SUBSET CONTROLLERS IN AGREEMENT RELATIONS[1]

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1. THE ISSUE

One could imagine that language is organized in such a way that features are realized phonologically where they are interpreted. However, this hypothesis is incorrect. One type of exception has to do with exponence. It is possible for features to be spelled out in linear positions that do not match their position in morpho-syntax (as in the case of *passer-by*; see Sproat 1985; Ackema and Neeleman 2003). In this paper we argue that a second type of exception exists at the LF interface. That is, features can be spelled out in a position that matches their morpho-syntactic position, but interpreted elsewhere. Our argument is based on φ-features in certain agreement relations.

There is a basic asymmetry between arguments and verbs when it comes to the semantics of φ-features. Person, number and gender are notions that bear on the interpretation of arguments, but not on the interpretation of verbs. The question that this phenomenon poses is whether the interpretive asymmetry is reflected in syntax. Many theories of agreement assume that this is indeed the case. The presence of verbal φ-features or feature values is supposed to be dependent, in some way or other, on the presence of identical nominal φ-features or feature values. Chomsky (2000, 2001), for example, argues that φ-features of arguments start out valued, while φ-features of verbs are unvalued initially. They acquire a value through the operation of agreement. Frampton and Gutmann (2000) and Pesetsky and Torrego (2007) propose a subtle adjustment of Chomsky's proposal, suggesting that agreement is an operation of feature sharing. However, they continue to assume that verbal φ-features have no initial value and acquire one through the sharing operation. Like Chomsky's proposal, this alternative is therefore asymmetrical in the sense intended above. Finally, Bobaljik (2007) treats agreement as the copying of φ-features from an argument to a verbal head, suggesting an even sharper syntactic asymmetry than Chomsky: verbal φ-features are not just unvalued initially, but absent.

Other theories of agreement, such as the unification-based theories employed in LFG and HPSG, assume that there is no syntactic asymmetry between nominal and verbal φ-features. We will argue in favour of this alternative view, basing our argument on the phenomenon of what we will call subset controllers. These are arguments that at least at face value are specified for fewer φ-features than the verb that agrees with them. An example involving number is found in Inari Sami, where dual can be expressed in the verb, but not in non-pronominal subjects (pronominal subjects do express the dual):

(1)   a.   Alma-h kuálást-ava onne.   (Inari Sami; Toivonen 2007)
             *man-**PL**.**NOM** fish-3**DU** today*
             'The two men are fishing today.'

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b.   Alma-h kuálást-eh onne.
   *man-**PL**.NOM fish-3.**PL** today*
      'The men are fishing today.'

The problem raised by these data is that a feature appears to be interpreted in a position different from the one in which it is spelled out. If φ-features in the verb are dependent on the presence of identical features in the subject, as in an asymmetric theory, then examples like (1a) must involve a lack of exponence of the relevant features in the subject. However, we will argue that there is no evidence for the syntactic presence of these features in the subject, at least in some cases of subset control. Therefore, asymmetric theories of agreement cannot account for the data.

        We also show that symmetric theories of agreement *can* deal with the existence of subset controllers, because they allow fully specified features to be generated in the verb, independently of the φ-feature specification of the subject. A simple mechanism of feature spreading (which constitutes a particular type of unification) will ensure the feature is interpreted in the right position at LF, but as feature spreading happens in covert syntax, there is nothing remarkable about the lack of exponence in the subject. What we propose, then, is that data like (1) should be captured through 'LF exponence' rather than 'PF exponence'.

        We will formalize our proposal in section 3, but before we do so, we need to introduce a more explicit theory of φ-features based on the idea of feature geometry (section 2). The main evidence for the existence of proper subset controllers will be presented in section 4, where we discuss so-called 'unagreement' in Spanish.

2. Φ-FEATURES

Our starting point is the assumption that φ-features are privative and organised in a feature geometry. When a feature restricts the interpretation of another feature, it is represented as a daughter of that feature. The idea goes back at least to Gazdar and Pullum 1982; a detailed proposal has more recently been developed in Harley and Ritter 2002. For reasons of presentation we will use a simplified version of the geometry proposed by the latter authors. It is given in (2).

(2)
```
                φ
          _____|_____
         /             \
       PAR             PL
        |               |
       ADD             MIN
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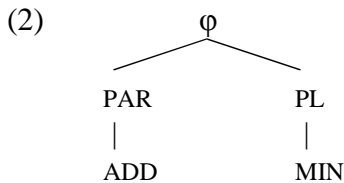
The root of the tree in (2) is occupied by a general feature, [φ], associated with the reference of nominal categories. The interpretation of this feature may be restricted by person, number and gender features (the latter are not considered here). In many languages, the person system can be characterized using two features: [PAR] and [ADD] for 'participant in the speech act' and 'addressee', respectively (see Kerstens 1993, Harley and Ritter 2002, and Ackema and Neeleman 2004). The latter restricts the interpretation of [PAR], and is therefore taken to be dependent on this feature. Two features are enough to characterize the number systems of most languages, namely [PL]

and [MIN] for 'plural' and 'minimal', respectively (to cover all possible number systems, the geometry has to be slightly more complex; see Harley and Ritter 2002). The [MIN] feature restricts [PL], giving rise to a dual interpretation (two is the minimal number larger than one). Consequently, [MIN] is dominated by [PL]. A system with three persons and singular, plural and dual can thus be analyzed as follows:

(3)

	1ST	2ND	3RD
SG	a. φ │ PAR	b. φ │ PAR │ ADD	c. φ
PL	d. φ ╱╲ PAR　PL	e. φ ╱╲ PAR　PL │ ADD	f. φ │ PL
DU	g. φ ╱╲ PAR　PL │ MIN	h. φ ╱╲ PAR　PL │　│ ADD　MIN	i. φ │ PL │ MIN

The interpretation of the various objects in (3) is partially determined by the principle that the default interpretation of the absence of a feature is the negation of that feature. This default interpretation may be the only one available where the Elsewhere Principle applies (compare Kiparsky 1973). We formulate this principle below. The notion of rule used in (4) should be interpreted very generally as any potential grammatical operation or combination of operations (see Neeleman and Szendrői 2007).

(4)   *Elsewhere Principle:* Let R_1 and R_2 be competing rules that have D_1 and D_2 as their respective domains of application. If D_1 is a proper subset of D_2, then R_1 blocks the application of R_2 in D_1.

We can summarize the effects of this principle, as far as relevant here, in the following way. Given a target interpretation of a sentence and a variety of possible feature specifications of the categories in that sentence, the richest feature specification that leads to a grammatical result must be chosen. The effect of this is that as much as possible of the target interpretation will be signalled overtly (through spell-out of the relevant features). Thus, the Elsewhere Principle guarantees a maximally informative PF.

　　For example, if the interpretation of a pronoun is meant to be second person singular, either (3a), (3b) or (3c) could be inserted in principle. This is because the information encoded in any of these geometries is compatible with the targeted interpretation: the second person singular is in fact a participant in the speech act (compare (3a)), as well as the kind of thing to which a noun can refer (compare (3c)). However, as it is possible to insert (3b), insertion of the less highly specified objects in

(3a) and (3c) is blocked by the Elsewhere Principle. Thus, under these circumstances (3a) and (3c) cannot receive the same interpretation as (3b).

Where the Elsewhere Principle does not apply, because no more highly specified competing form is available, the default interpretation can easily be overruled (so that the absence of a feature is no longer interpreted as negation of that feature). English *you* provides an example. This form is presumably specified as in (3b). However, the absence of a plural counterpart (a form corresponding to (3e)) means that the absence of a number feature no longer inhibits a plural interpretation. (If a language has a second person plural pronoun, the Elsewhere Principle blocks plural usage of its less specified counterpart.)

