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Verb agreement is commonly assumed to be a very superficial process
in both senses of the word: superficial in that the verb seems to agree
with a NP that is its subject at a relatively late point in the derivation,
and superficial in that it is a simple and uninteresting process. The
point of this paper is to show that in the latter sense verb agreement
(VA) is far from superficial; that in fact VA is a difficult problem
for any theory. Data will be presented to show that VA cannot be stated
as a simple transformation.

VA, it seems clear, is a superficial process; for example, it is
probably safe to claim that no language has a rule of VA such that the
verb agrees with the NP that was its subject in the most underlying
structure. Further, one would not expect a language to change by re-
ordering VA to precede rules that it previously followed. In general,
if a syntactic rule has the effect of changing the subject of a tensed verb
in a way which potentially affects VA, then VA will follow that rule.

Moreover, VA does not seem to feed or bleed any other syntactic
rule; there is no rule whose structural description must mention whether
a verb has been marked to agree with its subject. It seems most appro-
priate then to treat VA either as a rule which applies post-cyclically or
as an output filter of some sort. Either of these would require a formu-
lation in terms of a global rule. But acceptance of the claim that VA
is a global rule is not crucial to the rest of this paper. The point to
be explored here is the problem of specifying which NP the V agrees with;
in other words, the level in the derivation which the structural descrip-
tion of VA must refer to. The rest of this paper will examine this question.

Three initial assumptions.

I. The subject relation is crucial for VA.
II. VA can be simply stated as a rule with a structural description
    and a structural change, either as a transformation or as a global
    rule.

Given I and II, it follows that the subject-verb relation must be
structurally defined, since transformations can refer only to constituent
structure and category labels.

III. The subject-verb relation is captured by the structural
      description:

$$[\ NP\ V\ X\ ]$$
$$S\qquad\ \ S$$

Given these assumptions, it follows that in relative clauses like (1),
the verb agrees with some NP within S, the relative clause, rather than, say
NP2, the head of the NP.

(1)
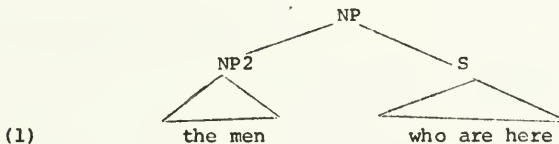
Then it follows from cases like (2) that VA must refer to a stage of
the derivation prior to the application of Wh-movement, since after Wh-
movement applies, the structural description as stated in III is not
met.

(2)
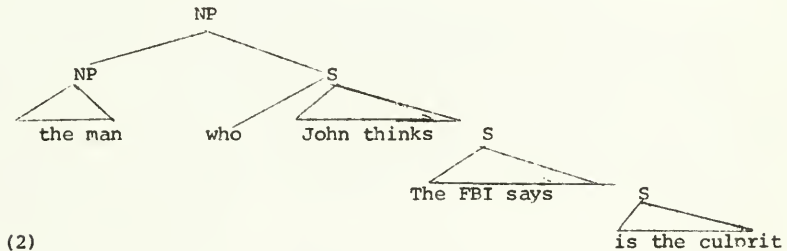
      A possible analysis consistent with this is that VA refers to some
level of the cycle. I will first offer objections to such an analysis,
then present data independent of these objections to show that VA
cannot be stated to refer to a single fixed level in the derivation.
Some alternatives will then be examined.

I. VA as a rule referring to a fixed level.

A. Objections to verb agreement referring to the cycle.

1. General

      a. Such a claim implies the claim that if there were a post-
cyclic rule changing the subject of a verb, the verb would end up
agreeing not with its superficial subject, but with an earlier one. But

perhaps there are no such post-cyclic rules. If so, this is an important non-obvious difference between cyclic and post-cyclic rules.

b. Such a claim necessitates without independent motivation the additional claim that any rule affecting subject-verb agreement (Extraposition[1], Conjunction Reduction, Respectively-formation, for example; I leave it to the reader to construct his own examples) must be a cyclic rule.

2. More particular claims

a. The claim that VA refers to some level within the cycle, i.e. after some cyclic rule(s) but before some other(s).

There are cases which seem to argue for this type of analysis. For instance, one might argue from (3) and (4) that VA must refer to a level prior to There-insertion (a cyclic rule).

(3) There is a man in the room.

(4) There are some men in the room.

But such an analysis is open to at least two objections:

1) It demands an extrinsic ordering statement betweeen VA and There-insertion, thus claiming that there is no explanation for the rules having to apply in this order. It fails to explain why the relationship between VA and There-insertion is a natural one. By comparison, the same ordering relationship between VA and Passive, as in (5) and (6) is not a natural one.

(5) John and Harry have shot Bill.

(6) *Bill have been shot by John and Harry.

2) It treats as accidental the fact that verbs generally agree with their 'closest-to-the-surface' subjects.

b. The claim that VA refers to the end of the cycle; that is, that a verb always agrees with the NP that is its subject at the end of the cycle on the S containing the V.

This claim avoids the two objections to the within-the-cycle analysis, but it requires an ad hoc analysis of There-insertion. Since this analysis (given III) claims that the verb agrees with there, there must be some rule marking there to agree in person and number with the previous subject of the verb. This is a particularly painful problem

for advocates of global rules.

