Verbal Concord in Transformational Grammar (I)

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1. Abstract

The present paper takes a look at how verbal concord is treated in English and how its mechanism contributes to the generation of both grammatical and ungrammatical sentences for English learners.

It is significant that verbal concrod sheds some light on how our mind works in both receiving and producing linguistic messages in English.

2. What is Verbal Concord?

Verbal concord, which is also called verbal agreement, means that the form of the verb changes in some way due to the influence of the subject noun or pronoun.

In English, 《be》 agrees with its subject noun or pronoun when it is either present or past tense, and all other verbs agree with the subject noun or pronoun only when they are present tense.

For the sake of simplicity, we will limit the discussion to those instances where the subject is a noun, returning later to consider those cases where pronouns are involved. For the sake of the present discussion, we need to consider nouns only with regard to their 《number》, which may be either 《singular》 or 《plural》.

The agreement of 《be》 with subject nouns may be summarized as follows:

(1) a. When 《be》 is in the present tense and the subject noun is singular, 《be》 will take the form 《is》.

b. When 《be》 is in the present tense and the subject noun is plural, 《be》 will take the form 《are》.

c. When 《be》 is in the past tense and the subject noun is singular, 《be》 will take the form 《was》.

d. When 《be》 is in the past tense and the subject noun is plural, 《be》 will take the form 《were》.

This may be summarized in tabular form (2).

(2)

	Present tense	Past tense
Singular subject	is	was
Plural subject	are	were

Considering the present tense forms of《be》for the moment, we must create a grammar that will allow the generation of (3) and (4) but block the ungrammatical senmtences (5) and (6).

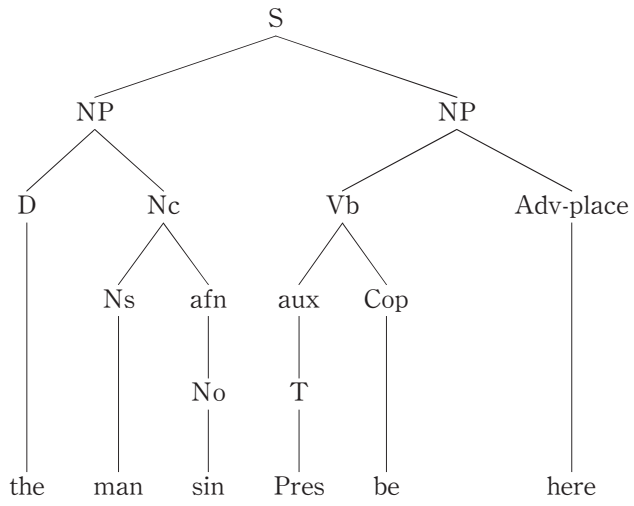
(3) The man is here.
(4) The men are here.
(5)* The man are here.
(6)* The men is here.

In terms of early transformational grammar, a noun affix is posited that may be rewritten as《number : No》, which in turn may be rewritten as either singular or plural, as in the phrase structure rules of (7)

(7) NP ⟶ [D+Nc/Npr]
Nc ⟶ Ns+afn
afs ⟶ No
No ⟶ [sin/pl]
D ⟶ the
Ns ⟶ man
Npr ⟶ John

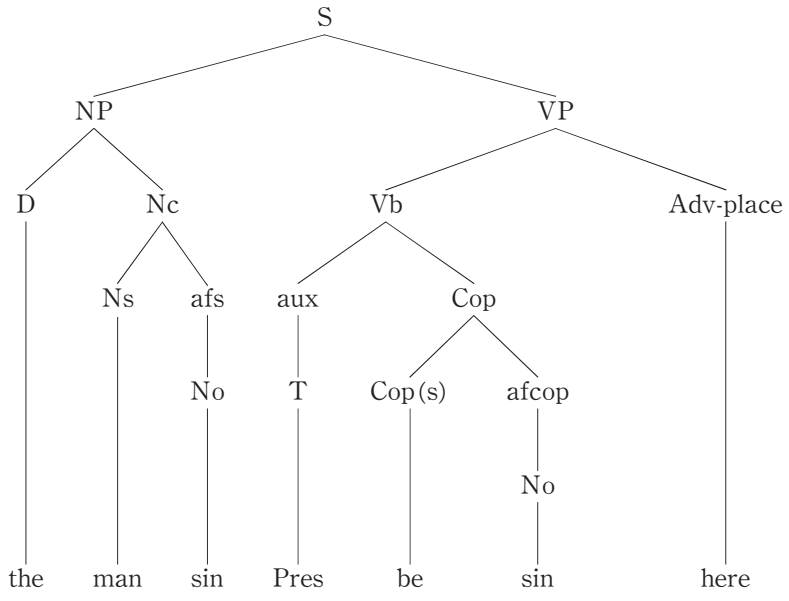
Combined with the other phrase structure rules, the PS rules of (7) will serve to generate a P-marker of the type (8).

