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ABSTRACT

A discussion of passives in the context of generalized phrase structure grammar (GPSG) looks at two problems associated with a lexical rule that derives passive participles from active verbs. The first occurs with sentences whose main verb takes an NP and does not have a passive counterpart. This situation requires a more restrictive metarule, and one is proposed. The second problem occurs with impersonal passives, illustrated in both English and Polish. While an analysis of impersonal passives can be provided within GPSG, it is seen as an unsatisfactory solution, and the government binding framework is suggested as a more appropriate approach. (MSE)

A NOTE ON PASSIVES IN GPSG*

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Passives have been an important concern for generalized phrase structure grammar (GPSG) since the earliest work in the framework. In a number of publications, it has been proposed that their properties are largely a consequence of a metarule deriving rules for passive VP's from rules for active VP's. In the earliest work, the crucial rules are phrase structure (PS) rules. More recently, they are immediate dominance (ID) rules. In Gazdar et al (1985), the following metarule is suggested:

(1) VP ---> W, NP

VP[PAS] --->.W, (PP[by])

In some of the earlier work, eg Gazdar (1982), passive participles have the same semantics as related verbs, but related active and passive VP's are associated with different semantic rules, the rules for passive VP's being derived from the rules for active VP's by an extended metarule. In Gazdar et al (1985), passive participles have different semantics from related verbs. This is handled by a lexical rule which derives passive participles from active verbs. In this note, I will outline two problems for this analysis of passives. I will propose a solution (of sorts) for the first, but I will have no solution to offer for the second. I will suggest in fact that the government binding framework (GB) is more satisfactory in this area.

An important fact about passives is that not all sentences where the verb takes a following NP have a passive counterpart. The following illustrate:

(2)a. John promised Mary to be on time.

b. *Mary was promised by John to be on time.

(3)a. The baby weighed eight pounds.

b. *Eight pounds was weighed by the baby.

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(4)a. The film lasted three hours.

b. *Three hours was lasted by the film.

(5)a. John has a new car.

b. *A new car is had by John.

Gazdar et al (1985) account for the ungrammaticality of examples like (2)b by assigning promise in examples like (2)a a semantic translation which prevents it undergoing the lexical rule that forms passive participles. One might try to account for the ungrammaticality of the other examples in the same way. It seems unlikely, however, that all cases where a sentence whose main verb takes an NP does not have a passive counterpart will allow such a semantic account.[1] It looks, then, as if we need a more restrictive metarule which does not apply to all VP rules that introduce an NP but only to a subset of them.

A more restrictive metarule is in fact proposed in Gazdar (1982). Gazdar distinguishes verbs which allow passivization from verbs which do not with a feature [TRN]. Utilizing this feature, he formulates the following metarule:[2]

(6) VP ---> V[TRN] NP W

VP[PAS] ---> V W (PP[by])

This is a metarule that derives PS rules from PS rules. As such, it is incompatible with current conceptions, according to which metarules derive ID rules from ID rules. Clearly, however, it could be reformulated so as to derive ID rules from ID rules. It is also incompatible, however, with a constraint on metarules that is proposed in Gazdar et al (1985). This is the constraint that no more than two terms, one of which is the variable W, can occur to the right of the ID arrow in the "pattern" (ie structural description) of the metarule. Clearly, if we want to maintain this constraint, we cannot simply reformulate (6).

It would be possible to formulate a more restrictive metarule that did not violate the proposed constraint if the NP in rules for VP's that have passive counterparts was distinguished by some feature from the NP in rules for VP's that do not have passive counterparts. We might call the feature OBJ. We could then formulate the following metarule:

(7) VP ---> W, NP[OBJ]

VP[PAS] ---> W, (PP[by])

This seems a fairly natural approach to the problem. In effect, however, it treats objecthood as a primitive notion. This might well be seen as an objection to it. Perhaps, however, it should be seen as a correct recognition that there is some truth in frameworks like relational grammar and lexical functional grammar, in which grammatical relations play a central role.

Even if the use of an OBJ feature is accepted as legitimate, (7) cannot be regarded as adequate. This is because there are sentences which have passive counterparts where it is doubtful whether the main verb should be analyzed as taking an NP. There are, for example, cases where the main verb takes a clause. The following illustrate:

(8)a. Everyone believes that John is a fool.

b. That John is a fool is believed by everyone.

The clauses in examples like (8)a have sometimes been analyzed as NP's. Such an analysis is assumed, for example, in Sag and Klein (1982). In Gazdar et al (1985), however, they are analyzed as bare clauses. At least two considerations favour such a treatment. Firstly the NP analysis is incompatible with a restrictive version of X-bar theory in which all rules are required to have a head on the right hand side. Secondly, it necessitates a feature to distinguish between NP's that exhaustively dominate clauses and ordinary NP's. As Cann (1983) notes, this seems rather undesirable. There are also cases where the main verb takes a PP. Consider, for example, the following:

(9)a. Everyone considers under the bed to be a good place to hide.

b. Under the bed is considered by everyone to be a good place to hide.