B. Evidence that VA cannot be stated to refer to a single fixed level.

There is an inversion rule relating (7) and (8):

(7) $\left\{ \begin{array}{c} \text{What} \\ \text{All} \end{array} \right\}$ John saw was himself.

(8) Himself was $\left\{ \begin{array}{c} \text{what} \\ \text{all} \end{array} \right\}$ John saw.

VA must apply after the application of this rule, to account for the difference between (9) and (10).

(9) All I saw was John and Bill.

(10) John and Bill were all I saw.

But if VA refers to a level following the inversion rule, it predicts that (11) is well-formed, and fails to predict the well-formedness of (12).

(11) *Themselves were all they saw.

(12) Themselves was all they saw.

II. Multi-level alternatives.

A. An interesting but incorrect alternative.

An alternative that avoids all the objections and difficulties discussed above is that VA is a searching algorithm operating on derivations, stated roughly as (13).

(13) A tensed verb agrees with the NP that is its most recent possible subject, where 'most recent' is to be interpreted as 'closest to the surface' and 'possible' depends on two factors:

a. It must be possible to determine from lexical or semantic properties of the NP what its number and person are.

b. It must be in the nominative case.

The algorithm applies to make the verb agree with its most super-ficial subject if conditions a and b are satisfied. If not, it looks back in the derivation to find the next most recent subject, and if a and b are satisfied, makes the verb agree with it, and so on. This analysis

captures the fact that verbs generally agree with their most recent subject, and it avoids the objections to the cyclic analysis. (It is, of course, open to the objection that it uses enough power to cause blackouts all along the Eastern Seabord.)

It accounts for (11) and (12) in the following way: although themselves is in subject position, it is not in nominative case. Therefore the verb agrees with the next most recent subject: the subject prior to the application of the inversion rule.

In the case of There-insertion, a plausible analysis is that there is neither semantically nor lexically marked for person or number, therefore the verb agrees with the subject prior to the application of There-insertion. For those dialects where constructions like this always take singular verbs, as in (14), one could claim that there is lexically marked as third person singular.

(14) There is 30 men at the door.

Unfortunately (or perhaps fortunately) this analysis fails on examples like (15).

(15) There were thought to have been three men in the room.

In this sentence were agrees with three men. But There-insertion applied on the embedded sentence, there then being moved by Subject Raising and Passive to end up as the superficial subject of were thought. Then three men was never at any stage the subject of were thought. Yet were agrees with it. Thus this alternative cannot be maintained.

B. Speculations on a possible correct analysis.

In this section I will try to show what the correct analysis cannot be, by showing that assumptions II and III do not hold.

Assumption II, that the structural description of VA always refers to the same fixed level, was shown to be wrong by the inversion cases (11) and (12). Disconfirmation of III comes from more There-insertion cases. For many speakers, whether the pre-There-insertion subject was a simple plural NP or a conjoined NP is crucial. Thus for them (16) and (17) differ in agreement.

(16) There were two people in the room.

(17) There $\begin{Bmatrix} \text{was} \\ \text{*were} \end{Bmatrix}$ a boy and a girl in the room.

Notice further the difference between (18) and (19).

(18)   There $\begin{cases} \text{was} \\ \text{'were} \end{cases}$ two men and a woman in the room.

(19)   There $\begin{cases} \text{was} \\ \text{*were} \end{cases}$ a woman and two men in the room.

Moreover, claiming that Assumption III is correct implies the claim that in relative-clause-like structures, properties of the head noun are irrelevant to the operation of VA within the relative clause. This claim is disconfirmed by the following facts: in cleft sentences, the case of a coreferential NP affects the operation of VA, as in (20) through (23)[2].

(20)   It's I who speak French.

(21)   It's me who speaks French.

(22)   It's we who speak French.

(23)   It's us who speak French.

It appears in these cases that if the coreferential NP is in nominative case, the verb in the embedded clause agrees with it in person and number; but if it is not in nominative case, the verb is third person and agrees with the pronoun only in number.

The situation is similar but not identical for true relative clauses:

(24)   I, who speak French like an Italian, will be your interpreter.

(25)   John gave the book to Bill, who speaks French.

(26)   John gave the book to me, who he doesn't even like.

(27)   *John gave the book to me, who speaks French.

(28)   **John gave the book to me, who speak French.

This suggests that person and number agreement should be treated by separate rules or conditions.

The most likely analysis, then, is in the form of a hierarchy of conditions (perhaps separate ones for person and number) roughly of the following content:

The verb must agree with its superficial subject, if possible.

If this is not possible (wrong case, no marking, etc.) then

it must agree with X.

The problem is in specifying X. The There-insertion cases (16)-(19)

suggest that this may be specific to the type of construction. Hopefully a more elegant solution can be found.

NOTES

[1] The inclusion of Extraposition in this category was based on the difference between (i) and (ii).

 (i) To swim backwards and to read Georgian $\left\{ \begin{array}{l} *\text{is} \\ \text{are} \end{array} \right\}$

   (both) difficult.

 (ii) It $\left\{ \begin{array}{l} \text{is} \\ *\text{are} \end{array} \right\}$ difficult (both) to swim backwards and to read Georgian.

[2] I am grateful to Gene Gragg for the cleft-sentence data.