(8)



It is tempting at this point to ask, why not posit a copula affix which may be rewritten as number which may in turn be rewritten singular or plural as in (9).

(9)



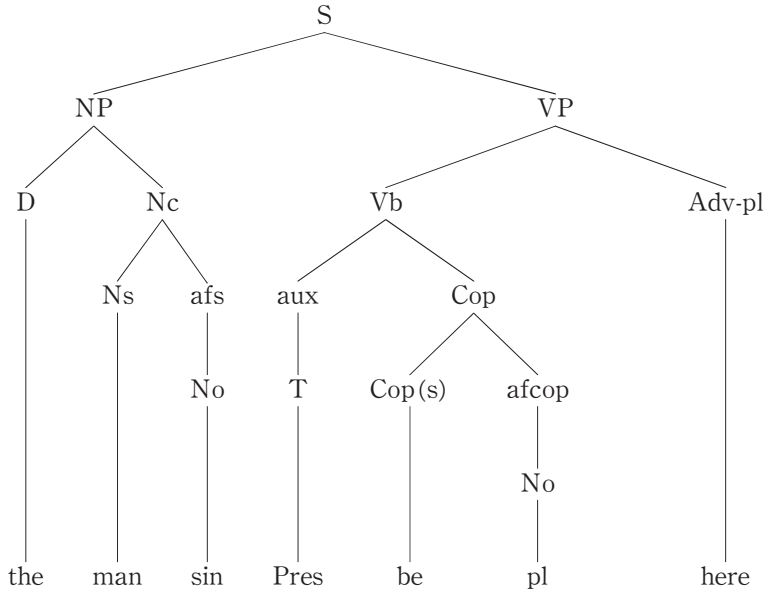
The phrase structure rules involved would look something like this:

(10) NP ⟶ [D+Nc/Npr]
Nc ⟶ Ns+afn

afn ⟶ No
Cop ⟶ Cop(s)＋afcop
afcop ⟶ No
No ⟶ [sin/pl]
Cop(s) ⟶ be
D ⟶ the
Ns ⟶ man
Npr ⟶ John

The problem with (10) is that it can serve to generate P-markers like (9) in which both the subject and copula are singular, but it will also serve to generate P-markewrs like (11) in which the subject noun is singular but the copula is plural.

(11) Ungrammatical



P-marker (11) would eventually be transformed into the ungrammatical sentence (5). The reason for this is that number (No) appears twice in the PS rules (10), once under《afn》and once under《afcop》, and each《No》can be rewritten as either singular or plural independently of the other, allowing (11) and (9).

In oreder to prevent this situation from occurring, we must introduce number (No) only once and then copy that number after《be》. Thus, we will select the PS rules (7) and reject the PS rules (10).

Copying is accomplished by a transformational rule that copies the node《No》and the node

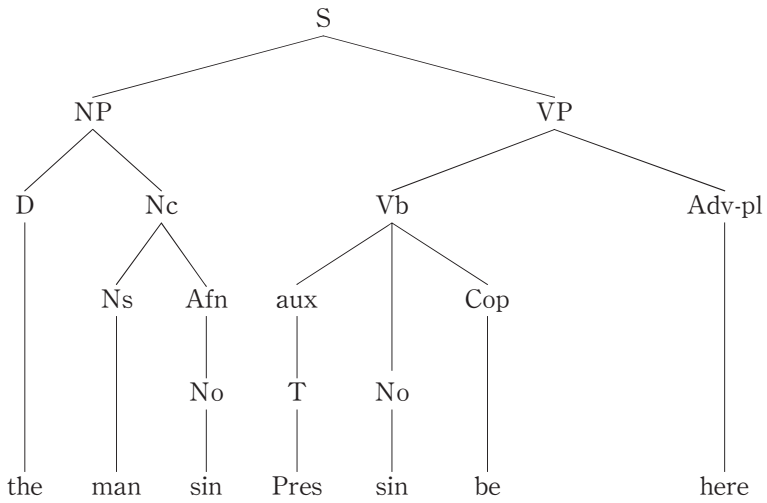
number《No》, i. e.《sing》or《pl》. A lower node is considered to be a "part of" the higher node, and when we copy something, we of course copy its patrs. Since we have chosen the PS rules (7), the structural description (left side) of the transformation must match the P-marker (8), which is generated from the PS rules (7). The structural change must indicate that《No》is copied before《be》. Such a rule may be specified as (12).

