The place of agreement features in a specification of possible agreement systems

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Abstract

Agreement features introduce greater complexity into agreement systems than is generally recognized. They may determine the agreement domain (Dargi) and certain combinations of feature values can rule out particular sentence types (Taskiuri). Feature interactions show three levels of complexity: just the target may be involved (German), or a computation of controller feature values may be required (Slovene), or computation may involve a covert feature (Mlja).

0. Introduction

When attempting to specify the range of possibilities for agreement systems, it seems natural to treat the question as a syntactic one. We might take the following as a reasonable hypothesis:

Agreement is a matter of syntax. The possible agreement domains (= configurations of controllers and targets) are determined by the syntax; the agreement features of a given language together with their possible values have to be specified, and the morphology is left with the task of spelling out the feature values.

We shall see, however, that agreement features are much more interesting than this hypothesis would allow.\(^1\) First we shall see that they can have a role in determining the domain of agreement; then we shall see that the acceptability or non-acceptability of a construction may depend on agreement (hence 'spelling out' is not an adequate characterization), and third we will note various types of interactions between features.

1. Agreement features may have a role in determining the domain

A straightforward view of agreement would have the syntax determine controller and target and 'then' the morphology spell out the features. However, there

\(^{1}\)
are instances where the features determine in part what will be the controller. Consider these data from the Nakh-Daghestanian language Dargi (Chirag dialect), as analysed in Kibrik (1997:29-31). Dargi is genuinely ergative, with transitive subjects standing in the ergative and objects in the absolutive. The verb can agree with both:

(1) diše ṭa r-iqan-da 1.SG.ERG 2.SG.ABS.II ILSG-lead-l 'I lead you (woman)'

There are three genders: I – male human, II – female human, III – residue. Note that the suffix -da here is first person, but does not distinguish number.

(2) diše it r-iqan-da 1.SG.ERG 3.SG.ABS.II ILSG-lead-l 'I lead her'

(3) ṭiše du r-iqan-de 2.SG.ERG 1.SG.ABS.II ILSG-lead-2.SG 'you lead me (woman)'

(4) ṭiše it r-iqan-de 2.SG.ERG 3.SG.ABS.II ILSG-lead-2.SG 'you lead her'

So far, the system seems relatively straightforward. The gender/number prefixed agreement seems to be controlled by the patient (in the absolutive) and the personal suffixal agreement is controlled by the agent (in the ergative). However, when we look at further data we see that the situation is rather more complex:

(5) i-te ṭu r-iqan-da 3.SG-ERG 1.SG.ABS.II ILSG-lead-1 'he/she leads me (woman)'

(6) i-te ṭa r-iqan-de 3.SG-ERG 2.SG.ABS.II ILSG-lead-2.SG 'he/she leads you (woman)'

(7) i-te ruče r-ilče 3.SG-ERG girl.SG.ABS.II ILSG-lead 'he/she leads the girl'

There is no person agreement in example (7). From these examples it looks as though the person markers have complex alternative specifications; thus -da marks first person agent in (1); it also functions in further examples (not given here) as the subject of intransitives. But (5) shows that it can also mark the first person patient. And -de is similarly split. Kibrik suggests an alternative. He gives a simple specification for the two markers:

da = 'first person', and de = 'second person'

The rules for person (suffixed) agreement are then as follows:

1. If both arguments are first and second person, agreement is with the agent.
2. If one argument only is first or second person, agreement is with that.

The first rule accounts for examples (1) and (3), the second accounts for examples (2), (4), (5) and (6). In (7) there is no first or second person argument and so there is no person agreement (the verb also has an irregular stem).

In Dargi then, agreement is controlled by different noun phrases according to person and according to the configuration of argument roles. There is a simple hierarchy in that first and second persons outrank third person. (For instances of more complex hierarchies with similar functions see Kibrik 1997.) The transitive verb agrees with the absolutive noun phrase in number and gender; depending upon the configuration it may also agree with it in person, or it may agree with the ergative noun phrase. Thus it may have one controller or two. For our purposes, the important point is that the domain is determined in part by the agreement features of the potential controllers.

