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Agreement: An Overview

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Agreement: an overview

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Agreement is widespread, being found in three quarters of the world's languages, according to Mallinson and Blake (1981:184).¹ There are many instances which almost any linguist would accept as examples of agreement, yet there is no generally accepted definition. A useful starting point is provided by Steele (1978:610):

The term agreement commonly refers to some systematic covariance between a semantic or formal property of one element and a formal property of another. For example, adjectives may take some formal indication of the number and gender of the noun they modify.

The essential point is the covariance or matching of features between two separate elements, such as noun and adjective. Other attempts at a definition can be found in Keenan (1978:167), Lehmann (1982:203) and Lapointe (1988). Most writers treat concord as synonymous with agreement; there is no distinction which is consistently drawn between the two terms.

There is disagreement as to whether the determination of the form of anaphoric pronouns (as in examples like the girl ... she) is a part of agreement. The definition above covers such cases, and indeed most mainstream work on agreement uses the term in the wider sense to include pronouns. Barlow (1988:134-52) reviews recent research and concludes that there are no good grounds for distinguishing between agreement and antecedent-anaphora relations.

Traditional grammar recognized agreement as an interesting problem; it seemed relatively easy to state the general rules for agreement in languages like Latin, but several types of exception were identified. In modern linguistics, agreement was treated for some years primarily as a mere diagnostic for investigating superficially more interesting problems. However, **Morgan (1972) showed that it is exceptionally difficult**

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just to state the rules for verb agreement in English. Interest in the phenomenon has been increasing steadily, to the extent that there have been meetings devoted to the topic (Alvarez, Brodie and McCoy 1984; Barlow and Ferguson 1988; Brentari, Larson and MacLeod 1988). The literature on the subject is extensive, and there is considerable research in progress, in different theoretical frameworks. Given the scope of the problem, we shall concentrate on the major topics.

Some of these topics arise even in the simplest statements about agreement. We frequently find statements of the type: 'X agrees with Y in Z', for example, 'predicate verbs agree with subject noun phrases in number'. The Y element, which determines the agreement, the subject noun phrase in this case, is called the **controller**. The X element, whose form is determined by agreement, is the **target**. When we say that 'X agrees with Y' we specify the **domain** of agreement. And when we indicate the properties involved (agreement in Z, number in this instance), we are referring to agreement **categories** (or agreement **features**). We shall look at each of these topics, then consider the nature of agreement, its function, and the way in which it arises.

1. Categories

It makes sense to start with agreement categories, since they are essential to our subsequent discussion. We look first at the possibilities, then at the problems.

1.1 Category possibilities

Agreement in gender is common; adjectives may agree with their head noun in gender, as in these Russian examples:

- (1) bol'sh-*oj* avtomobil'
 large car ('a large car')
- (2) bol'sh-*aja* mašina
 large car ('a large car')
- (3) bol'sh-*oe* taksi
 large taxi ('a large taxi')

The adjective changes its form according to the noun: in (1) it takes -oj because the noun avtomobil' 'car' is of masculine gender (we would find a similar gender agreement form with nouns denoting males); in (2) it takes -aja because the alternative word for 'car' - mašina - is feminine; and (3) shows the neuter ending. While such three-gender patterns are quite common, as are two-gender systems, languages with four and five genders are not unusual, and much larger numbers are occasionally found. Gender systems may have sex as a component, as in languages with masculine and feminine genders; but equally sex may be irrelevant; the distinction may be between animate and inanimate, for example.

The Russian examples also show agreement in number; all the adjectives are singular, to agree with the singular nouns. If we change the first noun to a plural, the form of the adjective must change to match:

(4) bol'sh-ie avtomobili
 large cars

The contrast here is just between singular and plural. Many languages have a third member of the number system, the dual, used for denoting two items. More complex systems may also be found, for example, with special forms for three items (the 'trial') or for a small but unspecified number of items (the 'paucal').

These same Russian examples also illustrate agreement in case: all so far are in the nominative case, as would be appropriate for subject position. If instead we include one in a prepositional phrase, we see the form change again:

(5) v bol'sh-om avtomobile
 in large car ('in a large car')

The preposition v 'in' governs the locative case, and the adjective, like the noun, stands in this case. Russian has six cases and there are many Indo-European languages with similar systems. Much larger case inventories can be found, in some of

the languages of the Caucasus, for example.

