-linguistic observations regarding the morphological structure of pronouns. Preservation of Φ has the further consequence that modification of pronouns must be non-restrictive.

Finally, we have shown that our person feature system is compatible with a fairly standard treatment of bound-variable pronouns. In particular, in contrast to gender and number, person is never interpreted in bound-variable pronouns, again as a consequence of Preservation of Φ.
Footnotes

1 Kerstens’ proposal was adopted by Bennis and MacLean 2006 and Aalberse and Don 2011. These authors concentrate on patterns of syncretism, both diachronically and synchronically, in the regular paradigms of Dutch dialects.

2 It is a open issue whether or not a single utterance can have more than one speaker. It is a traditional observation that a plural first person pronoun does not refer to a plurality of speakers (see for instance Jespersen 1924, Benveniste 1966, Lyons 1968, Corbett 2000, and Daniel 2005). While this is usually true, it may be that such readings are not excluded. It has been suggested, for example, that such a homogeneous reading of the first person plural is instantiated by the ‘choral we’ as it occurs in Ancient Greek drama, see Mühlhäusler and Harré 1990 and Cysouw 2003 for discussion. Another example may be some sports fans’ chants, such as the Millwall football supporters chant No-one likes us, we don’t care. Note that ‘choral we’, if it exists, never seems to have a form that is different from the regular first person plural pronoun, a fact to which we will return in chapter 3.

3 A homogeneous reading of the second person plural is used, for example, when a speaker addresses an audience. Imagine the speaker saying Hey, you are all wearing a red jumper. Clearly, no distinction is made here between members of the audience that are regarded as addressees and other members that are merely associates. As with first person plurals, such a homogeneous reading is never expressed by a form that is distinct from the form that expresses the heterogeneous reading that includes associates as well as addressee(s).

4 Our proposal differs from standard feature-geometric approaches in rejecting the idea that there is a universal template that individual feature structures must adhere to. For example, features can attach to different hosts (both PROX and DIST attach to either PRS or PROX), and multiple occurrences of the same feature are admissible (in particular, PROX can be applied twice, see below). Rather, as discussed, feature structures reflect the order of function
application, and grammatical feature structures are simply those in which each feature finds the input set it requires. Hence, we agree with Harbour (2011a,b) that the interpretive properties of features are fundamental, while the inventory of feature structures, that is, the possible orders of function application, is derived from this. Notice, however, that we cannot assume that the feature structure only exists in the semantic representation, while in the syntax feature bundles are simply unordered sets. If this were the case, \{\text{PROX}, \text{PROX}\} could not be distinguished from \{\text{PROX}\} in syntax (by the axiom of extension). This is necessary, however, to account for languages in which the exclusive and inclusive first person plural pronouns have different forms (see below).

We will argue that number in the context of pronouns is a feature that reflects the cardinality of its input set, rather than a feature (like person) that selects a subset from this input set (see chapter 3 for more details). This means that there is no option to interpret a pronoun specified as [\text{PROX}] as singular by having it refer to just the \text{i} or just the \text{u} that are contained in the output of the person system ($S_{i+u}$).

Strictly speaking, in order to capture Zwicky’s generalization, not only the syntactic feature system, but also the system of morphological realization (spell-out) must be considered. In fact, there is a way of generating languages that violate the generalization in our system, namely by impoverishment of \text{DIST} in the plural when it is a dependent of \text{PROX} (so in the second person). In a language that has distinct spell-out rules that apply to the feature structures [\text{PROX}] and [\text{PROX–PROX}], this will create a formal opposition between first person exclusive on the one hand, and first person inclusive and second person on the other. In the absence of this particular set of circumstances, we expect Zwicky’s generalization to hold, and we therefore expect it to be valid at least as a statistical universal. This appears to be correct, as only a few languages are mentioned in the literature as showing a pattern that goes
against the generalization. Sanuma appears to have a pronominal spell-out system of this type (see Borgman 1990:149 and Simon 2005:127; see Perri Ferreira 2013 for critical discussion of Borgman’s observations). Cysouw (2005) mentions other cases in which first person inclusive and second person are syncretic, including from a number of Algonquian languages, but he notes that they are “extremely rare” and possibly co- incidental.

