Person in impersonal pronouns

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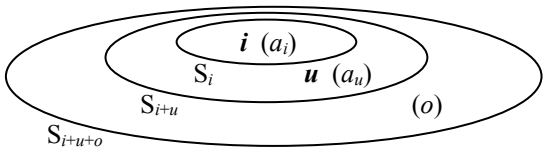
1. Languages can have both personal and impersonal pronouns. Some pronouns (such as *you* in English) have both a personal and impersonal use; others are exclusively personal (like *he*) or are dedicated impersonals (like *one*) (Siewierska 2004, Cabredo Hofherr 2008, Malamud 2012). Among the impersonal pronouns, some only permit generic readings, while others can have both a generic and an arbitrary reading. In this talk we show that the system of person features of Ackema and Neeleman 2013 provides a good basis for the analysis of impersonal pronouns as well.

2. Ackema and Neeleman propose two person features, PROX and DIST. These features encode functions (see also Harbour 2016). Both operate on an input set to deliver a subset as output. The original input set S_{i+u+o} contains a subset S_{i+u}, which in turn contains a subset S_i. S_i contains the speaker(s) (*i*) and any associates (a_i); S_{i+u} additionally contains the addressee(s) (*u*) and any associates (a_u). S_{i+u+o} additionally contains members that are neither associates of the speaker(s) nor of the addressee(s) (*o*). One *i* and one *u* are the only obligatory members:

(1) a.



b. $\text{PRED}(S_{i+u+o}) = S_{i+u}$
c. $\text{PRED}(S_{i+u}) = S_i$
d. $\text{PROX}(S) = \text{PRED}(S)$
e. $\text{DIST}(S) = S - \text{PRED}(S)$

The two features are defined in terms of a function PRED (for 'predecessor') given in (1b,c). PROX in effect discards the outer layer of the input set; applied to S_{i+u+o} it delivers S_{i+u}. DIST selects the outer layer; applied to S_{i+u+o} it delivers $S_{i+u+o} - S_{i+u}$. The 'person space' in (1a) is introduced by a dedicated nominal head N_π. The person features specify a node PRS, which itself encodes no more than an identity function over sets (λP.P).

3. A third person is specified as DIST, which delivers $S_{i+u+o} - S_{i+u}$, a set that excludes the speaker and any addressees. Exclusive readings of the the first person are derived by two applications of PROX. PROX first applies to S_{i+u+o}, delivering S_{i+u}; it then applies to this set, delivering S_i. Inclusive first person readings are derived by a single application of PROX. This delivers S_{i+u}, a set containing the speaker, at least one addressee, and any associates. Finally, a second person is generated by applying both PROX and DIST. PROX is applied first, so that S_{i+u} is selected. Applying DIST to this set removes S_i, leaving a set with *u* as the only obligatory member. No other persons can be generated.

4. It follows that the third person can function as a default. Expletive pronouns and default agreement endings remain uninterpreted, which is possible only if their feature specification delivers an empty set. DIST is the only specification that can do so. It selects the outer layer in (1), discarding the only obligatory members of S_{i+u+o} (namely *i* and *u*). All other specifications select either *i* or *u* or both and can therefore not be defaults. Notice that this presupposes that suppression of phi-content is not possible. We rule this out through (2), which expresses the traditional assumption that phi-features must have an interpretive effect at the level of the entire pronominal expression.

(2) *Preservation of Phi*
The interpretive effect of phi-features must be preserved within DP.

5. It follows from (2), in conjunction with our characterization of person, that number must be interpreted after person. Information contributed by person features is preserved if number is added (number merely adds information about the cardinality of a given set, but cannot change the population of that set). Information contributed by number is not necessarily preserved when person features are applied (the person system can select a singleton subset out of a non-singleton input set). We therefore assume that the NMB node comes with the condition that its input cannot be S_{i+u+o}.

6. Impersonal pronouns can have two types of reading, a generic one (as in *one should not eat with one's hands*) and an arbitrary one (as in *they called for you, but they didn't leave their name*). The following generalisations hold. Plural pronouns allow at least a generic reading. Arbitrary readings of plural pronouns are arguably restricted to the third person. Singular pronouns must be referential, with two exceptions: second person singular pronouns permit generic readings, and dedicated impersonal pronouns are singular. Impersonally used second person singular pronouns differ from dedicated impersonal pronouns in two ways: (i) second person singular pronouns require a generic reading, while dedicated impersonal pronouns come in two types, one of which allows an additional arbitrary reading;

(ii) dedicated impersonal pronouns systematically trigger third person agreement. We will show that a number of exceptions to these generalisations are only apparent. These include generic usages of the first person singular (Zobel 2012), referential uses of generic impersonals (Hoekstra 2012, Zeijlstra 2015), and arbitrary readings of first and second person plural pronouns (Cabredo Hofherr 2008).

