

Agreement: Terms and Boundaries*

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1. Introduction

Agreement is increasingly recognized as of interest not just for syntax, semantics and morphology, but also for acquisition, psycholinguistics and computational applications. As evidence of the interest of psycholinguists see Clahsen and Hansen (1993), Nichol (1995), Vigliocco, Butterworth and Garrett, (1996), Vigliocco and Nicol (1998). Given this interest from “outside”, it is particularly important that we should ensure communication across disciplines.¹ Unfortunately the terminology is muddled, and important choices in analysis are made sometimes as much by tradition as by argument. This paper is therefore a “house-keeping” exercise. It lays out some key terms and discusses the analytic choices available, with appropriate examples. It arises from a current project, building a typological database of agreement phenomena.² While the author will take a position on each point, the aim is as much to clarify the issues as to argue for this particular position.

Why has this confused situation arisen? Partly because agreement is a highly interesting area, which involves several interlocking phenomena. Different investigators look at the canonical cases and see different facets as the essential ones. We fasten on certain aspects (often led by terms which embody particular traditions) and then are confused when colleagues take up on other aspects and seem to be missing the point. Furthermore, what many would take as the canonical instances of agreement are relatively unusual, cross-linguistically (see Sierwierska 1999: 238-239).

2. Definitions

Let us start from the following working definition of agreement:

The term agreement commonly refers to some systematic covariance between a semantic or formal property of one element and a formal property of another.
(Steele 1978: 610)

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¹ For evidence of the topic’s continuing challenge to core linguistics we may refer to recent papers such as Dalrymple and Kaplan (2000) and Wechsler and Zlatić (2000).

² See <http://www.surrey.ac.uk/LIS/SMG/> for details.

Within this, we need further terms to discuss the ‘elements’ involved. We call the element which determines the agreement the **controller**. The element whose form is determined by agreement is the **target**. The syntactic environment in which agreement occurs is the **domain** of agreement. And when we indicate in what respect there is agreement, we are referring to agreement **features**. Thus number is an agreement feature, it has the values: singular, dual, plural and so on. Finally there may be **conditions** on agreement (there is a particular type of agreement provided certain other conditions apply). All this is diagrammed in Figure 1.

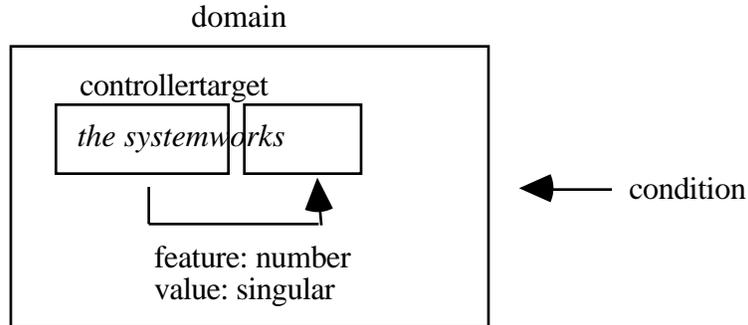


FIGURE 1. Framework of terms.

In the rest of the paper we ask first whether the phenomenon (or cluster of phenomena) indicated so far is appropriately termed ‘agreement’ (in §1), then we consider the extent of domains, whether they are necessarily local or not (§2), and finally we examine whether the use of terms like ‘target’ and ‘controller’ is appropriate, in particular whether we are dealing with symmetry or asymmetry in agreement (§3).

3. Agreement (and/or Concord)

These innocent terms have led to considerable confusion. Some treat them as synonymous. For example, in a survey of the topic, Moravcsik (1978: 333) gives ‘agreement (or concord) phenomena’. Similarly Trask (1997: 10) has ‘**agreement** (also **concord**)’. Somewhat earlier, Lyons (1968: 239) had ‘*concord* (or ‘agreement’)’, which suggest that the tide is running in favor of ‘agreement’, an impression supported by Anderson (1992: 103) ‘... just what is ‘agreement’ (or as it is often called in the traditional literature, “concord”)?’