2. Acceptability or non-acceptability may depend on agreement

If we were to maintain that morphology merely 'spells out' agreement features, then we would not expect the acceptability of given sentences to depend on whether the agreement features actually have to be spelled out in a particular construction. Yet this can happen, as data on gender resolution in Tsakhur will show. Tsakhur is a member of the Lezgic group of the Nakh-Daghestanian family; see Kibrik (1999) for a description. According to Ibragimov (1990:3) there are around 30,000 Tsakhurs (though he does not indicate how many speak the language). More Tsakhurs live in Azerbaijan than in Daghestan. Fieldwork was carried out in Mishlesh, the largest Tsakhur settlement, with around 1,000 inhabitants. Mishlesh is situated on the River Samur, somewhat higher up the valley than the settlement of Tsakhur itself, at about 1,800 metres.

Tsakhur has four genders: assignment to genders I and II is relatively straightforward: I is for male humans (but also gods, angels and so on) while II is for female humans (and female mythical beings). The other two genders are more difficult. Most of the remaining animates are assigned to gender III. Just a few, however, are in gender IV, along with some mythical beings. And inanimates are found both in genders III and in gender IV. There is a small number of significant exceptional nouns, such as kalyfat 'child', which does not fit into any of the genders as given above. In the singular it takes gender IV agreements, but in the plural it takes I/II. There are just two agreements in the plural, one for genders I and II and one for III and IV. The gender system is summarized in Table I:
Table 1: Gender system of Tskakh illustrated by the present tense
of 'see' with postposed auxiliary

<table>
<thead>
<tr>
<th>criterion</th>
<th>gender</th>
<th>singular</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>male rational</td>
<td>I</td>
<td>gağa-wor</td>
<td>goğa-wob</td>
</tr>
<tr>
<td>female rational</td>
<td>II</td>
<td>Ge:ę-wor</td>
<td>Go:ę-wob</td>
</tr>
<tr>
<td>animate (also some inanimates)</td>
<td>III</td>
<td>goğa-wor</td>
<td>goğa-wod</td>
</tr>
<tr>
<td>other (including a few inanimates)</td>
<td>IV</td>
<td>gağa-wod</td>
<td>gağa-wod</td>
</tr>
</tbody>
</table>

Let us turn to agreement. When noun phrases headed by nouns from genders I and II are conjoined, whether the same or mixed, then the I/II plural agreement form is used:

(8) jed-i: jiš Xa: wobummi-mother.II-and daughter.II at home be.I/II.PL 'mother and daughter are at home'

(9) dak-i: jedy Xa: wobummi-father.II-and mother.II at home be.I/II.PL 'father and mother are at home'

Similarly for genders III and IV, whether the nouns are animate or inanimate:

(10) t'ot'-i: kabaj Xa: wobummi-fly.II-and butterfly.IV at home be.III/IV.PL 'the fly and the butterfly are at home'

(11) q'uq'-i: nišë Xa: wobummi-egg.III-and cheese.IV at home be.III/IV.PL 'the egg and the cheese are at home'

However, if we take conjuncts headed by nouns from I or II and from III or IV, then the result is less than fully acceptable. Judgements are given on the basis of work with ten informants; for full details of their responses see Corbett (1999):

(12) dak-i: balkan Xa: ??wobummi-father.II-and horse.III at home ??be.I/II.PL 'be.III/IV.PL 'father and the horse are at home'

(13) gade-j:j Xa: ??wobummi-boy.II-and butterfly.IV at home ??be.I/II.PL 'be.III/IV.PL 'boy and the butterfly are at home'

We might suppose that we should set up the resolution rules referring to the syntactic genders of the nouns (as we shall do for Slovene below). The next example shows that this would not be the best approach for Tskakh:

(14) jed-i: kulyf Xa: wobummi-mother.II-and child.(IV) at home be.I/II.PL 'mother and child are at home'

The noun kulyfat is one of a small exceptional group, since in the singular it takes gender IV agreements, but in the plural it takes I/II. It looks as though we might also need an exceptional resolution rule for it. However, this is not the case. Our rules can be as follows:

Gender resolution in Tskakh:
1. If all conjuncts denote humans, then the I/II gender form is used;
2. If no conjuncts denote humans, then the III/IV gender form is used;
3. Otherwise an alternative construction is preferred.