7. Impersonal readings of pronouns arise when, on top of the pronoun proper, an operator is merged that encodes the generic or arbitrary reading. We will refer to these operators as Gen and Arb. Generic and arbitrary readings are in principle not available for singular pronouns because universal or existential quantification over a singleton set is uninformative. This makes it the more remarkable that all dedicated impersonals are singular, and that the second person singular allows a generic reading.

8. Third person plural pronouns allow both generic and arbitrary readings, but first and second person plural pronouns allow generic readings only. Arbitrary readings of these pronouns are excluded, because existential quantification over the set delivered by first or second person features does not come with a guarantee that the person information encoded by these features is preserved: the set selected by the existential operator need not contain *i* or *u*. This contravenes Preservation of Phi in (2).

9. German *man* is an example of a dedicated impersonal pronoun that allows both generic and arbitrary readings. We analyse such pronouns as bare N_π nodes in the scope of Gen or Arb (see Egerland 2003 and D'Alessandro 2007 for related ideas). This explains the following properties of this type of dedicated impersonal pronouns. (i) They cannot be syntactically plural, despite their semantic plurality, since NMB cannot attach to a node whose semantic value is S_{i+u+o}; see **5**. (ii) They trigger default third person agreement, compare **4**. (iii) They will have a form distinct from the personal pronouns: the spell-out rules for personal pronouns refer to PROX or DIST, which are absent here. (iv) They allow arbitrary readings without violating (2), as there is no PRS node.

10. English *one* is an instance of a second type of dedicated impersonal pronoun, one that only allows a generic reading (Moltmann 2010). It can be analysed as having a PRS node, but one not containing either PROX or DIST. It follows that impersonal pronouns of this type also have properties (i)-(iii) in **9**, for the same reasons. However, they do not allow arbitrary readings, because of (2). The bare PRS node encodes an identity function over sets (see **2**), which implies that presence of *i* and *u* is encoded and cannot be undone.

11. The proposed analysis differentiates the two types of dedicated impersonal pronoun on the basis of their structure: one has a PRS-projection, the other does not. This structural difference should have syntactic consequences. There is at least one phenomenon that bears this out: *man*-type pronouns only have a nominative form, whereas *one*-type pronouns can bear any case (Egerland 2003, Hoekstra 2010). This follows if case cannot directly attach to a lexical head, but must attach to a functional projection.

12. Second person singular pronouns can be used generically, but do not permit an arbitrary reading. Like dedicated impersonal pronouns, they are semantically plural (they can bind reciprocals, for instance). We analyse the generic second person singular as containing the same phi-features as the refrential second person pronoun, namely one instance each of PROX and DIST. In the referential pronoun, PROX and DIST apply sequentially. We suggest that in the impersonal pronoun, the features apply in parallel: they are combined through a +-operator, which is defined as follows:

(3) If $F_1(S) = S_1$ and $F_2(S) = S_2$, then $F_1+F_2(S) = S_1 \cup S_2$

This means that PROX+DIST yields the unification of the sets selected by PROX and DIST. Since DIST selects the outer layer of the input domain, while PROX selects everything except the outer layer, PROX+DIST applied to S_{i+u+o} returns S_{i+u+o} (to which Gen can be applied). Since the referential and the generic second person pronoun contain the same phi-features, they are realised by the same form, as spell-out rules cannot distinguish between the two inputs. In addition, this analysis explains the following properties of second person impersonal pronouns. (i) Like dedicated impersonal pronouns, they cannot be syntactically plural, despite their semantic plurality, as NMB cannot attach to a node whose semantic value is S_{i+u+o}. (ii) They trigger second person agreement, given that they are specified for PROX and DIST. (iii) They do not allow arbitrary readings, because of (2): the presence of *i* and *u* is encoded by PROX+DIST. The introduction of the +-operator does not lead to unattested pronouns. Given that it combines two features, and given our inventory of person features, there are only two relevant further feature conjunctions, PROX+PROX and DIST+DIST. In both cases, conjunction gives the same output as the unconjoined feature, and therefore does not add anything of substance to the inventory of possible pronouns.