Similarly, the data in (1) can be understood if [MIN] is not a feature that can be generated on non-pronominal arguments in Inari Sami. Therefore, the default reading associated with the absence of [MIN] will not be the only one available for non-pronominal arguments. Whereas a pronoun specified as (3f) will be interpreted as a non-dual plural (because there is an alternative pronoun specified as (3i) for the dual), a non-pronominal argument specified as (3f) will in principle be ambiguous between a dual and a regular plural interpretation (because there is no alternative specified as (3i)). (For a fuller analysis of Inari Sami based on very similar ideas, see Toivonen 2007.)

As Harley and Ritter point out, one of the advantages of a feature-geometric analysis of φ-features is that it can explain certain linguistic universals. For example, Greenberg (1963:94) suggests that there is no language in which the plural does not have some non-zero allomorphs, whereas there are (many) languages in which the singular remains unexpressed. This follows if plural is represented by a feature [PL], while singular corresponds to the absence of this feature. After all, absence of a feature is not the kind of thing affixes tend to mark. Greenberg further suggests that no language has a dual unless it has a plural. This follows because [MIN] is a feature that restricts the interpretation of [PL]. Therefore, if a language lacks [PL] it cannot have [MIN].

Feature geometric representations of φ-features can also capture patterns of agreement found in individual languages. In Jingulu, for example, subjects may be indexed in the verb through several agreement endings. The variation is governed by the hierarchy in (5a): there may be full agreement, or an ending may be replaced by any ending to its left on the hierarchy (Pensalfini 2003:173-174, as quoted in Corbett 2006).

(5) a. singular < plural < dual
     b. Nyama-baji imimikin-bili-rni-rni ardalakbi-wurru-ju.   (PL instead of DU)
         *DEM-PL old.woman-ANIM.**DU**-F-ERG hot-3**PL**-do*
         'The two old women feel hot.'
     c. Kunyirrirni dij bila-nya-mi kandirri!   (SG instead of DU)
         *2**DU**.ERG PRV divide-2**SG**-IRR bread*
         'You two cut up the bread.'
     d. Nginda-rni ngaja-mi jurliji-rdarra diyim ka-rdu.   (SG instead of PL)
         *DEM(M)-FOC see-IRR bird-**PL** fly 3**SG**-go*
         'Look at all the birds flying.'

The Jingulu data can be explained in terms of impoverishment (post-syntactic feature deletion; see Williams 1981, Bonet 1991, 1995, among others). We assume that Jingulu always has full agreement in the syntax and that impoverishment optionally affects

number features. The geometry in (2) then captures the variation illustrated in (5): deletion of [MIN] in (3g,h,i) yields (3d,e,f), whereas deletion of [PL] in (3d,e,f) yields (3a,b,c). It also explains why it is not possible for an ending to be replaced by an ending to its right in the hierarchy in (5a). How this pattern could be captured in a system that treats singular, plural and dual as values of a number feature is far from obvious.

As we will now argue, the notion of φ-feature geometry, in combination with a symmetric theory of agreement, gives us a handle on the analysis of subset controllers.

3. PROPOSAL

3.1 Regular Agreement as Feature Identification

The theory of agreement we adopt is symmetrical: φ-features are generated on the verb independently of the φ-features of the argument. The theory of feature checking in Chomsky 1993 is a recent precursor of this idea. The implementation we adopt is based on the Elsewhere Principle, in combination with the three assumptions in (6), (7) and (8) below. The first of these states that at LF each occurrence of a φ-feature must be licensed. Licensing is not the same as interpretation, as not every φ-feature has semantic import. For example, French *table* 'table' is a feminine noun, but it is not feminine in its interpretation. The condition must therefore accommodate φ-features inherent in nouns:

(6)   *Φ-feature licensing:* At LF, each φ-feature F must be licensed in each position L with which it is associated. F is licensed in L iff (i) F is inherent in L's lexical specification, or (ii) F receives a semantic interpretation in L.

Φ-features can be licensed in nominal, but not verbal, locations.[2] This implies that any verbal φ-feature poses a potential problem that must be dealt with before the derivation reaches LF. The solution consists of two operations.

As a first step, the verbal φ-feature is identified with a nominal φ-feature (this process is our version of the rule of agreement; compare Brody 1997). Our analysis of identification is based on the insights of autosegmental phonology (see Williams 1976 and Goldsmith 1976, among others). In autosegmental phonology, phonemes are not unstructured feature bundles, but their features are organised in a hierarchy, just like the φ-features in (3). Crucially, dependent features are represented on a separate tier, and can spread from one segment to another (leading to multiple association) or be reassociated with different segments after deletion of their initial segmental host.

We borrow the idea of separate tiers for dependent features and apply it to φ-feature geometries. Thus, the root nodes of the various feature geometries in the syntactic representation mark positions comparable to the segmental positions in phonology. The dependent person, number and gender features are represented on separate tiers and can be associated with a φ-node on the 'segmental' tier. If agreement is identification of φ-features, the most transparent representation of this relation is one in which the single φ-feature that results from identification is associated with two φ-nodes, as in (7). This rule is of course a version of unification: the feature specification of one φ-node is unified with the feature specification of another φ-node. The output representation in (7) parallels the representation of harmony phenomena in autosegmental phonology.

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[2] Possible exceptions are cases of what Corbett 2006 calls 'verbal number'. These are irrelevant to our argumentation, as verbal number does not seem to partake in agreement relations.

(7)   *Φ-feature identification*
       $[_{DP} \varphi] \dots [_v \varphi] \rightarrow [_{DP} \varphi] \dots [_v \varphi]$

           | | \ /
           F   F   F

Subsequent to identification, a rule of deletion must apply that removes φ-features from the verb, where they are in danger of violating (6). This rule targets φ-nodes on the 'segmental' tier:

(8)   *φ-node deletion*
       $\varphi \rightarrow \emptyset$

This simple formulation of the rule suffices. There is no need to add a structural description that limits deletion of φ-nodes to agreeing verbs. If the φ-node of the verb is deleted while that of the subject is spared, as in (9a), an LF is generated that can be interpreted. However, if the φ-node of the subject is deleted, a representation results that violates (6) (see (9b)). If both φ-nodes are deleted, as in (9c), we are left with a feature F not associated with any φ-node. It is a standard assumption in autosegmental phonology that the grammar does not allow such floating features. In fact, this assumption also prevents φ-node deletion in the absence of agreement. In (9d), the feature associated with the verb is left floating after the verb's φ-node has been deleted.

(9)   a. $[_{DP} \varphi] \dots [_v \varphi] \rightarrow [_{DP} \varphi] \dots [_v \emptyset]$

                    \ / |
                     F   F

       b. $*[_{DP} \varphi] \dots [_v \varphi] \rightarrow [_{DP} \emptyset] \dots [_v \varphi]$

                     \ / |
                      F   F

       c. $*[_{DP} \varphi] \dots [_v \varphi] \rightarrow [_{DP} \emptyset] \dots [_v \emptyset]$

                     \ /
                      F   F

       d. $*[_{DP} \varphi] \dots [_v \varphi] \rightarrow [_{DP} \varphi] \dots [_v \emptyset]$

                    | | | |
                    F   F   F   F

In sum, in order to avoid violations of (6), it is necessary to delete the φ-node in the verb prior to semantic interpretation. But such deletion is only possible if the φ-features in the verb are identified with those in the subject.

      We assume that both φ-feature identification and φ-node deletion operate in the LF branch of the grammar. This means they do not affect the phonological realization of the categories they apply to. If they did, no language could show overt verbal agreement.