The other commonly occurring agreement category is person. Systems with three persons, like Russian ja čitaju 'I read', ty čitaeš' 'you read' and on čitaet 'he reads', are familiar. Larger inventories occur in languages which subdivide one or more of these three persons in some way. For example, some languages (such as Quechua) subdivide the first person into the first person inclusive and exclusive; and the third person may be divided into obviative and non-obviative, as in Algonquian languages

The final category we shall consider is that of definiteness. This is not often included in the agreement categories, but there is a case for its inclusion, as evidence particularly from Afro-Asiatic languages suggests. These examples are from Syrian Arabic (Ferguson and Barlow 1988:6):

(6) rižžaal kbiir
man big ('a big man')

(7) r-rižžaal l-kbiir
the-man the-big ('the big man')

For further exemplification of these categories see Moravcsik (1978:336-362) and the entries on GENDER, NUMBER, CASE, PERSON and DEFINITENESS.

1.2 Category problems

While it is true to say that, for example, Russian adjectives agree with their noun in gender, such statements generally need qualification. This is because there are frequently restrictions on agreement. Thus German adjectives also show agreement in gender. But this agreement is restricted syntactically: within the noun phrase we find agreement, but when an adjective functions as a predicate (with the copula), then there is no agreement. We often find morphological restrictions too. Our Russian examples (1-3) show agreement in gender; however, if the same phrases are made plural, the adjective in each case takes the same form as in (4); that is, agreement in gender is restricted to the singular number, while in the plural we find syncretism

of gender. And the restriction may be lexical: in the North-East Caucasian language Khinalug, most verbs show agreement but some do not.

The second type of qualification we need to make to general statements of agreement possibilities is that the categories are different in nature. In the case of gender, we have an inherent feature of the noun. Gender is found on the target, say the adjective, as a consequence, in some sense, of its presence in the noun. In example (1), the masculine ending on bol'šoj has nothing to do with the lexical meaning of the adjective, but results from the fact that the adjective is modifying a masculine noun. A somewhat similar situation obtains for person; in the Russian sentences ja čitaju 'I read', 'first person' is an inherent feature of the pronoun, but not of the verb. When we move on to number, things are a little different. Number is not usually an inherent property of nouns; typically a large proportion of nouns can appear in both (or all) numbers. Nevertheless, in examples like (4), it is clear that the number feature relates primarily to the noun; the property denoted by the adjective (largeness in this instance) is not affected by the change in number, which is again just a result of the fact that it modifies a noun with this feature.

With case, the picture is different again; clearly not an inherent feature, case is imposed by government by some other syntactic element (the preposition in example (5)). Thus the noun and adjective in (5) are in the same case because it is imposed on both. They do indeed co-vary for case, but this covariance is different to that found with, say, gender; as a result some would not recognise case as an agreement category. Speaking metaphorically we may say that nouns start out having gender and impose it on their modifiers (similarly pronouns have person which they impose on their agreement targets); nouns gain number, which they impose on their modifiers. However, nouns gain case 'at the same time' as their modifiers and so come to have the same case. While this holds for the straightforward instances of matching of case within the noun phrase, there are more complex instances of covariance in case between predicate complements and their controllers (for which see Timberlake 1988 on Lithuanian, and references there to earlier work, especially by Andrews). Finally, agreement in definiteness is a

clear instance of a feature imposed on the noun phrase as a whole, which may be indicated at more than one point in the phrase, and so show a matching of the definiteness feature. Previewing the later discussion, we may say that whether such instances count as agreement or not depends in part on whether it is considered 'directional'. If 'X agrees with Y' implies that Y has the feature 'first' and then this is matched by X, then there is a strong case for saying that (5) does not in fact show agreement in case, nor (7) agreement in definiteness; if simple matching is all that is required, then they are instances of agreement.

The third type of problem with general statements of agreement possibilities is that there are instances where the features do not in fact match. A familiar one is found in English. We wish to say that predicate verbs agree with the subject noun phrase, yet we find, particularly in British English, examples like the following:

(8) The committee have decided

The subject is singular, yet the verb is plural. We return to such examples in section 5.2 below.