Other linguists, following Bloomfield (1933: 191-194), treat agreement as the superordinate term. According to Bloomfield (1933: 191) ‘In a rough way, without real boundaries, we can distinguish three general types of agreement.’ These are:

- i. concord or congruence: e.g., agreement of modifiers within the noun phrase, and the agreement of predicate verbs.
- ii. government: as in *I know* as compared with *watch me*.
- iii. cross-reference: as in French *Jean où est-il?* literally ‘John where is he?’ (the *il* is a ‘substitute form’). Bloomfield includes forms such as Latin *cantat* ‘he (she, it) sings’ here since the verb ‘includes substitutive mention of an actor. It is joined in cross-reference with a substantive expression that makes specific mention of the actor, as in *puella cantat* ‘(the) girl she-sings.’

(Bloomfield 1933: 193).³

In graphical terms we may represent this as in Figure 2.

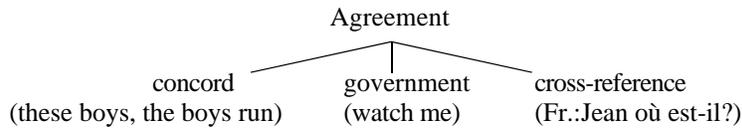


FIGURE 2. Agreement and related terms in Bloomfield.

There have been various developments of Bloomfield’s approach. For instance:

‘The term *concord* traditionally distinguishes this pattern of agreement within DP from the canonical specifier-head type: agreement theory as developed in Chomsky 1993 and related work accounts only for the latter.’
(Carstens 2000: 323)

Note what has happened here: Bloomfield’s concord is cut down to agreement within the DP, and part of what he treated as concord becomes the ‘canonical’ type of agreement. The definitions are changing, according to what is considered the domain of agreement.

In contrast to the position of Bloomfield, and developments from it, Greenberg (1978: 50) treats concord as the wider term:

‘It would be useful, then, to distinguish the wider notion of concord from agreement, the latter being a subtype in which the choice of alternative concord elements depend on the class to which the stem of the governing item belongs, whether marked by an affix or not.’

For Greenberg matching⁴ in case within the noun phrase would count as an instance of concord. When, however, matching is determined by a lexical feature, and Greenberg cites gender here, then this would be agreement.

Note the discrepancy between Bloomfield’s definition and that of Greenberg. Most obviously the subset relations are different: for Bloomfield concord is a subset of agreement, while for Greenberg agreement is a subset of concord. But the criteria on which the relation is based differ too (Figure 1). Bloomfield and several followers distinguish according to domain: concord exists in a ‘smaller’ domain, than cross-reference. For Greenberg the distinction is based on the type of feature involved: agreement involves lexical features, while concord can involve matching of other features. (The domain is not a defining feature here, indeed he later talks of ‘three types of concordial phenomena’ and distinguishes in what he calls a ‘somewhat rough and heuristic fashion’ between agreement within the NP, predicate agreement, and anaphoric use (1978: 75-76).)

³ Thus Bloomfield puts certain pronominal constructions and pro-drop together as cross-reference, and includes them with concord and government under ‘agreement’, but he treats antecedent-anaphor relations separately.

⁴ I use ‘matching’ as a neutral term to remain non-committal in discussing others’ views.

There are other ways in which the terms are used. Thus Lehmann (1982: 206, 249-250) also distinguishes agreement from concord; agreement is the core syntactic phenomenon, which he defines, and the term ‘concord’ is then used for instances of semantic compatibility, certain classifier-noun relations, for example. But still others use both terms without definition. Since there is no distinction being drawn consistently between the two terms, and since too the terms are used in opposing ways, and in ways based even on rather different criteria, I suggest we should use ‘agreement’ as the cover term. Any subdivision within it, whether or not ‘concord’ is used as the term, requires a careful definition, since there is no generally accepted term here.

For some, that is those who distinguish between the terms according to domains, and for whom furthermore that is a principled distinction, that leaves a key issue to be addressed, which is what we do in the next section.