      The proposal can be illustrated using the following Dutch examples:

(10) a.   Zij lopen.   b.   *Hij lopen.   c.   *Zij loopt.
           they walk-PL   *he walk-PL*   *they walk-3SG*
           'They walk.'   'He walks.'   'They walk.'

The example in (10a) satisfies the condition on φ-feature licensing after application of feature identification, leading to (11a), and φ-node deletion in the verb, leading to (11b).

(11) a.   [DP φ] ... [v φ]   b.   [DP φ] ... [v Ø]
              \   / |
               PL   PL

In (10b), the verb is specified as plural, while the subject is singular (in form and interpretation). This means that [PL] is associated with the verb, but not with the subject, as in (12a). This representation violates the condition on φ-feature licensing and it cannot be rescued by Φ-node deletion in the verb, as this results in a floating feature (see (12b)).

(12) a.   *[DP φ] ... [v φ]   b.   *[DP φ] ... [v Ø]
                      |
                      PL   PL

Finally, (10c) is ruled out by the Elsewhere Principle. Its representation, (13a), is grammatical in principle: φ-node deletion in the verb results in a representation identical to (11b). However, the φ-feature specification of the verb is not the richest that could have been selected given the target interpretation. That is one in which the verb also has a [PL] feature, licensed through feature identification, as in (11a). Therefore, the Elsewhere Principle rules out the use of a less specified verb.

(13) a.   [DP φ] ... [v φ]   b.   [DP φ] ... [v Ø]
                   | |
                   PL   PL

In sum, asymmetric and symmetric theories of agreement can both capture the 'normal' situation: a full match between the φ-features of the verb and the subject. We will argue, however, that symmetric theories are better placed to deal with subset controllers.

3.2 Subset Control as Feature Spreading
As mentioned in the introduction, we use the term 'subset controller' to refer to situations in which the agreeing argument expresses fewer φ-features than the verb:

(14)   [DP φ] ... [v φ]
                  |
                  F

As noted, asymmetric theories of agreement cannot be reconciled with representations like (14). This is because they are based on the assumption that φ-features in the verb reflect the presence of identical φ-features in the agreeing argument. In (14) there would

7

be no source for the feature present in the verb, but absent in the argument. So, if there are genuine subset controllers, this disqualifies asymmetric theories of agreement.

In contrast, a theory of agreement that does not adopt a morphosyntactic asymmetry between controller and target is better placed to deal with subset controllers, provided we adopt the φ-feature geometry in (2) and the hypothesis that dependent φ-features are placed on a separate tier. The analysis can then be modelled on the way tonal spread and related phenomena are dealt with in autosegmental phonology. Such spreading involves association of a feature anchored in one segment with other segments. In some cases, the segment with which a particular tonal feature was initially associated is deleted.

Suppose the same can happen with dependent φ-features. In addition to regular feature identification, as in (7), we can allow feature spreading, as in (15).

(15)   *Φ-feature spreading*
        $[_{DP} \varphi] ... [_{V} \varphi] \rightarrow [_{DP} \varphi] ... [_{V} \varphi]$
                   | \   /
                   F   F

The output of feature spreading is identical to the output of feature identification. Therefore, φ-node deletion in the verb results in the same well-formed LF, the one in (16), where F has the subject as its sole location.

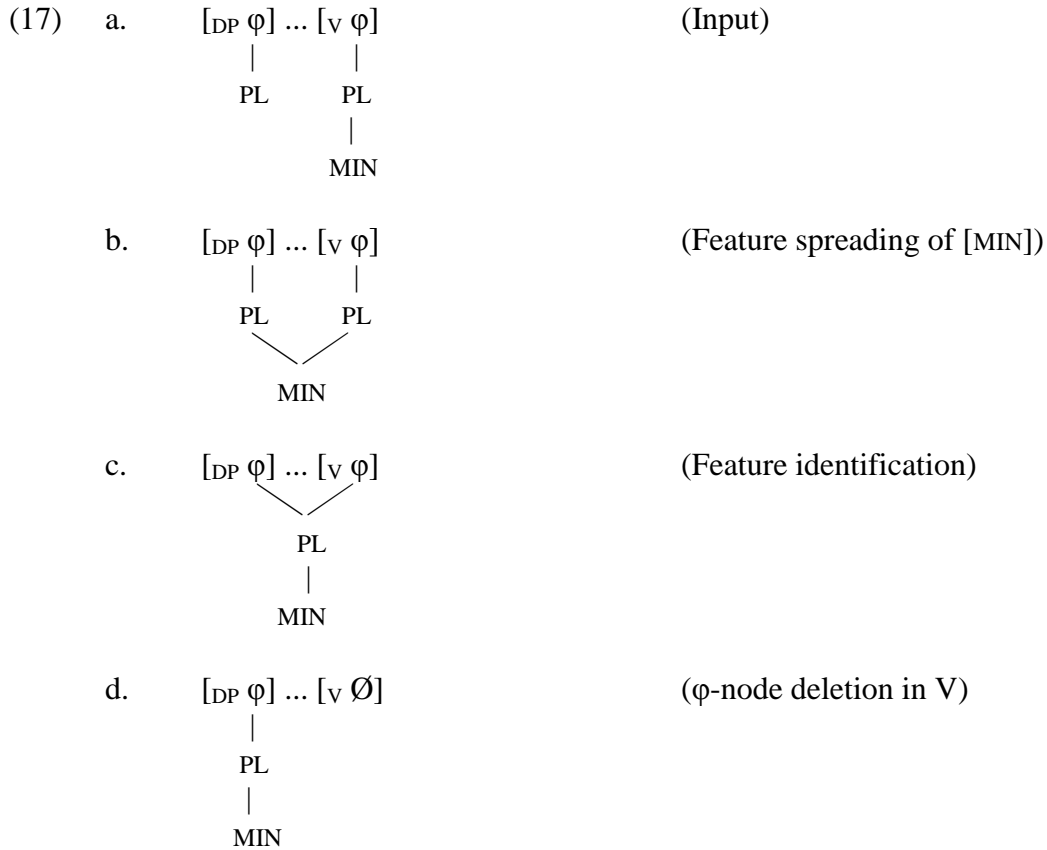(16) $[_{DP} \varphi] ... [_{V} \varnothing]$
              |
              F

There is a clear affinity between φ-feature identification and φ-feature spreading on the one hand and the process of feature set unification used in theories like HPSG and LFG. In both (7) and (15), the feature specification of one φ-node is unified with the feature specification of another φ-node. We will keep φ-feature identification and φ-feature spreading separate, however, because the fact that a language has φ-feature identification (agreement) does not imply that it also allows φ-feature spreading (subset controllers).

Recall that operations like φ-feature spreading and φ-node deletion take place on the LF-branch of the grammar, and therefore cannot have an effect on the spell-out of either the verb or the subject. Although the input for interpretation, after feature spreading and φ-node deletion, is (16), the input for spell-out is the structure in (14).

For an example of how this works, we return to the Inari Sami data in (1), assuming for the sake of the argument that our description in terms of subset controllers is correct. Two questions need to be addressed. First, how can we capture the interpretive effect of the verbal inflection in (1a)? Second, how can the distribution of subset controllers be restricted in the right way? In particular, we need to rule out subset control involving pronominal subjects.

The dual form of the verb has a feature [MIN] that is dependent on [PL] according to the feature geometry in (2). The presence of [MIN] expresses that the plural is minimal. On the view adopted here, [MIN] is represented on a separate tier. If the subject is a non-pronominal DP, its feature specification will not contain [MIN] (note that there are no dual

forms for non-pronominal DPs). If there is indeed such an asymmetry between verb and subject in (1a), agreement must take the form of feature spreading, followed by feature identification, as schematized in (17b,c).