This approach allows us to have a simple set of resolution rules, and of a type which is also widely attested cross-linguistically.

We should now ask whether the sentences which are unacceptable (or disfavoured) are problematic because of the fact of conjoining, or because of the presence of agreement. We can see which is the key factor with the following example:

(15) gade-j:k'le:j: balkan-i-k'le jedy Ge:ę-wo-r boy.OBL-AFF-and horse.OBL-AFF mother.ABS.II see.II-AUX-II 'the boy and the horse see the mother'

With verbs of perception the noun phrase denoting the experiencer stands in the affective case (AFF), which attaches to the oblique stem (OBL). The object stands in the absolutive case, and the verb agrees with it, hence the verb in (15) has the agreement markers for gender II singular, agreeing with jedy 'mother'. This sentence, in which human and non-human are conjoined, presented no problem (though not as many speakers were asked as with the other examples reported). This is because nothing agrees with the conjointed noun phrases. Hence it is agreement which causes the difficulty in examples like (12) and (13) and not the mere fact of conjoining semantically unlike noun phrases. Thus the feature values of the conjuncts determine acceptability, where there is agreement; where there is none, there is no problem. In a sense, this is another example of 'blocking': the lack of an appropriate morphological form blocks an otherwise well-formed representation. However, we are not dealing here with gaps in individual lexical items, but with whole sets of examples which ruled out because agreement is involved and because the feature values of the conjuncts cannot be accommodated.

Of course, there are many languages in which there is no such restriction on the resolution rules. I suggest the difference is to be explained in terms of the semantic transparency of the agreement markers. In languages like Tskakh, the plural agreement markers are straightforward in semantic terms (human plural
and non-human plural); the problematic cases discussed would give controllers whose features would not be fully consistent with these markers. In languages where agreement with unlike conjuncts is fully acceptable, then typically the agreement markers are less transparent semantically.

3. Interactions of features

The severest inadequacies of our initial hypothesis are found when we look at the interactions within the system of agreement features. We shall examine three levels of complexity.

3.1 Interactions involving targets only

Consider interactions of the type noted by Greenberg:

'A language never has more gender categories in non-singular numbers than in the singular.' (Greenberg 1963:112).

Thus we find languages like German with three genders in the singular but no gender distinctions in the plural but not the converse (a language with no genders in the singular but three in the plural). To the extent that they can be maintained, interactions like this can be stated as constraints on the agreement targets of the language: in German no target offers the theoretical full set of possibilities (three genders times two numbers). This is the simplest type of interaction of features.

3.2 Resolution rules

Not all such interactions can be stated just in terms of targets; to demonstrate this we shall look briefly at resolution rules again. This time we analyse the South Slavonic language Slovene, which has three genders and three numbers. The agreement markers for targets, such as adjectives and past participles, which distinguish gender and number, are given in Table 2:

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
<th>dual</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>masculine</td>
<td>Ø</td>
<td>a</td>
<td>i</td>
</tr>
<tr>
<td>feminine</td>
<td>a</td>
<td>e</td>
<td></td>
</tr>
<tr>
<td>neuter</td>
<td>ofe</td>
<td></td>
<td>a</td>
</tr>
</tbody>
</table>

Consider a controller consisting of a masculine singular and a feminine singular conjunct. The resolution rules specify a masculine dual predicate (examples (18), (20) and (21) are from Priestly (1993:433), the remainder are from Lenček (1972)).

(16) Tonček in Marina sta prizadevn-a
Tonček.MASC and Marina.FEM be.DU assiduous-MASC.DU
'Tonček and Marina are assiduous'

A masculine singular conjoined with a neuter singular also takes a masculine dual:

(17) Tonček in to deklute sta prizadevn-a
Tonček.MASC and that little.girl.NEUT be.DU assiduous-MASC.DU
'Tonček and that little girl are assiduous'

Number resolution is relatively straightforward (examples with other number possibilities follow shortly):

1. if there are two conjuncts only, both of which are in the singular, then dual agreement forms will be used;
2. in all other cases, provided there is at least one non-plural conjunct, plural agreement forms will be used.