7 Bobaljik does not distinguish between associates and others (a and o), and therefore his generalizations are formulated somewhat differently. Universal 2, for example, is stated as (i)

(i) No language distinguishes [2+2] from [2+3]

The empirical content of the universals within their respective frameworks is the same, however. We can safely replace ‘3’ by what is a in our system, since, as we will show in chapter 3, pronouns expressing either i+o or u+o do not, in fact, exist. Any non-speaker or non-addressee elements that are present in the reference of first or second person pronouns must be associates of speaker or addressee.

8 Bobaljik mentions a potential counterexample to this universal from Tomioka (2006): the Japanese reflexive zibun can, in some contexts, be used to refer to addressee(s), but not to addressee(s) and associates. Tomioka proposes an analysis of the phenomenon that does not, in fact, violate the universal; see Bobaljik (2008a:213) for a brief description.

9 This claim leads to the prediction that there should not be unambiguously syntactic phenomena affecting the first person plural that are found exclusively in languages that have a formal inclusive/exclusive distinction. ‘Unambiguously syntactic’ in this context excludes agreement, which is of course subject to morphological realization rules. We are not aware of phenomena that would go against this prediction, but more research is necessary.
Another prediction is that we might find traces of the inclusive/exclusive distinction in languages that do not express it in their pronominal system. Such traces indeed exist. For example, both English and Dutch show grammatical distinctions between hortatives and corresponding imperatives. Thus, as is well-known, the English hortative form *let’s* is obligatorily inclusive, while its full imperative counterpart *let us* is not. For example, prisoners addressing a jailor would say *Let’s go* when expressing a desire to go to the exercise yard with the jailor, but *Let us go* when expressing a desire to leave the prison without the jailor. Dutch makes a similar distinction between hortative *Laten we gaan* ‘let-PL we go’, which is obligatorily inclusive, and imperative *Laat ons gaan* ‘let us go’, which is not specified for clusivity. It is hard to imagine that the distinction between hortatives and standard imperatives can be made without reference to the features that characterise inclusive and exclusive readings: the hortative appears to be the inclusive imperative.

As noted, the person system might have a parallel in the system of demonstratives. We would speculate that the same features are used in the system of demonstratives to navigate an input set that has the same three-layered structure as the input set for the person system. Like *Si*<sub>ru+to</sub>, the input set for the system of demonstratives has the speaker as the anchor of the innermost subset. The main difference between the two input sets, we think, is that the system of demonstratives is not organised on the basis of discourse participants, but rather in terms of prominence to the speaker, where prominence can vary in nature. It can of course be taken to indicate literal proximity to the speaker, but this is not necessary. In fact, most uses of demonstratives cannot be analysed in terms of literal proximity (see Diessel 1999 for a detailed overview). As a consequence, where in the input set the addressee is located is not fixed, unlike what is the case in the person system. On some criteria, the addressee may be regarded as of medium prominence to the speaker, but this is not the case on other criteria. It
is likely that in specific circumstances specific criteria for prominence must be selected, giving rise to apparent addressee-anchored demonstratives. For example, it is plausible that in an experimental setting where the experimenter functions as the addressee, a speaker may use the medial demonstrative for an object held by the addressee, which accounts for one set of results from Spanish in Imai 2003. However, Imai reports another set of results which show that the medial form is also used in cases where the position of the addressee is irrelevant, indicating that the medial form cannot have the addressee as its fixed anchor.

The difference between languages that make a two-way distinction in their demonstratives and those that make a three-way distinction can be seen as the result of syncretism in the former. If our analysis of syncretisms in the person system in chapter 7 is correct, we expect that there will be few if any two-way systems in which ‘medium prominence to the speaker’ is opposed to ‘high or low prominence to the speaker’. According to Lander and Haegeman (to appear) no such pattern of syncretism is attested.