2. Controllers

Typical controllers present little difficulty of identification, yet there are numerous problems with the less straightforward cases.

2.1 Controller possibilities

Our discussion of categories suggests that the features involved in agreement are associated originally or primarily with nouns; traditionally nouns and pronouns are considered the normal agreement controllers. However, when we look at subject-verb agreement, and indeed any agreement extending beyond the noun phrase, it appears that it is the noun phrase rather than the noun which is the controller. (A clear instance is agreement with conjoined noun phrases.) This poses little difficulty in that many would claim that the noun phrase's features depend on those of the head noun and so the noun is still in a sense the controller. On the other hand there is an asymmetry here, and there are examples where agreement even within the noun phrase cannot easily be explained as agreement with the noun; for these

reasons, some, like Lehmann (1982:221-4) claim that agreement is always controlled by a noun phrase. Either way, it is established that possible controllers are 'virtually always constituents in the N projection' (Pullum 1984:82).

2.2 Controller problems

The analysis of agreement controllers presents several problems. First there are cases where different elements within the controller compete to control agreement. Thus if the subject consists of conjoined noun phrases, the verb may well agree with just one of them. In quantified expressions there is often competition between the quantifier and the quantified noun for the role of controller. Then there are instances where different potential controllers are in competition; for example, the predicate complements may compete with the subject noun phrase in determining the agreement form of the copula verb; this phenomenon is known as 'attraction' or 'back agreement'. (For examples of all these see Corbett 1988:25-32; and for a case of complex interaction of competing factors in determining the controller see Tsunoda 1981 on Djaru, and compare Mallinson and Blake 1981:88-9 and Comrie 1989:191-2.)

Another common problem, and a serious one in some theoretical frameworks, is the existence of so-called 'pro-drop' languages. We wish to say of languages like Serbo-Croat that verbs agree with their subject in person and number, as in ja čitam 'I read', ty čitaš 'you read'. In most circumstances, the more natural utterances would be čitam and čitaš. The problem is that the pronominal agreement controller is normally not present. For other problematic controllers see the remarkable data on Chamorro and Palauan presented by Chung and Georgopoulos (1988), and the Upper Sorbian data discussed by Corbett (1987).

3. Targets

Targets vary widely, and involve considerable problems of analysis.

3.1 Target possibilities

We have already noted examples of agreement of adjectives

within the noun phrase. We may also find demonstratives agreeing similarly, articles (definite and indefinite), various possessives, and numerals. The latter type of target is perhaps less familiar and so will be illustrated with examples from the Bantu language Chichewa;

(9) chi-pewa chi-modzi
 hat one ('one hat')

(10) zi-pewa zi-wiri
 hats two ('two hats')

Here the numeral agrees in gender and number with the noun.

In many languages predicate verbs agree with the subject noun phrase. They may also agree with the direct object (as in various Bantu languages) and with various other arguments. Personal pronouns agree with their antecedents (though some would exclude them from agreement, as discussed earlier) as do relative pronouns. Surprisingly, perhaps, the list continues. Adverbs can show agreement (in Lak and in Kala Lagaw Ya, for example), as can adpositions (Abkhaz), and there is even evidence (from West Flemish) that complementizers can agree. The possessed noun may show agreement with the possessor (again found in Abkhaz) and, more rarely, we may find the possessor agreeing with the possessed (as in Chamalal). For illustrations of all of these target types see Corbett (1991); see also Lehmann (1982:207–215) for useful data.

3.2 Target problems

A problem which targets cause for accounts of agreement is that the realization of agreement may differ according to the target. In its simplest form, this difference is widespread in Indo-European; we shall take an example from Serbo-Croat:

(11) Milica je došla
 Milica is come ('Milica came')

The auxiliary verb shows agreement in person and number (it is 3rd singular), while the participle shows agreement in number and gender (feminine singular). These targets, then, show agreement in different features, but in the feature they share,

namely number, they show the same value (singular). This identity of the shared feature is not always found, however, as this Slovak example shows:

(12) Mama, vy ste taká dobrá!
 Mother, you are so kind!