(12) X+Ns+No+Pres+be+Y ⟶ X+Ns+No+Pres+Np+be+Y

Note that the determiner《the》is subsumed under X since it is carried over unchanged, and the adverb of place《here》is subsumed under Y since it is carried over unchanged. The noun stem《man》, strictly speaking, should also be subsumed under X, but it is represented in (12) as a point of reference.

Applying the copying rule (12) to the P-marker (8), in which only the noun phrase has a node for number, will result in a derived P-marker of the form (13), in which both the noun phrase and the Vb have a node for number, and significantly, both the number of the NP and the Vb will be the same, either both and singular or both plural.

(13)

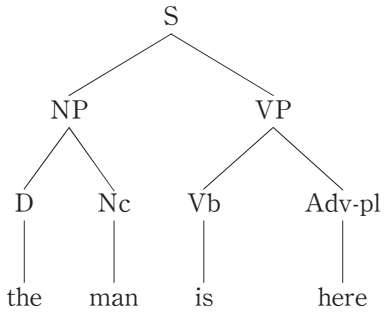


The morphophonemic rules of the from (14) and (15) apply, (14) changing《man》and《sin》to《man》, (15) changing《Pres》,《sin》and《be》into《is》, yielding (16).

(14) X+man+sin+Y ⟶ X+man+Y

(15) X+Pres+sin+be+Y ⟶ X+is+Y

(16)



The phrase structure rules (7) have served to generate the P-marker (8), to which we have applied the number copying transformational rule (12), yielding the derived P-marker (13), to which the morphophonemic transformation (14) and (15) applied, yielding the final P-marker (16), which represents sentence (3).

3. Sentence Derivation and Verbal Concord

In order to derive sentence (4), we select the option 《pl》 rather than 《sin》 in the fourth PS rule of (7). Then we apply the copying tranformation (12) as before, except that this time, since 《No》 has the constituent 《pl》 rather than 《sin》, the copy of 《No》 will have the constituent 《pl》 rather than 《sin》.

We subsitute the morphophonemic transformations (17) and (18) for (14) and (15) respectively. The derivations of the ungrammatical sentences (5) and (6) are blocked since (5) has a singular subject 《man》 and a plural copula 《are》, while (6) has the reverse situation, and both of these possibilities are not permitted by the copying rule (12), which requires that the number of the Vb be a copy of the number of the NP.

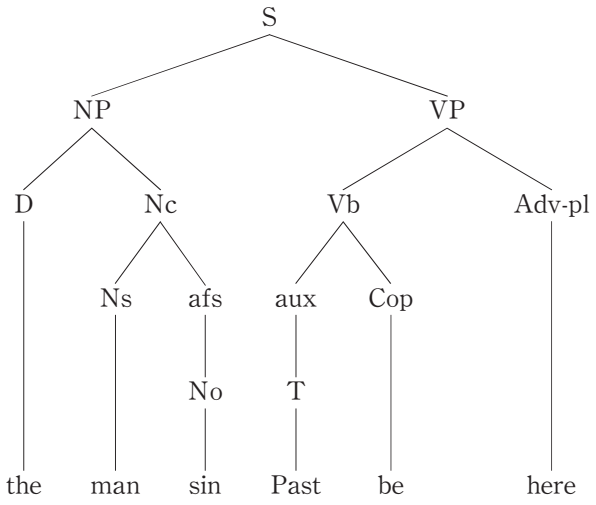
(17) X+man+pl+Y ⟶ X+men+Y
(18) X+Pres+pl+be+Y ⟶ X+are+Y

While the partial grammar that we have created so far, it must be modified in order to generate (19) and (20) while blocking (21) and (22). In these sentences, the copula is in the past tense.