Diessel (1999) discusses some languages that may have a four-way distinction in their demonstrative system. If so, we could analyse this in parallel to languages that make a formal distinction between inclusive and exclusive first person plural pronouns. As discussed in the text, these languages have different forms for pronouns specified as [PROX] and [PROX PROX], respectively, whereas in other languages these forms are syncretic.

While we develop our theory using privative features, and in fact favor a general view of features as privative, it is possible to translate our analysis into a system of bivalent features. Instead of PROX and DIST, the system would have a single bivalent feature, for instance ± PROX, where +PROX has the same definition as PROX in the system we propose, while –PROX has a complementary effect (just like DIST).
12 We leave open the possibility that there are separate operators for different deictic notions, but for reasons of presentation we will speak of a single operator that encodes all relevant deictic values (see Sudo 2012 for a specific proposal).

13 If pronouns can occur outside the scope of this operator but inside the embedded clause, they are predicted not to undergo indexical shift. Sudo (2012) argues that this explains why embedded nominative subjects in Uyghur undergo indexical shift, but embedded accusative subjects do not. He argues that only the latter are in a position above the operator. Of course, the shift-together phenomenon mentioned in the text only applies to those pronouns that are in the scope of the same operator. We will see in chapter 6 that in other languages, too, constituents can appear in a position this high in the left periphery of an embedded clause.

14 There can be variation in the structural size of clausal complements, so not every clause is a full CP (see for instance Wurmbrand 2001). This leaves open the possibility that clauses with a size smaller than CP do not contain a context-operator.

15 The generalization that seems to emerge from Holmberg’s data is that the use of the first person in self-talk indicates access to the mind of the speaker/addressee, while use of the second person indicates lack of such access, which gives rise to a kind of ‘objectivization’ of the self. There is nothing particularly remarkable about this, as use of a second person pronoun always implies lack of access to the mind of the addressee.

16 Holmberg (2010) reports that there are a few speakers who accept use of we in self-talk, though he also notices that others find this odd. We think that this might be because self-talk is not a unitary phenomenon. For example, talking to your image in the mirror does probably allow a conceptualization of the self as two distinct individuals, me and my image in the mirror. In this context, use of we seems fairly natural:
We’ll show them today, won’t we?

Apparently, there is speaker variation in how easily this type of conceptualization is possible. This does not affect our argumentation, however. If use of the second person pronoun in self-talk were to depend exclusively on a split concept of the self, then all speakers should allow the use of we in examples like (21), contrary to fact.

The proposal in this section may give a handle on ‘Watkins’ law’, according to which it is relatively common for third person endings of verbs to be reanalyzed diachronically as part of the stem, leading to a new base for attachment of first and second person endings (see Fuß 2005 for discussion and references). Given that third person endings can occur in the absence of syntactic agreement, it is easy to see how they are prone to such reanalysis by subsequent generations.

The various forms mentioned in the spell-out rule for the third person singular in (33c) express gender. We have left out the spell-out rules for weak subject pronouns and all object pronouns. The spell-out rules for weak pronouns only differ from those in (33) in the phonological output they deliver. Similarly, the spell-out rules for object pronouns only differ in mentioning an additional case feature in their input, and the phonological output they deliver.

We should also note that the formulation of the spell-out rules in (33) is arbitrary to a certain degree. To begin with, it could be the case that (33a) mentions PROX twice in its structural description (given the feature structure for first person singular pronouns in (9a)). However, there is no obvious way to test this empirically, so here we adopt the most economical formulation of the rule. Moreover, it is possible to pare down the structural description of various rules by relying to a greater degree on the role of Maximal Encoding.
For example, the person feature in (33a) could be removed, as (if we leave the other rules as they stand) Maximal Encoding will prevent overapplication of this rule to the second and third person. Since it largely arbitrary which of the rules should be pared down in this way (as long as not more than one is pared down), we have opted to ignore this possibility.

19 We assume that the structural description of spell-out rules takes the form of an unordered set of tokens of features, see chapter 4, section 5. It is therefore possible for spell-out rules to distinguish between a context with multiple occurrences of the same type of feature from contexts with just one such occurrence.