4. Local and Non-local

Taking an “amateur sociological” perspective on the field, we may see a divide, though by no means an absolute one, between those who have treated agreement as a prime focus of study as compared with those who come to it as one of a set of syntactic phenomena to be accounted for. The former, for instance Moravcsik (1978: 334) and Lehmann (1982: 211), typically assume that the feature values of anaphoric pronouns are determined by agreement mechanisms. The latter often assume that agreement is a local phenomenon. Yet there is little explicit discussion of the issue. Some make it clear that antecedent-anaphor relations are, for them, a part of agreement, since they include such examples in their discussion. Others restrict their data coverage some smaller domain. The only extended discussion of which I am aware is found in Barlow (1988/1992: 134-52, 1991) who concludes that there are no good grounds for distinguishing between agreement and antecedent-anaphor relations. This conclusion repeated in Siewierska (1999: 225). There are two main types of evidence supporting this conclusion: the type of features involved, and the distribution of syntactic and semantic agreement. We will consider them in turn.

The simple argument is that canonical agreement and antecedent-anaphor relations are often based on the same features. This is true of Russian, illustrated here from an example from the transcript of a conversation:

- (1) Mama a cajnik kipjacen-yj? (Russian)
 MummyPARTICLE kettle.SG.MASCboiled.PARTIC-SG.MASC
 ‘Mummy has the kettle boiled?’
- Da-a. On uze naverno cas stoit.
 Yes. PRONOUN.SG.MASC already probablyhour stands.
 Yes. It’s probably been standing for an hour.’
 (Zemskaja and Kapanadze 1978: 242)

Here the participle, like an adjective, distinguishes number (two values) and gender (three values: masculine, feminine and neuter, but only in the singular). The anaphoric pronoun does the same. It is not always the case, cross-linguistically, but it is extremely common that the anaphoric pronoun has the same feature possibilities as other agreement targets. If agreement is split into two different domains, then there are two distinct phenomena which for no principled reason utilize identical features.

While the first argument is based on the most basic and systematic working of agreement, the second comes from a different perspective, namely that phenomena which arise when a system appears to break down can tell us more about the system than the normal instances. We look therefore at instances where instead of there being a single set of feature specifications allowed by the agreement system, we find more than one in conflict; that is, we find competition between syntactic agreement, that is, agreement according to form, and semantic agreement, agreement according to meaning.⁵ (We first lay out the problem, raised in Corbett 1979 and following publications, and then return to Barlow's discussion of the issues.) Relevant examples include the following:

- (2) ov-a dva covek-a su dobr-a/dobr-i (Serbian/Croatian/Bosnian)⁶
 these-PL.NEUT two man-SG.GEN are good-PL.NEUT/good-PL.MASC
 'these two men are good'

Nouns in Serbian/Croatian/Bosnian, which both belong to the main inflectional class (the old *o*-stems) and are masculine, when quantified with the numerals '2', '3' and '4', stand in a special form. It is a survival of the dual number, synchronically a genitive singular. Attributive modifiers must take the ending *-a*. This agreement form is also a remnant of the dual number; there are arguments for analyzing it synchronically as a neuter plural (Corbett 1983: 13-14, 89-92); however we choose to analyze it, this *-a* form represents syntactic agreement. In the predicate this neuter plural form is again found, but so is the masculine plural form, the one we might have expected. The relative pronoun is also found in both forms:

- (3) dva covek-a koj-a/koj-i ...
 two men-SG.GEN who-PL.NEUT/who-PL.MASC ...
 'two men who ...'

The personal pronoun, however, must stand in the masculine plural form *oni* (**ona* is unacceptable).

The important point about these data is that we find two acceptable forms with the same agreement controller. The same is true in the following well-known type:

- (4) The committee has decided / have decided (British English)

In the next example we find two different agreement specifications in the same sentence:

- (5) This man and woman were on their way to the shops, when ...

We might think that agreement within the NP is always determined by form; while this is true of English, it is not the only possibility, as this Russian example proves:

⁵ Various terms have been used. Alternatives for 'syntactic agreement' include: 'agreement *ad formam*', 'formal agreement', 'strict agreement' and 'grammatical agreement', while alternatives to 'semantic agreement' include: 'agreement *ad sensum*', 'loose agreement' and 'logical agreement'.