(17) a. $[_{DP}\ \varphi]$ ... $[_V\ \varphi]$ (Input)
            | |
           PL   PL
                     |
                   MIN

      b. $[_{DP}\ \varphi]$ ... $[_V\ \varphi]$ (Feature spreading of [MIN])
            | |
           PL   PL
              \   /
               MIN

      c. $[_{DP}\ \varphi]$ ... $[_V\ \varphi]$ (Feature identification)
              \   /
               PL
                |
               MIN

      d. $[_{DP}\ \varphi]$ ... $[_V\ \varnothing]$ (φ-node deletion in V)
            |
           PL
            |
           MIN

The representation in (17d), which is derived by φ-node deletion, is input to interpretation, with the desired outcome that the subject is interpreted as a dual.

Note that the class of interpretive effects that can result from feature spreading is quite limited. This is because the interpretation acquired by a DP must be one independently admitted by its original feature specification. As explained in section 2, the absence of a dependent feature in principle allows a range of interpretations including the one encoded by the presence of that feature. This latter interpretation is only blocked if a paradigmatically related form is available that encodes the relevant feature. Therefore, the interpretive effect of the agreement pattern is one of selection rather than imposition.

Consider again (1a). A subject specified as [PL] admits any plural reading. This includes a dual reading, unless there is a competing form that encodes dual. But as we have seen, this is not the case for non-pronominal DPs in Inari Sami. Thus, the effect of feature spreading is that a more specific dual reading is selected for the subject. Notice that the opposite situation cannot exist. There cannot be a language in which subjects that are marked as dual take on a general plural interpretation through the use of a general plural agreeing verb. The mechanism of feature spreading simply cannot remove the [MIN] feature from the subject. Thus, we make the following general prediction:

(18)   If an agreement mismatch has semantic effects, these must always be towards a more specific interpretation of the controller.

Our proposal also explains why subset control is not available for pronominal subjects in Inari Sami. As already mentioned, pronouns in this language differ from non-pronominal arguments in that they can express dual. The Elsewhere Principle therefore blocks the use of a regular plural pronoun if the target interpretation is dual. Similarly, the Dutch example in (10b) is ruled out not only on an interpretation as 'he walks' (as discussed above), but also on an interpretation as 'they walk'. This second reading is not available, because the Elsewhere Principle dictates that the plural pronoun *zij* 'they' be used. In general, the Elsewhere Principle has the following consequence:

(19)   If F* can be generated on both the controller and the target, giving rise to interpretation I, then generation of F* on the target only must give rise to an interpretation distinct from I. If such an interpretation is not available, the structure is ruled out as semantically incoherent.

Our proposal makes two further predictions. We assume that the agreeing DP in relations of subset control is genuinely poorer in syntactic feature content than the verbal head it agrees with. We therefore do not expect agreement phenomena internally to the DP that reflect the relevant verbal feature:

(20)   If F* is generated on the target only, agreement within the controller will not be for F*.

Finally, we predict that subset control must always have an interpretive effect. As already mentioned, φ-features need not be interpreted if inherent in a noun (see (6)). However, in the case of subset controllers, the extra feature present in the agreeing head cannot be licensed in this way. This implies that the feature in question must have semantic import, giving rise to 'semantic agreement':

(21)   If F* is generated on the target only, it must be interpreted.

This interpretive effect is of course a core observation about examples like (1a).

Our argument for a symmetric theory of agreement only holds water if genuine examples of subset controllers can be found. Proponents of the idea that the presence of φ-features in the verb must reflect identical φ-features in the noun phrase must argue that the proposed analysis of (1) is incorrect. There are two ways in which such an argument can be developed. First, one may hypothesize that non-pronominal subjects can be specified for dual after all, but that this is not expressed morpho-phonologically, either as a result of impoverishment or because there simply is no affix expressing dual that can be attached to nonpronominal nouns. We will call this type of approach, schematized in (22a), a hidden-feature analysis. Second, one may hypothesize that the apparent subject is a dislocated or appositional category, while the real subject is a covert pronoun that fully agrees with the verb. We call this kind of approach, schematized in (22b,c), a hidden-subject analysis.

10

(22) a. $[_{IP}$ $[_{DP}$ PL, MIN] $[_{VP}$ ... $[_V$ PL, MIN] ...] $\rightarrow$ (feature 'hidden'
        $[_{IP}$ $[_{DP}$ PL] $[_{VP}$ ... $[_V$ PL, MIN] ...]   by impoverishment)
     b. $[_{DP}$ PL$]_1$ $[_{IP}$ $[_{pro}$ PL, MIN$]_1$ $[_{VP}$ ... $[_V$ PL, MIN] ...]   (hidden subject,
                                                        dislocation of visible DP)
     c. $[_{IP}$ $[[_{pro}$ PL, MIN] $[_{DP}$ PL]] $[_{VP}$ ... $[_V$ PL, MIN] ...]   (hidden subject,
                                                        apposition of visible DP)

We are not confident that a hidden-feature analysis or a hidden-subject analysis of the Inari Sami data can be excluded. However, there are examples of subset controllers that do not lend themselves to either analysis, as we will argue in the next section.

4. SPANISH 'UNAGREEMENT'

A strong case can be made for the existence of subset controllers in Spanish. In this language, third person subjects may appear with verbs that carry first or second person plural agreement. This phenomenon has been widely discussed and goes by the name of 'unagreement' (see Hurtado 1985 and Jaeggli 1986, among others). It comes in two flavours: the third person subject may be a regular R-expression, as in (23) (from Corbett 2006:132), or a quantifier, as in (24) (compare Moravcsik 1978:351; see also Rivero 2008). We refer to the two sub-types of unagreement as referential and quantitative.

(23) a. ¡Qué desgraciad-as somos las mujer-es!
          how unfortunate-F.PL be.1PL DEF.F.PL women(F)-PL
          'How unfortunate we women are!'
     b. ¡Qué desgraciad-as sois las mujer-es!
          how unfortunate-F.PL be.2PL DEF.F.PL women(F)-PL
          'How unfortunate you women are!'

(24) a. Cada alumno hablamos differente.
          each student speak-1PL differently
          'Each of us students speaks differently.'
     b. Cada alumno habláis differente.
          each student speak-2PL differently
          'Each of you students speaks differently.'

As indicated by the translations, the interpretive effects of referential and quantitative unagreement are different. This difference corresponds to the two ways in which φ-features can be interpreted. They may restrict the reference of a DP, as in the case of coreferential pronouns. Alternatively, they can act as a restriction on a variable, as in the case of pronouns bound by a quantifier (see Heim and Kratzer 1998). The former mode of interpretation is relevant to referential unagreement, while the latter applies to quantitative unagreement. We discuss them in turn.

4.1 Referential Unagreement: Analysis and Predictions

If we take the data in (23) at face value, it appears that the verbal head contains a richer constellation of φ-features than the subject. In particular, the verb contains a 'surplus' person specification ([PAR] in (23a) and [PAR, ADD] in (23b)):

(25)

	Subject *(third person plural)*	Agreeing head *(first/second person plural)*
	φ | PL	φ ╱╲ PAR PL | (ADD)

If so, the interpretive effect in (23) comes about through feature spreading (see section 3.2). Below, we give the derivation that connects the input in (25) to the relevant LF representation (we represent [PL] in (26c) above the φ-tier to keep things visually clear.)