20 The argument in Ackema and Neeleman 2013a was based on a perceived asymmetry between floating quantifiers associated with the polite pronoun _u_ and floating quantifiers associated with syntactically singular DPs that receive a plural interpretation (collective nouns like _family_). Our impression was that _u_, but not collective nouns, license floating quantifiers. However, further consideration of the data indicates that this is incorrect, and that collective nouns do, in fact, license floating quantifiers for many speakers.

21 One may wonder whether the possibility of LF-impoverishment undermines the principle of Compositionality. This would only be so, however, if the principle applied at surface syntax, rather than at LF.

22 In chapter 7, we will introduce a principle (the ‘Russian Doll Principle’) that has the consequence that in all languages in which there is no dedicated polite form, HON must undergo impoverishment at PF so as not to block the spell-out of the remaining person features. For now, we will ignore this.

23 Wechsler (2011) argues against the idea that we are dealing with semantic number agreement on the adjective in examples like (41a). His core argument is that pluralia tantum nouns systematically require plural marking on the adjective, while Wechsler assumes,
following the traditional view, that such nouns are formally plural but semantically singular or unspecified for number. We take issue with the traditional view of pluralia tantum, however. Instead, we would analyse such nouns as introducing a set whose members are themselves sets. For example, scissors and trousers introduce sets of pairs, while oats introduces a set whose members are sets of an unspecified number larger than one.

Plural in a pluralia tantum noun reflects the cardinality of the member sets, rather than the cardinality of the containing set. Thus, the plural in scissors expresses that the member sets are pairs, rather than that there are multiple member sets. Adding numerals, however, gives information about the cardinality of the containing set; this explains why it is possible to speak of three good scissors. In contrast, oats cannot be counted. As the cardinality of the member sets is unspecified (other than that it is larger than one), it cannot be determined how many containing sets there are. Counting how many units there are in a particular amount of oats is impossible, as one never knows when one reaches the limits of the first unit. This explains the ungrammaticality of *five oats.

This analysis has the consequence that pluralia tantum are, in fact, semantically plural, their member sets having a cardinality larger than one. They will therefore go together with plural semantic agreement. Wechsler argues against a view that pluralia tantum are semantically plural on the basis of examples like Scissors are an important tool, where Wechsler claims the predicate nominal shows the semantically justified number form. This argument cannot be correct, however, in view of the existence of the many examples (as attested on Google, for instance) in which a regular plural noun is associated with a singular predicate nominal: Prices / these apps / internships / mobile payments / ... are an important tool.
24 It can, of course, also deliver feature structures that still include HON, but this will only be relevant in case a language has a specific spell-out rule for polite pronouns, and therefore a dedicated form. This is irrelevant here, as we are discussing the possibilities for recruitment of independently occurring forms.

25 This analysis may also shed some light on so-called ‘nursely we’ (Joseph 1979), which is a first person plural form that is used to refer to the addressee(s). For example, a nurse might say to a patient How are we doing today?, meaning ‘how are you doing today?’. This use of we is not restricted to nurses addressing patients, but is possible much more generally when someone is addressing a person who is in some sense dependent on them, such as a parent addressing a child or a superior addressing a subordinate (Ervin-Tripp 1981). An analysis in terms of PF-deletion of DIST (leaving just PROX for spell-out) and LF-deletion of PL will reconcile form and interpretation in this case. However, it necessitates a triggering feature on a par with HON that would encode the sense of dependence of the addressee that this use of we evokes.

26 This prediction is predicated on the assumption that the feature structure present in syntax must be one that is independently available in the language. Therefore, it is not possible to start from an otherwise ill-formed feature structure such as, for example, [PROX PROX DIST HON] and impoverish this at LF to [PROX DIST HON] and at PF to [PROX PROX]. As we have argued in section 2, the universal pronominal inventory cannot contain pronouns syntactically specified as [PROX PROX DIST]. To the best of our knowledge, it is a standard assumption that impoverishment rules operate on independently existing feature structures.