⁶ The phenomena discussed can be found in the different varieties; where there is a difference (which is not relevant for agreement) the actual forms given are Serbian ones.

- (6) Marija zadumalas' ob ostavlenn-yx muze i doceri:
 Maria thought about left.behind-PL husband and daughter
 kak oni tam, cto s nimi? (Russian)
 how theythere what with them?
 'Maria thought about the husband and daughter she had left behind, and wondered how they were and what was happening to them.'
 (Maksimov, *Karantin*)

Here we find plural agreement of an attributive modifier in agreement with conjoined noun phrases. In general, however, Russian favors the singular for attributive modifiers in agreement with conjoined noun phrases, the nearest of which is singular, as in:

- (7) Èt-a vzyskatel'nost', samokriticnost' tozeraspolagal-i k nemu
 This-SG.FEM exactingness⁷ self-criticalness alsodisposed-PL to him
 'This exactingness and self-criticalness also disposed me favourably towards him.'
 (Cernov, Introduction to Smol'janinov, *Sredi morennyx xolmov*)

When agreement is determined by the form (the 'remnant' form, equivalent to neuter plural as in (2) and (3), singular as in (4), (5) and (7)) we term it 'syntactic agreement' as discussed earlier, and when it is determined by the meaning (masculine plural in (2) and (3), plural as in (4)-(6)) it is 'semantic agreement'. Competition between syntactic and semantic agreement can arise in various ways, being induced by highly restricted controller types up to relatively free constructions (Table 1).

| controller type | example |
|---|--|
| (virtually) unique lexical item | Serbian/Croatian/Bosnian <i>deca / djeca</i> 'children' |
| set of semantically similar lexical items | English <i>committee</i> -type nouns |
| lexically restricted construction | <i>o</i> -stem masculine nouns quantified by numeral '2', '3' or '4' in Serbian/Croatian/Bosnian |
| construction | conjoined noun phrases |

TABLE 1. Types of controllers which induce agreement mismatches.

For the remarkable case of Serbian/Croatian/Bosnian *deca/djeca* 'children' see Corbett (1983: 76-88); the other types are illustrated in examples (2)-(7) above.

These agreement choices result from another type of mismatch, one between the semantic and formal properties of the controller. The controller may have the semantics expected of a particular feature value but a form which is normally associated with a different value. We see a mismatch involving gender in examples (2) and (3) while number is involved in (4)-(7).

There is a pattern in these and similar examples, and it concerns the target involved. The agreement specifications do not vary randomly with the targets. For instance, in (2) we find

⁷ Both *vzyskatel'nost'* 'exactingness' and *samokriticnost'* 'self-criticalness' are feminine singular.

semantic agreement in the predicate, but not in attributive position. We never find the reverse situation, where semantic agreement would be required in attributive position but not in the predicate.⁸ In short, the possible targets form a hierarchy, the Agreement Hierarchy (Corbett 1979, 1983: 8-41, 1987: 318-322, 1991: 225-260, 2000: 188-192, Cornish 1986: 203-211, Barlow 1988/92: 136-137, 1991, Kirby 1999: 92-96) as given in Figure 3.

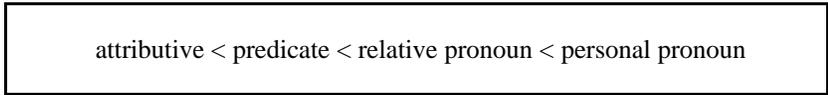


FIGURE 3. The Agreement Hierarchy.

Possible agreement patterns are constrained as follows:

For any controller that permits alternative agreement forms, as we move rightwards along the Agreement Hierarchy, the likelihood of agreement with greater semantic justification will increase monotonically (that is, with no intervening decrease).