Here we have agreement with the plural pronoun vy 'you' here used honorifically; both parts of the predicate agree in number, but ste is plural, while taká dobrá is singular (and feminine). And when controllers allow agreement options (as say English nouns like committee, which allow singular and plural agreement), the particular target involved may have a major influence on the form chosen. (For detailed analysis of such problems see Corbett 1983.)

4. Domains

As noted earlier, when we can identify both the controller and the target we specify the agreement domain. Given the range of possible targets, it is evident that the number of possible domains is also large, both when we look at the possible domains in human language, and even when we look at certain individual languages (see Moravcsik 1978:362-366 for discussion). Ideally we would like to be able to derive the possible agreement domains from some more general principle. The most influential attempt to do this is that of Keenan (1978). In a nutshell, Keenan claims that X may agree with Y if and only if in the logical form of a given syntactic structure, the logical forms of expressions of X are interpreted as functions taking the interpretations of expression of Y as arguments: in other words, targets are functions and controllers are arguments. This account covers a large proportion of the attested domains: controllers, as we have seen, are typically nominal, while targets, at least the common ones, may be viewed as functions or operators semantically (compare Pullum 1984: 82). Keenan's generalization is the basis for the Control Agreement Principle of Generalized Phrase Structure Grammar (Gazdar, Klein, Pullum and Sag 1985: 83-94), and of similar constructs in other theories. The important point here is that the Control Agreement Principle specifies possible agreement domains by reference to the semantic types of the elements involved.

Before leaving domains we should consider some of the problems involved. First we should note that agreement is not always 'downwards' in the sense that dependents always agree with their heads. As Nichols (1985) shows, there are also instances of 'upwards' agreement, where heads agree with dependents. And then it should be said that there are instances of domains which seem to stretch the range beyond anything we might have predicted. Consider the following data from the North-East Caucasian language Archi (Kibrik 1972:124):

- (13) w-ez dija Ķ'anši w-i
 I father like is ('I like father')
- (14) d-ez buwa Ķ'anši d-i
 I mother like is ('I like mother')
- (15) b-ez dogi Ķ'anši b-i
 I donkey like is ('I like the donkey')
- (16) Ø-ez motol Ķ'anši Ø-i
 I young goat like is ('I like the kid')

Archi is an ergative language: the part of the verb which shows agreement agrees with the object of a transitive verb; there are four different forms in (13)-(16), corresponding to the four genders of Archi. With verbs of emotion and perception, the subject stands in the dative case; in our examples it is a personal pronoun with an agreement slot, and this also agrees with the object. Thus we have one argument of the verb agreeing, through it, with another. Another remarkable agreement domain is described in Troike (1981).

5. The nature of agreement

There are two problems which have dominated attempts to give a satisfying account of agreement: the question of directionality and the nature of the link between controller and target.

5.1 Directionality

As we saw in the discussion of categories, there is a clear intuition that agreement is in a sense directional. Consider this Russian example:

- (17) Irina čitala
Irina was reading

The noun Irina is feminine because it denotes a female. The verb shows feminine agreement (-a) because its subject is feminine - the reading is not feminine. A noun typically has only one gender, while the verb has alternative forms to match the features of a particular subject in a given sentence.

Early accounts of agreement, in Transformational Grammar, captured this intuition by copying features from the controller to the target. This works in many cases, but there are problems, several of which we have already encountered. The controller may be absent (as in the pro-drop cases). This was handled by having the controller present, copying its features, and then deleting it (an approach not available in more recent theories). However, the controller may be present but be underspecified, as in this French example (Ferguson and Barlow 1988:12):

- (18) je suis heureux / je suis heureuse
I am happy / I am happy

The first variant would be used by a male speaker, and has masculine agreement, while the second is appropriate for a female as it shows feminine agreement. A copying account of agreement requires us to have two forms of the first person pronoun, even though there is no formal difference. And finally copying analyses have problems with instances where the features on the controller and the target do not match (as with nouns like committee).

More recent approaches, notably that of Generalized Phrase Structure Grammar, allow free instantiation of feature on controllers and targets. Only those structures meeting certain constraints, typically identity of certain features, are grammatical. Thus we have matching of features but without copying. The work is done by 'unification', which has vital role is several different frameworks. In such accounts there need not be any directionality of agreement - yet, as we have seen, it represents an important intuition. In Generalized Phrase Structure Grammar this notion is reintroduced by the Control Agreement Principle (discussed earlier), which specifies possible controllers

and targets, and gives them different statuses.¹ Since, however, there is no movement of features in such model, it is more accurate to talk of the 'asymmetry' of agreement rather than 'directionality'.

