

On plural features: reciprocal predication and bare singulars in Brazilian Portuguese

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1. The puzzles. Ferreira (2010) observed that in Brazilian Portuguese (1) is ambiguous, allowing both a reflexive and a reciprocal reading, whereas (2) blocks the reciprocal reading :

(1) Eu vi aluno se cumprimentando.

I saw student SE greeting 'I saw students **greeting themselves/each other**'.

(2) Eu vi aluno que estava se cumprimentando.

I saw student that was SE greeting 'I saw students who were **greeting themselves/*each other**'.

Both examples are built with count bare noun phrases (CBNs, henceforth), which are morphologically unmarked, but semantically number neutral (Schmitt and Munn 1999), being able to be interpreted – depending on the context - as referring to either singular or plural individuals. [Ferreira (2010) shows that the contrast between gerunds and finite relative clauses wrt reciprocal readings is replicated wrt the group-internal readings of *mesmo* 'same' as well as wrt cumulative readings. In the talk, the solution proposed here for reciprocals will be shown to extend to the other data, which are not discussed here for lack of space.] The unavailability of the reciprocal reading in (2) might suggest that in examples of this kind, the CBNs cannot refer to a plurality, but this is disconfirmed by the fact that they can be naturally resumed by plural pronouns: a sentence of the type *Eles pareciam malucos* 'They seemed crazy' is a possible continuation of the reflexive version of (2). In this talk we will be only interested in plurality-referring CBNs. An account of the data in (1)-(2) requires a better understanding of (i) the role of plural morphology in allowing reciprocal readings and (ii) the difference between non finite and finite inflections.

2. The assumptions. The proposal will rely on non-directional Agreement and a constraint on reciprocal readings:

(3) *Non-directional Agreement*

a. Num(ber) features are born valued on both Ns (little n or Det) and Vs (Tense).

b. The features of the external argument and of the verb unify. (by unification, each of the members of an agreement relation is marked with its own features plus the features of the other member).

(4) Reciprocal predications are blocked if V-Tense carries a SG feature.

Arguments in favor of non-directional Agreement can be found in Barlow 1988, Kratzer 2009 and Ackema & Neelman 2013, a.o. Turning now to (4), it goes against the current view, according to which phi-features are interpreted only on DPs (hence, phi-features on V-Tense would need to be deleted before LF). The current view is motivated by the obvious fact that Number features give indications regarding the referents of DPs: plural marking signals plural referents. However, as already observed above, the interpretive contrast exhibited by (2) between reflexive and reciprocal readings cannot be attributed to the denotation of the external argument itself, which refers to a plurality in both cases. The difference between the two readings is a particular case of the difference between distributive and collective readings, which are known to be independent of the referential properties of arguments and instead depend on the denotation of the VP. Therefore, if any morphological marking related to the collective vs distributive distinction exists, it is expected to be interpreted on V-Tense. One may now wonder why a SG feature blocks the distributive (reflexive) rather than the collective (reciprocal) reading. The answer is that distributive readings are obtained by a default application of Link's star operator to atomic/distributive predicates (see Krifka's Lexical Cumulativity Hypothesis). Using the star notation for pluralization and the COLL(ective) subscript to indicate the collective reading, we may distinguish between reflexive and reciprocal readings of SE-verbs as in (5)a-b, both of which are saturated by plurality-referring DPs :

(5) a. $\lambda X. *SE\text{-}greet(X)$

b. $\lambda X. SE\text{-}greet_{COLL}(X)$

This short discussion does not constitute evidence in favor of (4), it merely provides some motivation for it: if the collective vs distributive reading is to be morphologically marked, it will be marked (i) on verbs, and more precisely (ii) on collectively interpreted verbs.

3. Explaining the data. The reciprocal reading of (1) can now be explained by assuming that gerunds are not marked as SG but rather they do not have any Number feature and therefore the constraint in (4) does not apply, hence the possibility of the reciprocal reading (in addition to the reflexive one). Compare the example in (2): *estava* is the exponent of *estar*_{3SGPast}, which violates (4), hence the impossibility of the reciprocal reading. On the other hand, an example like **Eu vi aluno que estavam se cumprimentando*, where *estavam* is the exponent of *estar*_{3PLPast} is ruled out by the agreement rules of BrP (see §4 below).

4. Agreement mismatches. Effects of the constraint in (4) can also be observed in English, e.g., **The mafia hates_{SG} each other*, or in Basque, where the reciprocal reading of a sentence containing a subject of the form *much*-NP (interpreted as ‘many/a lot of NPs’) is blocked if the verb is SG marked (Ettxeberria, U. & R. Etxepare (2012)). These languages nevertheless differ from BrP in that they allow agreement mismatches, i.e., the verb may be morphologically marked as PL despite the SG (or absence of) Number marking of the subject. The crosslinguistic difference can be captured by parametrizing the constraints on the agreement relation:

- (6) a. A PL-marked Number of V-Tense is legitimate only if the Number of the subject DP is also PL-marked (matching languages).
b. A PL-marked exponent of the Number of V-Tense can co-occur with a SG-marked exponent of the Number of the subject DP (mismatching languages).

Due to the PL-valuation of the Number feature of V-Tense, reciprocal readings are allowed in English and Basque despite the SG-valuation of the DP, e.g. *The mafia hate_{PL} each other*.

5. Collective DPs. Ferreira (2010) observed that in the following examples, singular morphology does not rule out reciprocal predications :

- (7) {A criança/ Um grupo de mulheres/ A maioria das mulheres} se abraçou.
{the bunch-of-children/ a group of women/ the majority of women} SE hugged-3sg
`{The (bunch of) children/ Some (group of) women/ Most women} hugged each other'

This type of example can be explained by relaxing the constraint in (4) ((4)’: Reciprocal predications are blocked if V-Tense is marked [SG] and [AT(omic)]) and by assuming that (i) collective nouns carry a semantic COLL feature (see the Index feature of Kathol (1999) and Wechsler and Zlatic (2003) or Sauerland’s (2004) Phi-Head), in addition to their morphosyntactic feature (see Wechsler and Zlatic’s Concord features) valued as SG and (ii) due to unification, the COLL feature of the DP is shared with V-Tense. [Note : **The mafia helps each other* is unacceptable because *mafia* denotes a set of ‘impure atoms’ (Winter 2002) rather than a set of collections/plural entities]. The account sketched here for collective Ns will be shown to extend to kind-referring CBNs : such nominals denote intensional maximal pluralities (obtained by applying Chierchia’s Down operator, an intensional maximality operator, to a pluralized singular noun), and as such they carry a COLL feature, thus making reciprocal predications possible.

Selected References. Ettxeberria & Etxepare 2012. ‘When quantifiers do not agree : Three systems’. *Journal of Portuguese Linguistics*; Ferreira 2010. The Morpho-Semantics of Number in Brazilian Portuguese Bare Singulars, *Journal of Portuguese Linguistics* ; Kathol 1999. Agreement and the syntax-morphology interface in HPSG’, In Levine & Green (eds); Kratzer 2009. Making a pronoun. *LI* 40(2). Sauerland 2004 A Comprehensive Semantics for Agreement; Schmitt & Munn 1999. Against the Nominal Mapping Parameter: Bare nouns in Brazilian Portuguese. *NELS* 29; Wechsler & Zlatic 2003. The Many Faces of Agreement. *CSLI*. Winter 2002. Atoms and sets: A characterization of semantic number. *Linguistic Inquiry* 33.3 (2002): 493-505