Even the few examples given above (and there are many more in the sources cited) show that there is a good deal of variation. Note particularly that it cannot be kept within the bounds of one target, as (2) and (3) show. For that type of controller in Serbian/Croatian/Bosnian we find syntactic agreement in attributive position, both types of agreement of the predicate and of the relative pronoun, and only semantic agreement of the personal pronoun. We can quantify the relative frequency of the two forms in the positions where there is an option. Figures can be derived from Sand (1971: 55-56, 63) and are presented in Table 2:

| | attributive | predicate | relative pronoun | personal pronoun |
|--|-------------|-----------------|------------------|------------------|
| percentage showing masculine plural (semantic) agreement | 0 | 18 (N = 376) | 62 (N = 32) | 100 |

TABLE 2. Percentage distribution of masculine plural (versus neuter plural) forms in Serbian/Croatian/Bosnian (derived from Sand 1971: 55-56, 63).

Table 2 shows a monotonic increase in the likelihood of agreement forms with greater semantic justification.

Note furthermore that cross-linguistically no type of target is exempt. We saw the possibility of semantic agreement in attributive position in (6), where in Russian it competes with syntactic agreement. At the other extreme, British English *committee* type nouns allow syntactic and semantic agreement of the personal pronoun (*it/they*). Another instance, this time involving gender, is found in French, particularly in earlier French. There were various honorific titles, which could take feminine agreement (since the nouns in their normal use were feminine) and masculine agreement, since they were used of males. Even in the personal pronoun, feminine

⁸ Note that this is a corpus-level rather than a sentence-level constraint.

(syntactic) forms dominated. The following example would be normal, according to Grevisse (1964: 405-406):

- (8) Votre Majesté partira quand elle voudra. (French)
 your majesty leave.FUT when she wish.FUT
 ‘Your Majesty will leave when he (literally ‘she’) wishes.’
 (Voltaire, quoted by Grevisse 1964: 406)

The feminine pronoun is used, even though the king is addressed. However, examples with a masculine pronoun also occur:

- (9) Sa Majesté fut inquiète, et de nouveau il envoya
 His.FEM Majesty was worried.FEM and of new he sent
 La Varenne à son ministre.
 La Varenne to his minister
 ‘His Majesty was worried, and again he sent La Varenne to his minister.’
 (J. & J. Tharaud, quoted by Grevisse 1964: 405)

Examples like (9) represent the less usual alternative. This shows that syntactic agreement is possible, and in this case preferred, even for the personal pronoun.

Given this variation, which extends to the extremes of the Agreement Hierarchy, we still find a clear pattern, of a monotonic increase in the likelihood of agreement forms with greater semantic justification. This holds for:

- i. different types of controller (a rough list of types was given in Table 1)
- ii. different features (our examples involve number and gender)
- iii. a range of different languages
- iv. a range of sociolinguistic variation⁹

Given these data, we can now consider Barlow’s conclusion about the domains of agreement. He makes the point (1982/1992: 134) that those who would draw a major boundary within the domains of agreement, do so at different points. This in itself suggests that the evidence for a particular major boundary is weak. Moreover, even if we allow for the boundary to be at different places in different languages, this will still not permit us to handle the data above easily, since we often find syntactic and semantic agreement as alternatives for a given agreement target (see (2), (3) and (4) above).

One suggested boundary is between NP internal and NP external agreement. Setting such a boundary gives the wrong predictions in terms of the data we have already examined. Relative pronouns are NP internal; but they do not, as would be predicted by such a boundary, pattern with attributive modifiers, as opposed to NP external agreement in the form of predicate agreement. The data show that relative pronouns are ‘further away’ in terms of the Agreement Hierarchy than are predicate agreement targets.

⁹ See Corbett (1983: 30-39) for extensive data on Russian.

A second place where one might draw a boundary is between sentence internal and sentence external agreement. This has little merit, since personal pronouns occur both within the sentence and beyond it, with no significant difference between the two in terms of agreement.

The most popular contender is local agreement versus anaphoric agreement. As Barlow says: “This distinction is widely held - though rarely discussed.” (1988/1992: 139-140). Somewhat different accounts of such a distinction can be found in Bresnan and Mchombo (1987) (see also now Bresnan 2001: 150-160), and Zwicky (1987); see Barlow (1988/92: 139-152) for discussion of both approaches. For Bresnan and Mchombo the distinction is largely to do with the status of markers on verbs, whether they are pronominal affixes or agreement markers in given languages. (Recent work on this issue can be found in Evans 1999.) The distinction may be drawn differently for different languages, but even then it does not allow us to account of for the agreement options laid out earlier.