(26) a.   [DP φ] ... [V φ]   (Input)
            | ╱╲
          PL   PAR   PL
                  |
               (ADD)

     b.   [DP φ] ... [V φ]   (Feature spreading of [PAR (ADD)])
            ╱╲   ╱╲
          PL   PAR   PL
                  |
               (ADD)

     c.   PL   (Feature identification)
              ╱ ╲
          [DP φ] ... [V φ]
              ╲ ╱
               PAR
                |
             (ADD)

     b.   [DP φ] ... [V Ø]   (φ-node deletion in V)
            ╱╲
         PAR   PL
           |
         (ADD)

Our analysis predicts that feature spreading leads to a narrowing down of the possible readings of the controller, rather than that it imposes a reading on the subject that it could not have otherwise (see (18)). This is correct for the case at hand. A third person plural DP can refer to a set of individuals that includes speaker or hearer. Thus, while *the Dutch* in (27a) is most naturally taken to exclude speaker and hearer, the possibility of coreference in (27b) and (27c) implies that *the Dutch* may have a reference comparable to 'we the Dutch' or 'you the Dutch'.

(27) a.   Anyone who knows <u>the Dutch</u> realizes <u>they</u> no longer wear wooden shoes.
      b.   Anyone who knows <u>the Dutch</u> realizes <u>we</u> no longer wear wooden shoes.
      c.   Anyone who knows <u>the Dutch</u> realizes <u>you</u> no longer wear wooden shoes.

These interpretational possibilities follow from the feature geometry in (2)/(3). An R-expression like *the Dutch* receives a third person interpretation by default, because it lacks the features [PAR] or [ADD]. However, given that R-expressions do not have counterparts that do encode [PAR] or [ADD], the Elsewhere Principle does not block non-default readings in contexts like (27b,c). The interpretive effects of agreement in (23) now follow. The default third-person interpretation of the subject is no longer available after feature spreading. Instead, the subject receives a first-person or second-person plural interpretation: its reference must include the speaker or the addressee ('we/you women').

    Conversely, our account predicts that unagreement cannot occur if the subject does not allow non-default first or second person interpretations to begin with. One such case is that of coordinated singular R-expressions. A singular R-expression cannot normally be used to refer to the speaker or the hearer. This has the consequence that (28b) and (28c) are ungrammatical. Given that neither Jan nor Piet can be understood to be the speaker or the hearer, and given that these individuals make up the plural referent of the coordinate structure, it is impossible to refer back to that plural referent using a first- or second-person plural pronoun. In line with this, unagreement is impossible when the subject consists of coordinated singular R-expressions (see (29)).

(28) a.   Anyone who knows <u>Jan and Piet</u> realizes <u>they</u> no longerwear wooden shoes.
      b.   *Anyone who knows <u>Jan and Piet</u> realizes <u>we</u> no longer wear wooden shoes.
      c.   *Anyone who knows <u>Jan and Piet</u> realizes <u>you</u> no longer wear wooden shoes.

(29) a.   *¡Qué desgraciad-as somos Juanita y Carmen!
              how unfortunate-F.PL be.1PL Juanita and Carmen
              'How unfortunate we, Juanita and Carmen, are!'
      b.   *¡Qué desgraciad-as sois Juanita y Carmen!
              how unfortunate-F.PL be.2PL Juanita y Carmen
              'How unfortunate you, Juanita and Carmen, are!'

Non-default first- or second-person plural readings can also be blocked by the Elsewhere Principle, namely in the case of third-person plural pronouns. These cannot receive such readings, as shown in (30), because of the availability of other pronouns that specifically encode them (first- and second-person plural pronouns)

(30) a.   Anyone who knows <u>them</u> realizes <u>they</u> no longer wear wooden shoes.
      b.   *Anyone who knows <u>them</u> realizes <u>we</u> no longer wear wooden shoes.
      c.   *Anyone who knows <u>them</u> realizes <u>you</u> no longer wear wooden shoes.

Therefore, unagreement with pronominal subjects should be impossible. This is correct. If the verb carries first-person plural inflection, the only permissible pronominal subject is *nosotras* 'we'. It is impossible to insert a less specified pronoun and use unagreement to force a first-person plural interpretation (see (31a)). The same is true, mutatis mutandis, for verbs inflected for second-person plural (see (31b)).

13

(31)   a.   ¡Qué desgraciad-as somos nosotras/*yo/*ellas/*ella!
             how unfortunate-F.PL be.1PL we/I/they/she
             'How unfortunate we (women) are!'
        b.   ¡Qué desgraciad-as sois vosotras/*nosotras/*tú/*ellas/*ella!
             how unfortunate-F.PL be.2PL you.PL/we.PL/you.SG/they/she
             'How unfortunate you (women) are!'

Thus, the data in (29) and (31) confirm the prediction in (19). A further aspect of this prediction is that it should be impossible for the subject in cases of Spanish referential unagreement to be singular. After all, plural can be expressed on R-expressions just as well as on pronouns. This blocks the examples in (32).

(32)   a.   *¡Qué desgraciad-as somos la mujer!
             how unfortunate-F.PL be.1PL DEF.F woman(F)
             'How unfortunate we women are!'
        b.   *¡Qué desgraciad-as sois la mujer!
             how unfortunate-F.PL be.2PL DEF.F woman(F)
             'How unfortunate you women are!'

The examples in (23) differ from those in (31) and (32) in that the φ-features expressed exclusively in the verb are not possible features of R-expressions. Therefore, there are no more highly specified forms of the subjects in (23) that could block unagreement.

Referential unagreement has three further properties predicted by our analysis. First, as stated in (18), the semantic effects of agreement mismatches must always be towards a more specific interpretation of the controller. This is because agreement mismatches result from the interpretation of an additional feature in the verb with respect to the subject, whereas less specific interpretations require the *absence* of features. The absence of a feature in the verb cannot cancel the interpretation of features present in the subject. Thus, a third-person verb cannot impose a third-person interpretation on a first or second person subject. Neither can first-person verbs impose a first-person interpretation on a second person subject. The data are in line with this:[3]

(33)   a.   *¡Qué desgraciad-as son nosotras/vosotras!
             how unfortunate-F.PL be.3PL we/you.PL
             'How unfortunate they (women) are!'
        b.   *¡Qué desgraciad-as somos vosotras!
             how unfortunate-F.PL be.1PL you.PL
             'How unfortunate we (women) are!'

Second, there should be no evidence internally to the subject for the presence of [PAR] or [PAR, ADD]. Indeed, although Spanish has DP-internal gender and number agreement,

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[3] The contrast between (23) and (33) follows from the feature geometry in (2)/(3). In theories that treat first, second and third person as independent features, it remains unclear why first- and second-person features in the verb can overrule a third-person feature on the subject, while a third-person feature in the verb cannot overrule first- and second-person features in the subject.

material within the controller is never inflected for person, not even in cases of unagreement. This casts doubt on what we have called a hidden-feature analysis, as such an analysis has to assume the presence of person features in the subjects in (23).

Third, referential unagreement should be 'semantic agreement': it must always involve a feature that is interpreted, rather than licensed by being inherent in the subject (compare (6) and (21)). This is the case in Spanish. The language has many nouns with an inherent gender feature, as well as some *plurale tantum* nouns, which have an inherent number feature. However, there are no nouns that trigger first or second person agreement obligatorily. This means that apparently no regular noun has an inherent specification for first or second person. In a hidden feature analysis, it remains somewhat mysterious why these person features could not be inherent (and therefore semantically void) in at least some nouns.