Unification does not require that feature sets should be fully specified; it will allow analyses of the examples with absent and underspecified controllers. If, as in (18) above we say that the controller is first person and singular but is unspecified for gender, while the target is singular and feminine but is unspecified for number, unification of the two will give the values: first person, singular, feminine. Thus agreement can be seen as a matter of cumulating partial information from controller and target (see Barlow 1988; Pollard and Sag 1988). It is still asymmetric in that the information relates primarily to the controller. (Note that this view would exclude from agreement most instances of case and definiteness matching.)

5.2 The link between controller and target

The traditional view of agreement was that the link was a matter of syntax. To those who had worked on Latin, it seemed obvious that most cases of agreement could be covered by relatively straightforward syntactic rules. They were careful to note exceptions, where the features of the controller and target do not match (analogous to the English committee problem) and suggested that these show interference from semantic factors. This is still the dominant view. Those who appeal to the Control Agreement Principle or some similar principle are claiming that the domains of agreement can be specified by appeal to semantics but the domains themselves remain a matter of syntax.

Others, however, take a different view. They cite examples like the following:

- (19) Five dollars is too much
- (20) John and only John is allowed in here
- (21) This team are going to win the cup (Barlow 1988:230)

In such cases it appears that agreement is semantically motivated (taking semantics broadly). We have a plural subject in (19) yet a singular verb. The conjoined noun phrases in (20) have a single

¹ I am grateful to Ewan Klein for discussion of the points here.

referent and so we have a singular verb. Example (21) is the opposite of (19), in that we have a singular subject and plural verb.

If we have to appeal to semantic factors in such instances, a logical move is to try to treat the whole of agreement as a matter of semantics (as suggested by Dowty and Jacobson 1988, for example). Let us start from a straightforward example:

(22) The cat sits on the mat

We can perfectly well argue that sits is singular because its controller cat denotes a singular entity. This is in the nature of the agreement categories of gender, number and person: they all display a greater or lesser degree of overlap with the real world and therefore many instances of their use can be equally well treated as syntactic or semantic. It is significant that those who favour the semantic approach typically start from English data; English allows greater scope for semantics/pragmatics than almost any other language whose agreement system has been analysed in any depth.

Just as there are cases where the syntactic view of agreement has to appeal to semantic factors, so it would seem that a semantic view will need to appeal to syntactic factors. An obvious case involves languages with grammatical gender, where the genders say of inanimates is not determined by their meaning (see the entry on GENDER). It is hard to construct a convincing semantic account of the feminine agreements with mašina 'car' in (2) as opposed to the use of the masculine with avtomobil 'car' in (1). Another difficulty is examples like the following (H. Clarke, cited in Barlow 1988: 227):

(23) I am parked on the hill

While the intended referent is clearly a car, there is no possibility of a third person verb - syntactic person agreement is required. Perhaps the most serious problem for the semantic approach to agreement, as indeed for the syntactic approach, is sentences like (21) above, where we find 'syntactic' agreement of the determiner this and 'semantic' agreement of the verb are. Here it appears that semantic accounts have to leave a place for syntax.