In whatever way we attempt to split agreement into two phenomena, we do not solve the problem posed by the data above. We might have expected that if a distinction is drawn between local and anaphoric agreement, this will allow us to describe the distribution of agreement options. But it does not. First, the dividing line between where syntactic agreement and semantic agreement are found in a given language is not necessarily clear-cut. We saw this with agreement in Serbian/Croatian/Bosnian (examples (2) and (3)), where there is a choice in predicate position and for the relative pronoun. Second, agreement choices can be found at the extreme positions of the Agreement Hierarchy. Attributive modifiers must surely come within the range of ‘grammatical agreement’ if such a distinction is drawn, and yet we can find semantic agreement here (example 6). On the other hand, the personal pronoun would be expected to fall under anaphoric agreement, and yet syntactic agreement can be found here (8). We conclude that there are no good grounds for dividing agreement domains into two. Specifically there is no principled way to distinguish the agreement variation of the pronoun from that of other targets, which therefore supports the non-local view of agreement. On this view, there is no reason to treat ‘cross-referencing’ as radically different from agreement. Rather there is a scale of domains, as in the Agreement Hierarchy, each of which should be treated as a part of agreement.

To conclude this section. Some use the term ‘agreement’ to cover feature matching in a range of domains, from within the noun phrase to antecedent-anaphor relations. Others limit it, more or less drastically. If we are to draw a boundary, then we need to be clear whether this is based on evidence from agreement itself (as we have seen, such a line would be hard to justify), or whether the boundary is being drawn as a result of other considerations within the syntactic model adopted. If such a boundary is proposed, then we should ask whether it claims to handle the distribution of syntactic versus semantic agreement (again such a claim seems unlikely to be well founded). Evidence from the Agreement Hierarchy shows that there is no one point at which agreement phenomena can be neatly divided into two. Rather there are several different domains for agreement, related in hierarchical fashion.

5. Symmetrical or Asymmetrical

When agreement is discussed in terms of ‘matching’ of features, it is sometimes unclear whether a ‘balanced’ symmetrical relation is envisaged or a controller-target relation (as in Figure

1). Evidence from the morphological availability of different feature values suggests that the relationship is an asymmetrical one. Consider these Russian examples:

- (10) nov-yj avtomobil' (Russian)
 new-SG.MASC car
 'a new car'
- (11) nov-aja masina
 new-SG.FEM car
 'a new car'
- (12) nov-oe taksi
 new-SG.NEUT taxi
 'a new taxi'

Here we have an adjective agreeing with the head noun in gender. The adjective has different morphological forms available to match the gender of the noun, which does not accommodate the adjective in any comparable way. Logically, then, the relation is asymmetrical, with the adjective being controlled by the noun. Examples of the verb agreeing in person with the pronoun would make the point equally well.

Earlier rule-based approaches to agreement captured this asymmetry directly, by copying features from controller to target. Such feature-copying approaches face various problems: the controller may be absent (as in pro-drop languages), or it may be present but be underspecified, something which occurs frequently with pronouns (Barlow 1988/1992: 30-43; his arguments are developed in Pollard and Sag 1994: 62-67). In response to these difficulties, unification-based accounts were developed, in which agreement is seen as a matter of cumulating partial information from the controller and the target (Shieber 1986: 21-22, Barlow 1988/1992: 22-45, but see Bayer and Johnson 1995 for problems). Consider one of the arguments, starting from the following example:

- (13) Je suis content/content-e (French)
 I be.1ST.SG pleased.SG.MASC/pleased-SG.FEM
 'I am pleased' (man/woman talking)

In analyses which depend on a rule of feature-copying, we need to posit two pronouns *je*, one masculine and one feminine, which happen to be phonologically identical. In a unification-based approach, we could have the following feature structures (the first for the pronoun and the verb, and the second for the predicative adjective):

- (14) number: singular number: singular
 person: 1st gender : feminine

These feature structures can be unified, since they are compatible, to give the following structure:

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