4.2 A First Alternative: Dislocation

We now turn to alternative analyses of referential unagreement that maintain the standard view of agreement as syntactically asymmetric (verbal φ-features somehow depend on matching features in the subject). As discussed, such analyses come in two types: they involve hidden features present in the subject or hidden subjects. In the latter case, the apparent subject is assumed not to be the subject at all. It is either claimed to be in dislocation (or some other type of non-argument position; compare Hurtado 1985)), or taken to be adjoined to the null pronominal subject, parallel to apposition in examples like *we the boys* (compare Suñer 1988).[4]

For reasons outlined above, the hidden-feature analysis appears to be a non-starter, at least for Spanish referential unagreement. The hidden-subject analysis, however, seems more promising, given that Spanish allows empty subjects in general. Moreover, as argued by Barbosa (1996, 2000), Alexiadou and Anagnostoupoulou (1998) and Ordoñez and Treviño (1999), apparent preverbal subjects in pro-drop languages may be in dislocation, rather than occupy a true argument position. The subject position could then be occupied by a silent pronoun. Thus, the kind of structure required by the hidden-subject analysis has been argued to be available independently.

Nonetheless, the success of a hidden-subject analysis depends on the extent to which the properties of unagreement are compatible with the syntax of null subjects and the syntax of dislocation or apposition. Our assessment is that it is not. We begin by discussing the analysis of unagreement in which the apparent subject occupies a dislocated position, while clause-internally the subject position is occupied by a null pronoun that agrees with the verb in the standard way (compare Olarrea 1996).

An immediate problem for this analysis is that the distribution of unagreeing subjects matches that of regular subjects. For example, Torrego (1996) points out that they need not appear in a peripheral position, but may also occur sandwiched between the verb and an object (see (34); translation slightly adjusted). Even theories that take

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[4] Some proposals treat verbal inflection as the subject (see Ackema et al. 2006 and references mentioned there). That is, the agreement morpheme is seen as the category that receives the verb's external theta-role. We abstract away from such proposals, because they do not bear on the agreement *relation*. If anything, they fit in better with symmetric theories, as pro drop can then be seen as the most extreme case of feature spreading: the agreeing category receives its entire feature content from the verb. An asymmetric theory must assume six distinct *pro*s, each with a full feature specification.

preverbal subjects to be in dislocation recognize this position as a regular argument position.

(34)   Firmamos los lingüistas la carta
        signed-1PL the linguists the letter
        'We linguists signed the letter.'

Moreover, the dislocation analysis only shifts the problem, because in other dislocation structures the sentence-internal pronoun and the associated dislocated category must have matching φ-features. This is of course best illustrated in languages that lack pro drop. In Dutch, for example, there is a strict requirement of feature matching between pronoun and dislocated element:

(35)   a.   De jongens, ze zijn aan elkaar gewaagd.
                the boys, they are to each other weighed
                'The boys, they are well matched.'
        b.   *De jongens, we zijn aan elkaar gewaagd.
                the boys, we are to each other weighed
        c.   *De jongens, jullie zijn aan elkaar gewaagd
                the boys, you are to each other weighed

Assuming that apparent subjects in unagreement structures are in dislocation thus begs the question why no feature matching is necessary between the hypothesized null subject and the dislocated category associated with it.

One way out would be to assume that Spanish has an additional type of construction in which a null subject pronoun is doubled by a full DP. This hypothetical construction, which we will call 'low dislocation', must be distinguished from both hanging-topic left dislocation and clitic left dislocation in two respects. First, it should not require feature matching. Second, the category associated with the null pronoun should appear clause-internally, rather than in a peripheral position.

This may appear ad hoc, but clitic doubling constructions could provide some independent evidence for low dislocation. Clitic doubling is attested with certain types of objects in Spanish. In these cases, the object behaves as if it is clause-internal. Moreover, mismatches between the φ-features of the clitic and its double can be observed, parallel to those found with subjects and unagreeing verbs:

(36)   a.   Nos denunciaron a las mujeres   (Hurtado 1985:201)
                us denounced-3PL to the women
                'They denounced us women.'
        b.   Vos denunciaron a las mujeres
                you.ACC denounced-3PL to the women
                'They denounced you women.'

Thus, clitic doubling and unagreement with subjects could be grouped together as cases of low dislocation: both structures would involve a pronominal argument (silent in the

case of subjects), doubled by a DP in an A'-position internally to the clause (compare the analysis of clitic doubling in Kayne 1975.)

Although there is a parallel between the two structures, we do not think that an analysis in terms of low dislocation is feasible. Clitic doubling is usually no longer taken to involve a pronominal argument coindexed with a DP in A'-position, partly because the relevant DP behaves like a regular object in certain respects. Instead, it is regarded as a case of agreement between a DP-argument and a functional category (the clitic) generated either within the verbal extended projection (Sportiche 1998) or within the nominal extended projection (Uriagereka 1995, Papangeli 2000 and Kayne 2002).

However, if clitic doubling involves agreement rather than low dislocation, all we can conclude from the Spanish data in (36) is that the problem of unagreement extends to those cases of object agreement (or DP-internal agreement if the clitic starts out DP-internally) that are attested in Spanish. The problem remains one of lack of feature matching between otherwise agreeing categories.

4.3 A Second Alternative: Apposition

There is a second incarnation of the hidden-subject analysis for referential unagreement. The apparent subject could be assumed to be in apposition with a null pronominal subject specified for all features relevant to verbal agreement (Suñer suggests a related analysis for quantificational unagreement; see below). Thus, (37a) would have a structure much like its English translation in (37b), except that the pronoun is not spelled out.

(37)   a.   ¡Qué desgraciad-as somos [DP [DP *pro*] [DP las mujer-es]]!
                how unfortunate-F.PL be.1PL DEF.F.PL women(F)-PL
        b.   How unfortunate [DP [DP we] [DP women]] are!

Notice that overt apposition in Spanish is allowed in the relevant contexts. Therefore the examples in (23) could be related to the structures in (38) through pro drop.

(38)   a.   ¡Qué desgraciad-as somos nosotras las mujer-es!
                how unfortunate-F.PL be.1PL we DEF.F.PL women(F)-PL
                'How unfortunate we women are!'
        b.   ¡Qué desgraciad-as sois vosotras las mujer-es!
                how unfortunate-F.PL be.2PL DEF.F.PL women(F)-PL
                'How unfortunate you women are!'

This version of the hidden-subject analysis has two obvious advantages. First, the semantics of referential unagreement is similar, if not identical, to that of close apposition. Second, apposition does not require feature matching for person between the argument and the category adjoined to it. Examples like *we the people*, *you boys*, and so on, are unobjectionable. This means that the analysis may provide a genuine way of reconciling referential unagreement with standard views of agreement.

Nonetheless, the analysis faces a serious difficulty, which has to do with the distinction between weak and strong pronouns (see Cardinaletti and Starke 1996 for an overview). Weak pronouns differ from strong pronouns in their syntactic distribution, their prosody and their interpretation. The distinction is relevant here because apposition

is only possible with strong pronouns. In Dutch, for example, there is a formal opposition between the strong first-person plural pronoun *wij* and its weak counterpart, *we* (see (39a)). That *we* is indeed a weak pronoun is shown by the fact that it cannot be coordinated, in contrast to *wij*, as illustrated in (39b). As it turns out, only the strong form can be inserted in appositional structures like (39c). Similar data exist in English (with *you/ye*). The pattern repeats itself for the German first-person plural pronoun. The strong form *wir* 'we' has a weak counterpart *ma* (40a,b). Only the former can host an appositional DP (see (40c)).