Gender resolution requires us to consider more possibilities. When a feminine and a neuter are conjoined, the masculine is still found:

(18) Milka in njen tele sta bil-a zunaj
Milka.FEM and her calf.NEUT be.DU been-MASC.DU outside
'Milka and her calf were outside'

Similarly, two conjoined neuter singulars take a masculine dual:

(19) to drevo in gnezdo na njem ni bosta
that tree.NEUT and nest.NEUT on it me.DAT be.FUT.DU
ostal-a v spominu
remain-MASC.DU in memory
'that tree and the nest on it will remain in my memory'

The feminine/neuter dual form results from the resolution rules when two feminines are conjoined:

(20) Milka in njena mačka sta bil-i zunaj
Milka.FEM and her cat.FEM be.DU been-FEM.DU outside
'Milka and her cat were outside'

The gender resolution rules are as follows:

1. if all conjuncts are feminine, then the feminine form is used;
2. otherwise the masculine is used.

The number resolution rules determine when the dual and when the plural form are to be used. As this is so, the rules just given will also account for gender resolution when the plural results. Thus in (21), all the conjuncts are neuter, but the masculine plural form is required.
Dve teleti in eno žrebe so bil-i zunaj two calf.NEUT.DU and one foal.NEUT be.PL been-MASC.PL outside
‘Two calves and a foal were outside’

Again, the feminine is possible only if all the conjuncts are feminine:

Marina, Marta in Marjanca so prizadevno.
Marina:FEM Marta:FEM and Marjanca:FEM be.PL assiduous:FEM.PL
‘Marina, Marta and Marjanca are assiduous’

Resolution rules are more complex than the type of interaction we discussed before, in that they involve a computation of the feature values of the controller. Given the different types of feature involved, there is potential for considerable complexity. However, we find that resolution rules are still severely constrained. Thus we do not find rules of the type: ‘if there is a first person feminine conjunct then …’ or ‘if there is a neuter dual conjunct then …’. Gender resolution rules need to refer only to gender (and number resolution refers only to number, and indeed person refers only to person). It might appear that the resolution rules are completely independent of each other. However, while they are independent in their formulation, they are not independent in their operation; in other words, they operate as a set or not at all. Agreement may be with one conjunct or with all conjuncts; if the latter, that is if resolution operates, then all applicable resolution rules must operate. There cannot be resolution in gender but not in person. For more on the interdependence of resolution rules see Corbett (1983b:182-183).

Resolution is also independent of the agreement target (unlike default forms, which may be target specific; see discussion of Romanian in Corbett 1991:213-214 and of agreement with honorifics in Comrie 1975). That is to say, there are no resolution rules of the type ‘if all conjuncts are neuter, then adjectival targets take masculine agreement while verbal targets take neuter agreement’. Our examples have involved predicate verbs or adjectives as the agreement target, though other types of target can be involved. When there is resolution, it operates to produce the same resulting form irrespective of the type of target: information about the target cannot be part of a resolution rule. What does differ is the likelihood of resolution as compared with agreement with the nearest conjunct. Resolution is a particular case of semantic agreement. The distribution of resolution (semantic agreement) versus agreement with the nearest conjunct (syntactic agreement) is therefore constrained by the Agreement Hierarchy (see Corbett 1991:268).

A further type of conceivable conditioning factor which is never employed is that of the construction: resolution is ‘construction independent’. That is, in any construction where resolution can operate in a given language, the rules for resolution must be the same (though the likelihood of resolution operating can differ). This may seem a vacuous claim, since in many languages the only construction which could be involved is conjoining. However, some languages have a comitative construction where agreement is possible with the governed noun phrase as well as with the head. When this is the case, I claim that resolution in comitative constructions must always be as in conjoined constructions (see Corbett forthcoming for illustration).

Thus resolution rules require computation with access to the feature values of the different conjuncts making up the controllers. However, the type of computation found is limited, perhaps surprisingly limited given the theoretical possibilities open.