Bibliography

- Alvarez G, Brodie B, McCoy T (eds) 1984 ESCOL '84: Proceedings of the First Eastern States Conference on Linguistics. Ohio State University, Columbus, Ohio
- Barlow M 1988 A Situated Theory of Agreement. Doctoral dissertation, Stanford University, Stanford
- Barlow M, Ferguson C A (eds) 1988 Agreement in Natural Language: Approaches, Theories, Descriptions. Center for the Study of Language and Information, Stanford University, Stanford
- Brentari D, Larson G, MacLeod L (eds) 1988 CLS 24: Papers from the 24th Annual Regional Meeting of the Chicago Linguistic Society: Part II: Parasession on Agreement in Grammatical Theory, Chicago Linguistic Society, Chicago
- Chung S, Georgopoulos C 1988 Agreement with gaps in Chamorro and Palauan. In: Barlow M, Ferguson C A (eds) , pp. 251-267
- Comrie B 1989 Language Universals and Linguistic Typology second edition, Blackwell, Oxford
- Corbett G G 1983 Hierarchies, Targets and Controllers: Agreement Patterns in Slavic. Croom Helm, London
- Corbett G G 1987 The morphology/syntax interface: evidence from possessive adjectives in Slavonic. Language 63.299-345
- Corbett G G 1988 Agreement: a partial specification, based on Slavonic data. In: Barlow M, Ferguson C A (eds), pp. 23-53
- Corbett G G 1991 Gender. Cambridge University Press, Cambridge
- Corbett G G forthcoming Research into syntactic change: agreement. In: Jacobs J, von Stechow A, Sternefeld W, Vennemann T (eds) Syntax: an International Handbook of Contemporary Research. de Gruyter, Berlin
- Dowty D, Jacobson P 1989 Agreement as a semantic phenomenon. In: Powers J, de Jong J (eds) ESCOL '88: Proceedings of the Fifth Eastern States Conference on Linguistics. Ohio State University, Columbus, Ohio, pp. 95-108
- Ferguson C A, Barlow M 1988 Introduction. In: Barlow M, Ferguson C A (eds), pp. 1-22
- Foley W A, Van Valin R D 1984 Functional Syntax and Universal Grammar. Cambridge University Press, Cambridge
- Gazdar G, Klein E, Pullum G, Sag I 1985 Generalized Phrase Structure Grammar. Blackwell, Oxford
- Givón T 1976 Topic, pronoun and grammatical agreement. In: Li C N (ed). Subject and Topic. Academic Press, New York,

- pp. 149–88
- Keenan E L 1978 On surface form and logical form. In: Kachru B B (ed). Linguistics in the Seventies: Directions and Prospects (= Studies in the Linguistic Sciences 8, 2). Department of Linguistics, University of Illinois, Urbana, Ill, pp. 163-203
- Kibrik A E 1972 O formal'nom vydelenii soglasovatel'nyx klassov v arčinskom jazyke. Voprosy jazykoznanija no. 1.124-31
- Lapointe S G 1988 Towards a unified theory of agreement. In: Barlow M, Ferguson C A (eds), pp. 67-87
- Lehmann C 1982 Universal and typological aspects of agreement. In: Seiler H, Stachowiak F J (eds) Apprehension: Das sprachliche Erfassen von Gegenständen: II: Die Techniken und ihre Zusammenhang in Einzelsprachen. Narr, Tübingen, pp. 201–267
- Mallinson G, Blake B J 1981 Language Typology: Cross-linguistic Studies in Syntax. North-Holland, Amsterdam
- Moravcsik E A 1978 Agreement. In: Greenberg J H, Ferguson C A, Moravcsik E A (eds) Universals of Human Language: IV: Syntax. Stanford University Press, Stanford, pp. 331-374
- Morgan J L 1972 Verb agreement as a rule of English. In: Peranteau P M, Levi J N, Phares G C (eds) Papers from the Eighth Regional Meeting Chicago Linguistic Society, April 14–16 1972, Chicago Linguistic Society, Chicago, pp. 278-86
- Nichols J 1985 The directionality of agreement. In: Niepokuj M et al. (eds), Proceedings of the Eleventh Annual Meeting of the Berkeley Linguistics Society, B. L. S., University of California, Berkeley, California, pp. 273-86
- Pollard C, Sag I A 1988 An information-based theory of agreement. In: Brentari D, Larson G, MacLeod L (eds), pp. 236-57
- Pullum G K 1984. How complex could an agreement system be? In: Alvarez G, Brodie B, McCoy T (eds), pp. 79-103
- Steele S 1978 Word order variation: a typological study In: Greenberg J H, Ferguson C A, Moravcsik E A (eds) Universals of Human Language: IV: Syntax. Stanford University Press, Stanford, pp. 585-623
- Timberlake A 1988 Case agreement in Lithuanian. In: Barlow M, Ferguson C A (eds), pp. 181–199
- Troike R C 1981 Subject-object concord in Coahuilteco. Language 57.658-73
- Tsunoda T 1981 Interaction of phonological, grammatical, and semantic factors: an Australian example. Oceanic Linguistics 20.45-92