(39)   a.   Wij/we gaan dan uit eten.
                we go then out eating
                'We will go for dinner then.'
       b.   Wij/*we en de studenten gaan dan uit eten.
                we and the students go then out eating
                'We and the students will go for dinner then.'
       c.   Wij/*we studenten gaan dan uit eten.
                we students go then out eating
                'We students go for dinner then.'

(40)   a.   Ich hoffe daß wir/ma uns dann amusieren können.   (Klaus Abels, p.c.)
                I hope that we us then amuse can
                'I hope that we can amuse ourselves then.'
       b.   Ich hoffe daß wir/*ma und die Studenten uns dann amusieren können.
                I hope that we and the students us then amuse can
                'I hope that we and the students can amuse ourselves then.'
       c.   Ich hoffe daß wir/*ma Studenten uns dann amusieren können.
                I hope that we students us then amuse can
                'I hope that we students can amuse ourselves then.'

Cardinaletti and Starke (1996) argue in some detail that null pronouns must be classified as weak. Indications of this are that, in contrast to strong pronouns, they can have non-human referents, cannot be coordinated and can be used as subjects of weather verbs. We illustrate these properties for Spanish below:

(41)   a.   *pro* es bonito.
                pro *is pretty*
                'He/it is pretty'
       b.   *pro y el de Juan son bellos.
                pro *and that of John are beautiful*
                'This one and that of John are beautiful.'
       c.   *pro* hace mucho frío.
                pro *makes much cold*
                'It is very cold.'

But if silent pronouns must be classified as weak, and if weak pronouns cannot appear in appositional structures, then the Spanish examples in (23) cannot involve hidden apposition.

4.4 Quantificational Unagreement

We now turn to quantificational unagreement, as exemplified in (24) above. In order to understand this phenomenon, we will first need to explore the interpretive effects of φ-features in a little more detail. One obvious interpretive contribution that φ-features can make is in restricting the reference of a DP. The best example of this is cross-sentential coreference between a DP and a pronoun. Thus, the gender features of the pronoun in (42a) restrict its reference in such a way that it must be coreferent with *John* rather than *Mary*. The gender features of the pronoun in (42b) give the opposite result.

(42) a. <u>John</u> met Marie. <u>He</u> was wearing a helmet.
      b. John met <u>Marie</u>. <u>She</u> was wearing a helmet.

This interpretive contribution is relevant to the analysis of referential unagreement, as discussed in the previous subsection.

However, φ-features can also appear on elements that are not referential. This is what we find in the case of pronouns bound by a quantifier. The possessive pronoun in *every boy* loves *his* mother does not refer to any particular boy, and yet its φ-features must make a semantic contribution, given the ungrammaticality of **every boy* loves *her* mother. Heim and Kratzer 1998 argue that in this case the φ-features act as a restriction on the variable introduced by the pronoun. Since the pronoun is bound by the quantifier, and the quantifier operates on the set of boys, there is an interpretational clash in the latter example, as x is simultaneously presupposed to be a boy and to be feminine:

(43) Every x, x = a boy, x loves x's mother, x = female

The interpretation of φ-features as restrictions on variables is relevant to quantificational unagreement, as we will now explain.

Our analysis of examples like (24a,b), repeated as (44a) for convenience, runs largely parallel to that of referential unagreement. The only difference comes from the interpretation of φ-features in the context of quantification. The φ-features of the verb in (44a,b) cannot narrow down the reference of the subject, simply because the subject is not referential. Instead, φ-features in this case serve to determine the interpretation of the set on which the quantifier operates.

(44) a. Cada alumno hablamos/habláis differente.
          each student speak-1PL/speak-2PL differently
          'Each of us students speaks differently.'
      b. La mayoría podemos/podéis conducir con una mano.
          the mayority can-1PL/can-2PL drive with one hand
          'Most of us/you can drive with one hand.'

In general, the φ-features of a QP originate in the NP complement of the Q-head. In other words, although it is QP that agrees with the verb, it is NP in which the φ-features are interpreted.[5] Specifically, the φ-features present in the subject contribute to the content of the restrictor of the quantifier. As before, unagreement is an instance of feature spreading. This results, starting from (45), in the representation in (46a) (for reasons of readability, we abstract away for the feature percolation from NP to QP and we place number and person features on opposite sides of the φ-tier; this has no theoretical significance). After φ-node deletion in the verb takes place, we are left with (46b), with the result that the features generated in the verb pertain to the interpretation of the subject: the operator now applies to a plural set including speaker or addressee.

(45)

	Subject	*Agreeing head*
	QP [φ_1] Q NP [φ_1]	φ_1 PAR PL | (ADD)

(46)   a.   PL   (Feature spreading)

[$_{QP}$ Q [$_{NP}$ φ]] ... [$_V$ φ]

PAR
|
(ADD)

b.   [$_{QP}$ Q [$_{NP}$ φ]] ... [$_V$ Ø]   (φ-node deletion in V)

PAR   PL
|
(ADD)

This yields the right interpretation for examples like (44). For instance, (44a) will be assigned the following representation:

(47)   Each x, $x \in S \wedge |S| > 1 \wedge$ speaker/hearer $\in S$, x speaks differently.

Note that in the examples in (44) unagreement does not only involve person features, but also a number feature. As discussed, this situation is blocked by the Elsewhere Principle in the case of referential unagreement, given that referential DPs always have a plural

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[5] The operation of feature percolation probably also takes place in regular referential DPs, which inherit their φ-features from the complement to the determiner. However, in this case the interpretation of φ-features affects the reference of the DP.

counterpart. Quantifiers like *cada* 'each', however, lack a plural counterpart, so that no blocking effects can obtain. For those quantificational expressions that have both a singular and plural form, however, blocking effects *are* expected, on a par with those found with referential unagreement. In other words, unagreement should be impossible in the singular, but permitted (for person features) in the plural. This appears to be correct, as illustrated for *algun* 'some' and *todo* 'every' below:

(48)   a.   *Algún paciente hemos/habéis llamado a la doctora.
               some patient have-1PL/have-2PL called to the doctor
               'Some of us/you patients have called the doctor.'
       b.   Algunos pacientes hemos/habéis llamado a la doctora.
               some patient have-1PL/have-2PL called to the doctor
               'Some of us/you patients have called the doctor.'
       c.   *Todo niño creemos/creéis en los Reyes Magos.
               every kid believe-1PL/believe-2PL in the Reyes Magos
               'All of us/you kids believe in the Magi.'
       d.   Todos niños creemos/creéis en los Reyes Magos.
               every kid believe-1PL/believe-2PL in the Reyes Magos
               'All of us/you kids believe in the Magi.'

Of course, quantifiers that *only* have a plural form (such as *ambos* 'both' or *tres* 'three') also allow for unagreement in person features. In other words, the generalization that emerges is that quantificational unagreement is allowed with plural quantifiers, and with singular quantifiers as long as they do not have a plural counterpart.

      If our analysis is correct, we would expect our predictions about the subject in referential unagreement (see section 4.1) to carry over to the complement of the Q-head in quantificational unagreement. We cannot test this for the full range of DPs discussed above, because not all DPs are possible restrictors of quantifiers. However, there is a sharp contrast between NP restrictors and pronominal restrictors. When QPs have non-pronominal restrictors, this does not interfere with unagreement, whether the restrictor is a PP (see (49a)) or an NP (see examples above). But just as referential unagreement is blocked by the Elsewhere Principle if the subject is a pronoun, quantificational unagreement is blocked if the quantified subject has an overt pronominal restrictor (see (49b/c); note that pronominal restrictors must be contained in a PP).