3.3 Computation on the basis of a covert (non-agreement) feature

While we might have assumed that we had reached the limit for feature interactions, there is another layer of complexity of possible interactions, as we shall see in the West Chadic language Miya, spoken in Nigeria (Schuh 1989). First, perhaps, we should recap. To specify agreement in a given language, we must establish the agreement domains. Then we must give the features in respect of which there can be agreement. This is not just a matter of listing since there may be constraints on the feature combinations which targets can mark (as in the case of German). Then there may be feature computations, in respect of the feature values of different conjuncts making up the controller (but these are relatively constrained). The Miya case is one where the domains are clear, the target has the relevant forms, the controller has a morphological marker expressing the relevant feature, and yet while there is agreement, there is not always agreement in respect of this feature; the ‘choice’ is an unusual one since it depends on an apparently extraneous feature.

Miya nouns are divided between two genders, masculine and feminine; nouns denoting males are masculine, those denoting females are feminine, and non-sex differentiables are found in both genders. Agreement targets (and many different items agree) have three agreement forms: masculine singular, feminine singular and plural. This may be shown using one of the demonstrative pronouns.

| Table 3: The demonstrative ‘this’ in Miya (Schuh 1989: 172, 176) |
|----------------------|------|------|
| masculine            | nákən| nlykən|
| feminine             | tákən|

‘Potentially, any noun may be pluralized morphologically.’ (Schuh 1989:173)

However, for number marking we need to be aware of an animate/inanimate distinction: animate nouns are those which denote ‘all humans, most, if not all, domestic animals and fowl, and some large wild animals.’ Large wild animals are the ‘grey area’. The remaining nouns are inanimate (1989:175). The rele-
vance for number marking is that animate nouns must be marked for plurality when appropriate:

(23) təvəm tsör cf: *təm tsör

woman.PL two woman.SG two
‘two women’ *two women’

For inanimates on the other hand marking is optional:

(24) zəklyəyəw vəltə cf: zəkly vəltə
stone.PL five stone.SG five
‘five stones’ ‘five stones’

Animate plural nouns take plural agreements:

(25) nəykən təvəm
this.PL woman.PL
‘these women’

Inanimate nouns, however, even if they are marked as plural, do not take plural agreement. But this does not mean that agreement fails to occur; such nouns take agreement according to their gender in the singular:

(26) nıkən əyiyyuwałəw
this.MASC.SG fireplace.PL (əyiyyuwał ‘fireplace’ is masculine)
‘these fireplaces’

(27) tkən tərəkyəyəw
this.FEM.SG calabash.PL (tərəkyə ‘calabash’ is feminine)
‘these calabashes’

Thus the status of number is different for animate and inanimate nouns. Marking of number is obligatory for animate but optional for inanimates. Agreement in number with inanimates is obligatory, plural agreement with inanimates is impossible. The important point is that agreement with inanimate plurals does occur, but in gender and not in number. This shows that there is an agreement rule for inanimates, where all the elements required for number agreement appear to be in place, and yet number agreement does not occur. And whether or not agreement occurs is determined by a non-agreement feature, that of animacy.

There are ways in which we might try to avoid this conclusion. The first is to try to locate all the difficulty in the morphology. The target forms we have labelled ‘plural’ could be analysed as ‘animate plural’. The problem is that the masculine singular forms would then have to be treated as ‘masculine animate singular’, ‘masculine inanimate singular’ and ‘masculine inanimate plural’ (and the feminines similarly). The second approach, a development of this, is to simplify the target feature specifications further, and claim they involve one category only (say gender), with the values ‘masculine’, ‘feminine’ and ‘animate’. But then we have to determine which nouns are ‘animate’, and it is of course those which are animate and plural. Thus this account requires a feature calculation in terms of the covert feature ‘number’ (which is not an agreement feature in this approach). It is then very similar in terms of complexity to the account originally given, since that account had number as an agreement feature with a feature calculation utilizing the feature animate, which is not an agreement feature. (There is an interesting contrast with the Dargi situation discussed earlier; in Dargi the computation concerned which argument would be the controller; in Mlyn the computation concerns the feature values to be expressed.)