27 It need not surprise us that the relevant morpheme shows up specifically in emphatic forms. Shuswap, like many other languages, has both strong and weak forms of pronouns. Given this opposition, use of a strong pronoun is expected to be emphatic. There is no need to encode
this in a separate morpheme. We are therefore sceptical of the suggestion that emphasis is carried specifically by the *enwi7* root and its allomorphs.

Note that if, in a given language, weak forms differ from strong forms in leaving unrealised part of the latter’s extended projection, $N_{II}$ is a likely candidate for non-realization, for the same reason that it often remains silent to begin with: its presence is predictable from the presence of person features. Of course, which person features a pronoun carries is not predictable, hence these are more likely to be realised in the weak form as well.

28 Wiltschko (2002) argues that Halkomelem independent pronouns, which clearly have person features, behave like R-expressions for the Binding Theory in that they are subject to Condition C. Her argument is based on the behavior of independent pronouns that double a possessive morpheme attached to an object: these cannot be co-referential with the subject of the same clause. However, the observed effects would also follow if Halkomelem independent pronouns are subject to Condition B. A problem for this assumption may appear to be that possessive pronouns in a language like English do not induce Condition B violations: *John saw his mother* is unobjectionable under co-reference of *his* and *John*. However, this is not to say that the same is true of pronouns that double a possessor. Consider Dutch, which is like English in that possessive pronouns are exempt from Condition B, but unlike English in that it marginally allows doubling of possessive pronouns with a strong personal pronoun. As it turns out, the doubling pronoun is subject to Condition B:

(i) a. ?Marie heeft hem z’n jas meegenomen.

   *Mary has*  *him*  *his coat*  *with-taken*

   ‘Mary took his coat.’
b. *Jan, heeft hem, z’n jas meegenomen.

\[ Jan \text{ has} \quad \text{him his coat with-taken} \]

‘John took his own coat.’

If so, the only surefire way to decide whether Halkomelem independent pronouns are subject to Condition B or Condition C would be to consider whether co-reference is still impossible when the c-commanding antecedent is contained in a higher clause (since Condition B has the clause as its domain). But precisely this is impossible to ascertain: as Wiltschko shows, Condition C does not work across clause boundaries in Halkomelem. We conclude that independent pronouns in Halkomelem can probably be analysed as pronouns for the Binding Theory, in which case they do not form a counterexample to the claim that R-expressions lack person.

29 We restrict ourselves to examples of co-reference between R-expression and first or second person pronoun. For us, these are perfectly acceptable. In contrast, structures in which the first or second person pronoun is bound by the R-expression are ungrammatical in our Dutch:

(i) a. *De huidige auteurs schamen ons voor deze omissie.

\[ the \text{ current authors shame ourselves for this omission} \]

‘The current authors are ashamed about this omission.’

b. *Alleen deze jongen heeft m’n huiswerk gemaakt.

\[ only \quad \text{this boy has my homework made} \]

‘Only I have done my homework.’
However, Collins and Postal (2012:section 3.4) report a bewildering variety of judgements for comparable examples in English. See section 8, footnote 39.

30 It is sometimes claimed that R-expressions can contain person information on the basis of structures like *wij Nederlanders* ‘we Dutch–PL’ (see Postal 1969 for discussion of similar structures in English). The idea would be that *wij* ‘we’ is a functional head in the extended projection of the lexical head *Nederlanders* ‘Dutch’, providing this with a first person specification. If our proposal is correct, an analysis of such structures as single extended projections must be rejected. The alternative we propose is that structures of this type involve close apposition, on a par with *I was talking about Mary the former Queen of Scotland, not Mary the woman from next door*. An analysis in terms of close apposition would treat the two parts of the construction as separate extended projections, with the second one identifying the first interpretationally. (On close apposition, see for instance Lekakou and Szendrői 2012 and references mentioned there). One advantage of this analysis is that it avoids the conclusion that person is located very high in the extended projection of nominal phrases, namely above number (given examples like *wij Nederlanders* ‘we Dutch–PL’) and even above determiners (given examples like *we the people*). We will see immediately below that there is evidence thatPRS cannot c-command NMB.