(49)   a.   Todos de los niños lo vimos/visteis.
               all of the boys saw-1PL/saw-2PL
               'All of us boys saw him.'
       b.   Todos de nosotros/vosotros lo vimos/visteis.
               all of us/you.PL him saw-1PL/saw-2PL
               'All of us/you saw him.'
       c.   Todos de ellos lo vieron/*vimos/*visteis.
               all of them him saw-*3PL/saw-1PL/saw-2PL*
               'All of them/us/you saw him.'

As expected, these data parallel interpretive restrictions observed in English:

(50) a.   All of <u>the boys</u> could have done it, because <u>they</u> were all in the schoolyard.
     b.   All of <u>the boys</u> could have done it, because <u>we</u> were all in the schoolyard.
     c.   All of <u>the boys</u> could have done it, because <u>you</u> were all in the schoolyard.

(51) a.   All of <u>them</u> could have done it, because <u>they</u> were all in the schoolyard.
     b.   *All of <u>them</u> could have done it, because <u>we</u> were all in the schoolyard.
     c.   *All of <u>them</u> could have done it, because <u>you</u> were all in the schoolyard.

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4.5 Alternatives: Dislocation, 'High' Apposition and 'Low' Apposition
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We now turn to alternative analyses of quantificational unagreement. As with referential unagreement, a hidden-feature analysis is a non-starter. Person is never expressed on quantifiers, making it unlikely that these elements can carry either [PAR] or [PAR, ADD]. When a quantifier does not take an overt complement, as in (52), there might be a silent pronominal complement with the relevant person specification (this is essentially the analysis in Suñer 1988). But this analysis does not carry over to cases of unagreement in which the quantifier takes an overt non-pronominal complement (as in (48b,d)), as non-pronominal DPs do not carry first or second person features either.[6]

(52)   Todos hemos ido de excursión alguna vez.
        all have-1PL gone of excursion some time
        'Every one of us has gone on a trip some time.'

A hidden-subject analysis based on dislocation of the apparent subject is unlikely to work for quantificational unagreement, quite apart from the problems observed in section 4.2. There is cross-linguistic evidence that quantifiers resist dislocation. We illustrate this below with data from Dutch, but the effect seems universal. For example, Jelinek 1984, 2006 and Baker 1996, 2006 suggest that in polysynthetic languages all NPs are in dislocation and derive from this that such languages lack NP-quantifiers.

(53) a.   *Niemand$_1$, die$_1$ kwam t_1 gisteren thuis.
           no-one, that came home yesterday
           'No-one came home yesterday.'
     b.   *Niemand$_1$, die$_1$ heb ik t_1 gezien.
           no-one, that have I seen
           'I saw no-one.'

The same restriction seems to hold in Romance. Rizzi (1986) shows that in Italian quantificational objects resist clitic left dislocation. Arregi (2003) confirms that this is also true of Spanish. There is a sharp contrast between the following examples:

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[6] It highly unlikely that there is a second, hidden, complement specified for these features, given that quantifiers typically take only a single restrictor. Indeed, adding an overt pronominal restrictor to a quantificational phrase like *todos de los niños* 'all of the boys' or *todos niños* is ungrammatical (*todos (de los) niños de nosotros* 'all (of the) boys of us'). It is possible to add a PP-adjunct, as in *todos de los niños entre nosotros* 'all of the boys among us'. Hypothesizing that the adjunct can remain silent, however, cannot provide a basis for the analysis of (49a), as it would yield an incorrect interpretation: 'all of the boys among us/you have seen him', rather than 'all of us/you boys have seen him'.

<div align="center">

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</div>

(54) a. Juan$_1$, nosotros lo$_1$ vimos.
          Juan*, we him saw-1PL*
          'As for Juan, we saw him.'
      b. *Nadie$_1$, nosotros lo$_1$ vimos.
          No-one, we him saw-1PL

Given these observations, it is unlikely that Spanish quantifiers could appear in dislocation when related to null subjects. Indeed, there is evidence internal to Romance that quantified preverbal subjects occupy a position lower in the tree than their referential counterparts (see Raposo 1996, Ordoñez and Treviño 1999, Kato and Raposo 2006 and Barbosa 1996, 2000). But if quantifiers resist dislocation, dislocation cannot be the phenomenon responsible for quantificational unagreement. It is of course still possible to analyze the phenomenon in terms of a special kind of 'low' dislocation, but as argued in section 4.2, this does not provide a solution either.

An analysis of quantificational unagreement in terms of apposition of the quantifier to a silent pronoun is equally problematic, simply because quantificational categories cannot function as appositional phrases. So, even if we ignore the fact that weak pronominal forms do not allow apposition, the analysis must be rejected in view of examples like (55). This example shows that the universal quantifier *todos niños* can not even stand in apposition to a strong pronoun. (The same conclusion can be drawn with respect to other quantifiers that allow unagreement.)

(55) a. *[Nosotros [todos niños]] creemos en los Reyes Magos.
          We all boys believe-1PL in the Reyes Magos
          'All of us boys believe in the Magi.'
      b. *[Vosotros [todos niños]] creéis en los Reyes Magos.
          You$_{PL}$ all boys believe-2PL in the Reyes Magos
          'All of you boys believe in the Magi.'

A more plausible alternative would be to say that it is not entire the QP that stands in apposition to a silent pronoun, but just its complement (on a par with *each of us boys*, *all of you boys*, etc.). Of course, this suggestion faces the by now familiar difficulty that weak pronominal forms do not permit apposition to begin with. But irrespective of that, it appears to be insufficiently general. For example, apposition with an overt pronoun is not possible with the NP complement of *cada* 'each' (see (56)). However, we have already seen that *cada*+NP partakes in unagreement (see (24)).

(56) a. *[Cada [nosotros alumno(s)]] hablamos differente.
          each us student speak-1PL differently
          'Each of us students speaks differently.'
      b. *[Cada [vosotros alumno(s)]] habláis differente.
          each you student speak-2PL differently
          'Each of us students speaks differently.'

6. CONCLUSION

In this paper, we have investigated to what extent there is an asymmetry in agreement relations, beyond the semantic asymmetry that limits the interpretation of φ-features to nominals. According to a number of theories, agreement is also asymmetric morpho-syntactically, in that features of the target are in some way dependent on the presence of identical features in the controlling argument.

We have argued that the data discussed in this paper can be analysed more successfully if the presence of the features in the verb does not depend on the presence of features in the subject. The two φ-feature sets are generated independently. It is the role of the agreement process to associate target and controller, in a way that is familiar from theories based on unification.

Our case was based on the existence of subset control: structures in which the controller is specified for fewer features than the target. The existence of such structures would make it impossible that features in the target always depend on identical features in the controller. Proponents of asymmetric theories of agreement have dealt with apparent examples of subset control by arguing for a hidden feature in the controller, or a fully specified hidden controller. We have shown that such analyses must be abandoned at least in the case of Spanish unagreement. To account for the full range of data, they would have to rely on assumptions that are difficult to square with what is known about the syntax of subjects and related issues.

The alternative we propose is to allow that features are generated freely in target and controller, as long as their distribution at the interface with semantics is such that all φ-features can be licensed. We have argued that this is established by two distinct processes. One is feature identification. The other is a process of feature spreading akin to the spreading of autosegmental features in phonology.

It is an open question how widespread the distribution of subset control is. Although we cannot go into this here there are many other instances of agreement that we think are most fruitfully analysed in these terms. A well-known case is British English plural agreement with collective nouns. Other cases include the Tamil and Talisk Russian date discussed in Corbett 2006:161,209. It is possible that it is actually quite widespread, given that the phenomenon of agreement-related pro-drop can be seen as the most extreme instance of subset control: all φ-features that determine the interpretation of the controller are present in the target only.

15 October 2010

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