4. Conclusion

The data presented show that the ‘common sense’ syntactic view of agreement we suggested earlier requires considerable elaboration. First we saw that agreement features may have a role in determining the agreement domain (Dargi), and then we analysed a case in Tsakhur showing that agreement itself can determine acceptability. Thus an approach in which morphology simply ‘spells out’ agreement features is highly problematic. We then moved on to different types of feature interaction: those which can be stated just in terms of targets, those which refer to controllers, and those which require covert features. These types of interaction demonstrate that a specification of possible agreement systems must take full account of the complexity of agreement features.

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Notes

4 Work reported here was supported in part by the ESRC (grants R0002366063 and R000222419) and in part by INTAS (grant 93-2378); this support is gratefully acknowledged. Sections of the paper have benefited from discussions with and suggestions from Darren Brown, Bernard Comrie, Norman Frater, Gerald Gazdar, Andrew Hippisley, Alexander Kilik and Helma van den Berg. Most of the material was presented at the ESRC Research Seminar ‘Challenges for Inflectional Description – 5’, University of Essex, 1 April 1998, and at the ‘Workshop on Agreement Systems’, 21st GLoW Colloquium, Tilburg University, 15-18 April 1998. I am grateful to participants at both meetings for helpful comments.

Abbreviations: 1, 2, 3 = first, second, third persons; i, ii, iii, iv = genders i, ii, iii, iv; abs = absolutive, acc = accusative, aff = affective, attrib = attributive, du = dual, erg = ergative, fem = feminine, impf = imperfective, masc = masculine, neut = neuter, obl = oblique, pl = plural, sg = singular (omitted when obvious).

1 Though this area is of greater interest than has been generally recognized, there have nevertheless been some articles pointing to the problems with agreement features; Pul Nim (1984) is a good example.
2 ‘Dargi’ is often called ‘Dargwa’; I have followed Helma van den Berg, who argues for the use of ‘Dargi’ (this volume; footnote 1). Her paper considers comparable data from the Aku-sha dialect.

3 I am grateful to Aleksandr Kil'rik, Sandro Kodzhasov, Yakov Testelev and the other members of the 1993 expedition to Makhush for their help and advice. The Tskhur speakers I consulted — Magomedzhak Alyazov, Kurban Akeev, Sabri Dzhamalnun, Baziam Rtinigimov, Rizbulla Isayev, Ismail Mamedov, Salmaz Manapidova, Zigjimbin Maxmudov, Srigula Sadjumova and Sazhan Kodzhasov — all deserve special thanks for being willing, patient and interested.

4 In the orthography used by Aleksandr Kil'rik and his colleagues, the following conventions are used. For vowels: colon indicates length. For consonants: <i> marks ejectives, <y> shows palatalization (which is automatic before <i> and <a>); <a> indicates intensive pronunciation. <o> is a voiced uvular stop, <x> an unvoiced uvular fricative, and <r> a voiced velar fricative.

5 Roger Evans (personal communication) suggests that the difference in acceptability between the use of the III/IV plural form in (12) and (13) results from it being easier to re-categorize ‘boy’ ‘downwards’ as non-human as compared with ‘father’, which is a prototypical human.

6 Of course, for languages with no dual category the first rule is not required. At first sight the restriction on the second rule appears superfluous; why should not instances where all the conjuncts are plural be covered by this rule? There is no need for a resolution rule in such instances and in some languages it is important to ensure that no resolution rule operates in these cases (see Corbett 1991:176-278, 282-283). It is also worth noting that resolution frequency does not apply, in which case the usual outcome is for agreement to be with the nearest conjunct.

7 We follow here the fullest account, that of Len'k. For a possible complication with examples like (19) see Corbett (1983b:312n6).

8 Note that this restriction is specific to resolution rules; it is not generally the case that agreement must be in respect of all features common to controller and target, as the Miya data to be discussed in section 3.3 demonstrate.

9 <↓> indicates low tone, and <↑> high tone; <↓↓> is a lateral fricative, and <↓↓↓> is a high central vowel.

10 It might appear that the resolution rules for Tskhur were comparable, in that the computation was done in terms of a feature [human]. However, this is not so clear as in Miya, since a plausible account of Tskhur morphologie would treat the two plural forms as human and non-human. This does not bring with it the complexities that the comparable reanalysis of Miya does.

5. References