31 We should note that this conclusion does not imply that there are no contexts in which R-expressions carry first or second person morphology. This is possible if the morphology in question is agreement morphology, and therefore not interpreted in the R-expression. In particular, when an R-expression has a predicative function, it may agree with a first or second person subject. This can be observed, for example, in Classical Nahuatl (Launey 2011) and Mohawk (Baker 1996).
Note that we have assumed that the population of $S_{i\rightarrow u}$ can vary from pronoun to pronoun (see section 3.1). For the argumentation here to be valid, it must be assumed that within a pronoun the population of $S_{i\rightarrow u}$ is determined once and for all by $N_{II}$. It is not possible to have a higher category deliver a different set and re-define $S_{i\rightarrow u}$ as this set.

This interpretative effect could be analysed in terms of close apposition. For some discussion of close apposition, see chapter 5.

Chomsky (1982:78-83) characterises an R-expression as an expression that denotes an entity in the domain of discourse by virtue of its inherent properties (by contrast, a pronoun may denote an entity in the domain by means of a linguistic antecedent or some contextual information).

We predict that intersective modification of pronouns by adjectives is also impossible. This is correct: examples like *big them ‘those among them that are big’ are ungrammatical. We have not used adjectives to illustrate our point, however, because the restrictions on adjectival modification of pronouns appear to go beyond a ban on intersective modification. At least in English and Dutch, there are hardly any non-intersective adjectival modifiers of pronouns either. In specific contexts, things like poor me are possible (see for instance Corver 2008 for discussion). Note that even in such cases, intersective modification is still ruled out: poor us, for example, cannot mean ‘those among us who are pitiful’. In some other languages, adjectival modification of pronouns appears to be much less restricted; see for instance Fukui 1988 and Noguchi 1997 on Japanese and Melchin 2015 on Mandarin. Even in these languages, though, it appears that the relevant adjectives can only get a non-intersective reading.

Note that the grammatical default in a feature system need not be the most frequent form (see also Marcus et al. 1995 on German plurals). This means that the grammatical default
need not be equal to the ‘unmarked’ form in phenomena that depend on frequency, such as overgeneralization in language acquisition. Hence, it comes as no surprise that common gender is overgeneralised in the acquisition of Dutch (see Blom et al. 2008 for discussion and a comparison of L1 and L2 acquisition) – common gender nouns are more frequent, in terms of both type and token frequency.

As noted in section 3.3, the speaker and addressee can, under the right circumstances, be construed as os (as well as i and u). This accounts for the observation by Heim (2008) that an example like (75b) permits an interpretation in which the speaker and/or addressee are included in the range of the quantifier (Heim remarks that a continuation like ‘and that includes me and you’ is not infelicitous).

A sentence like (78b) is of course grammatical on a group reading of the pronoun (that is, when wij ‘we’ refers to the relevant set of boys). Rullmann (2008) argues that plural first and second person pronouns can be used as variables bound by regular quantifiers. His case is based on examples like the following:

(i)  

a. [Most Muslims], have no clue what we,’re saying when we,’re reciting the Koran in Arabic.

   b. Linguists, have now hammered many generations of American students with our; contrary opinions about normal people’s linguistic beliefs, without notable success.

In our view, the reading of these examples is the group reading. There are two arguments for this. First, we have already seen that pronouns accompanied by a relative clause cannot act as bound variables (see section 7.4). However, if we add a relative clauses in (iia), the interpretation of the example remains much the same:
Most Muslims have no clue what [we (who are Muslims)] are saying when [we (who are Muslims)] are reciting the Koran in Arabic.

Second, if first and second person pronouns can act as variables bound by a regular quantifier, it remains unclear why no examples in which the pronoun is singular seem acceptable (recall that number is not interpreted in bound-variable anaphora). The example in (78a) is ungrammatical, as is its English counterpart in (iii). If the relevant pronouns have a group reading instead of being bound, this restriction falls out immediately.