(19) The mas was here.
(20) The men were here.
(21)* The man were here.
(22)* The men was here.

Using the PS rules (7) and other PS rules, we generate a P-marker identical to (8) except that tense (T) is Past rather than Pres.

(23)

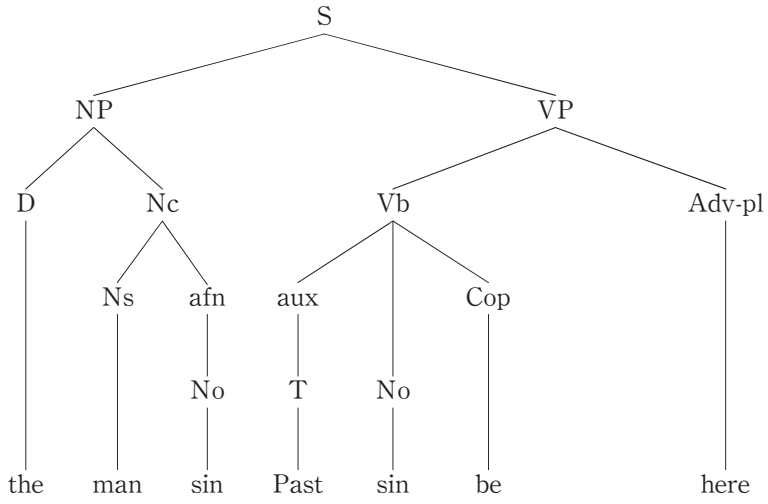


The copying rule (12) cannot apply to P-marker (23) since (12) specifies 《Pres》 and (23) has 《Past》. Obviously, we can write a transformational rule identical to (12) except that it will apply to P-markers such as (23) in which Past is specified.

(24) X+Ns+No+Past+be+Y ⟶ X+Ns+No+Past+No+be+Y

This rule will serve to derive a P-marker identical to (13) except that it will have past rather than present tense.

(25)

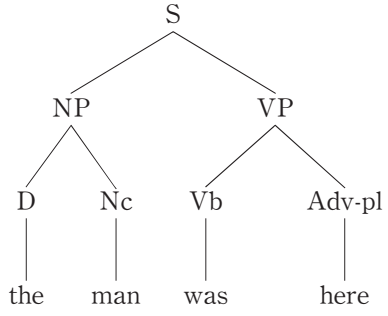


Since the left side of the morphophonemic rule (14) matches the P-marker (25), it must apply to it. However, neither (13) nor (14) matches (25), so a new rule is needed, (26).

(26) X+Past+sin+be+Y ⟶ X+was+Y

Applying (14) and (26) to the P-marker (25), we get the final P-marker (27), which represents sentence (19).

(27)



In order to derive sentence (20), it is necessary only to substitute plural for singular by choosing the option《pl》rather than《sin》in the fourth PS rule of (7) and by using the morphophonemic rule (28) rahter than (15) or (18).

(28) X+Past+pl+be+Y ⟶ X+were+Y

It is obvious that (15) and (18) can be conflated by the use of square brackets, yielding (29),

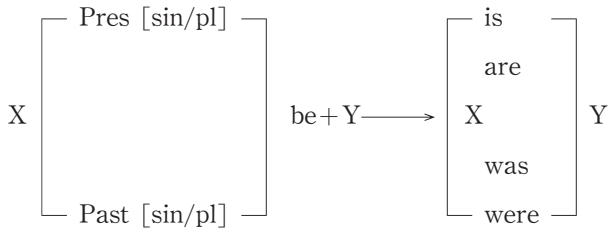
(29) X+Pres [sin/pl]be+Y ⟶ X [is/are]Y

and that (26) and (28) can similarly be conflated as (30).

(30) X+Past [sin/p]be+Y ⟶ X [was/were]Y

(29) and (30) can, in turn, be conflated as (31).

(31)



While it is tempting to consider the similar conflation of (12) and (24) by the use of square brackets, we must remember that《Pres》and《Past》are the two possible rewrites of tense (T), so substituting《T》for《Past》or《Pres》will create a rule that will do the work either (12) or (24), i. e. (32).

(32) X+Ns+No+T+be+Y ⟶ X+Ns+No+T+No+be+Y

(to be continued)