* [Each boy], thinks that I, will win.

Recall from footnote 29 that there is speaker variation in the extent to which imposters such as this writer can bind a first or second person pronoun. The explanation for this might be that for speakers with the more liberal grammar, this writer is an idiom that has a fixed reference to i. This may be sufficient to satisfy Preservation of \( \Phi \).

The example in (i) is acceptable. However, we have already seen that discourse roles are not exclusive (see section 3). Our analysis would therefore be that the existential exclusively quantifies over os, in line with the use of the third person pronoun hij ‘he’. The function of the specifying modifier ‘namely me’ is to identify the relevant o as also being i in the discourse context.

A boy thinks that he will win, namely me.’
As Rullmann observes, the construal of a pronoun as a ‘complex variable’ is greatly helped if the binder explicitly establishes the relation that holds between \(i\) or \(u\) and the variable \(x\). This observation may follow from our proposal, which implies that \(x\) must be an associate of \(i\) or \(u\) (see chapter 2). We will argue in chapter 3 that association must be licensed by context. Hence, if the context contains a QP that mentions a relationship between \(i/u\) and \(x\), then it facilitates a reading of the pronoun as a complex variable. Note that the effect is not absolute, and that discourse context may suffice to associate \(x\) and \(i/u\). For example, \([\text{Every woman}], \text{wants us}, \text{to get married}\) is acceptable in a conversation in which it has already been established that the women in question are associates of the speaker, for example when the speaker is discussing their experience with a dating site.

As opposed to (83a), the example in (83b) has a grammatical variant in which a singular bound pronoun is used:

(i) \(\text{Jullie, denken elk dat je, de ander gaat verslaan.} \)

\(\text{You,PL think each that you,SG the other goes beat}\)

‘You each think that you will beat the other.’

We do not understand why this is possible. One option is that \(je\) can be semantically plural, even when not generic (see chapter 4 for discussion of generic second person pronouns). This is something that may have to be assumed independently to explain why \(je\) can refer to groups in certain contexts – an equally unexpected fact:
There is one type of structure that appears challenging for the condition in (79), namely partitives like *some of us. For a start, it appears as if Preservation of \( \Phi \) is violated, because the set selected out of *us need not contain the speaker. However, there is general consensus in the literature that the complement of partitive *of is an individual (see Barker 1998 for discussion and further references). Hence, the \( \varphi \)-features of the pronoun are not mapped onto a restriction, but used to determine the pronoun’s reference. The restriction on the quantifier is composed of this referential pronoun and partitive *of.

A further challenge associated with partitives is the possibility of variable binding in examples like Some of us expect to win our chess game (in contrast to *Some of the students expect to win our chess game). The question is how our satisfies (79). One possibility is that, if the quantifier introduces a restriction that entails the restriction introduced by the pronoun, the latter may be deleted prior to evaluation of (79). Of course, the restriction introduced by *of us says that the variable is restricted to elements of a proper subset of \( S_i \), and therefore entails that it is restricted to elements of \( S_i \).

We do not want to imply by this that languages can make no further semantic distinctions in their pronominal system. For an overview of possible ‘fourth’ persons, see Corbett 2012. However, any further distinction must lie outside the person system proper. For example, some languages distinguish between proximate and obviative third person pronouns (for discussion, see for instance Dryer 1992, Aissen 1997, Valentine 2001, Kiparsky 2002, Mithun 2003, Lochbihler 2012).
Accessibility Theory (Ariel 1990, 1991), with proximate third person pronouns marking reference to a more highly accessible antecedent than an obviative third person pronoun. Since speaker and addressee are always highly accessible, it would follow that the proximate-obviative distinction does not extend to first and second person pronouns. (One language that might go against this generalization is Kutenai according to Garvin 1948, but see Dryer 1992 for more discussion). This analysis makes no further cuts in the person space, and is therefore not itself part of the person system. This is, in fact, desirable, given that regular R-expressions can also be marked as obviative. As we have argued, R-expressions do not contain person information at all.