Again, one might assume that we are actually dealing with NP's. Again, however, X-bar considerations argue against such an analysis. Also relevant, as pointed out in Jaworska (1985), is the fact that there are other PP's in a typical NP position for which an NP analysis is very dubious. These are PP objects of a preposition. (10) illustrates:

(10) John appeared from behind the rock.

As Sag (1982) points out, such PP's cannot appear in initial position in wh-questions.

(11) *Behind which rock did John appear from?

This would be quite surprising if these PP's were NP's since of course NP objects of prepositions can appear in this position. It looks, then, as if these PP's should be analyzed as bare PP's. If they are, it seems natural to analyze the PP's in examples like (9)a as bare PP's as well.

It looks, then, as if there are sentences with passive counterparts where the main verb does not take an NP. We can provide for such sentences quite easily by extending the feature [OBJ] to the crucial constituents and replacing NP by XP in the metarule so that we have (12).

(12) VP ---> W, XP[OBJ]

VP[PAS] ---> W, (PP[by])

On the face of it, this is preferable to the metarule in (1).

We can turn now to the second of the two problems that arises for Gazdar et al's account of passives. This involves impersonal passives. As is well known, they occur in a variety of languages. A good example is Polish. Here, the active sentence in (13)a has both the personal passive counterpart in (13)b and the impersonal passive counterpart in (13)c.

(13)a. Wszyscy czytali tę książkę.
everyone read that(ACC) book(ACC)
'Everyone read that book.'

b. Ta książka była czytana przez wszystkich.
that(NOM) book(NOM) was read by everyone
'That book was read by everyone.'

c. Czytano tę książkę.
read that(ACC) book(ACC)
'People read that book.'

A rather different situation is illustrated in (14). Here, the active sentence has only an impersonal passive counterpart.

(14)a. Wszyscy wierzyli gazetom.
everyone believed papers(DAT)
'Everyone read the papers.'

b. *Gazety były wierzone przez wszystkich.
papers were believed by everyone
'The papers were believed by everyone.'

c. Wierzono gazetom.
believed papers(DAT)
'People believed the papers.'

There are grounds for saying that English too has impersonal passives. Rather like the data in (12) is the following data.

(15)a. Everyone who knew him believed that John would be back.

b. That John would be back was believed by everyone who knew him.

c. It was believed by everyone who knew him that John would be back.

One might suggest that (15)c should be viewed as an 'extraposed' counterpart of (15)b. However, this seems dubious because, as a number of people have noted, there are verbs which can appear in sentences like (15)c but not in sentences like (15)b. The following illustrate:

(16)a. Everyone who knew him felt that John would be back.

b. *That John would be back was felt by everyone who knew him.

c. It was felt by everyone who knew him that John would be back.

Moreover, as Marantz (1984) has pointed out, sentences like (15)c and (16)c are unlike unquestionable instances of extraposition in that the complementizers can sometimes be omitted and the clauses are not islands. Thus, we have a contrast between the examples in (17) and those in (18) and (19).

(17)a. *It stinks John should do that.

b. *What does it stink that John should do?

(18)a. It was believed John would do anything.

b. What was it believed that John would do?

(19)a. It was felt John would do anything.

b. What was it felt that John would do?

It seems, then, that there is a quite strong case for analyzing (15)c and (16)c as impersonal passives.

Within GPSG, the obvious way to accommodate impersonal passives is to formulate an additional metarule. What sort

of metarule would be appropriate for Polish is unclear to me. For English, however, one might suggest the following:[3]

(20) VP ---> W, S'

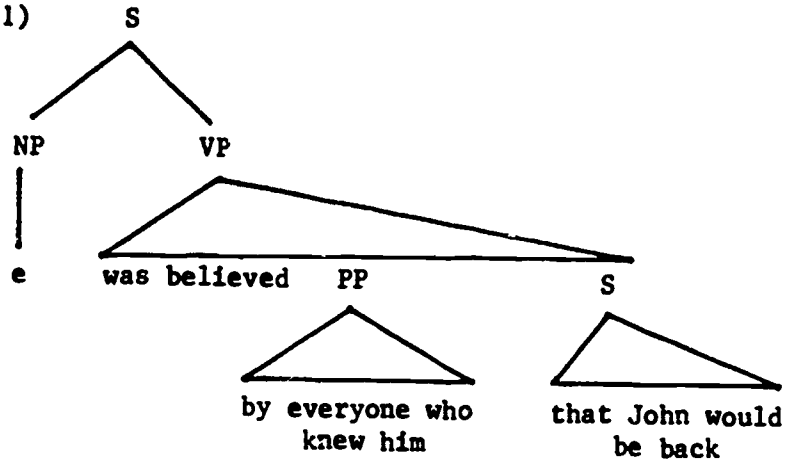
VP[PAS, it] ---> W, S', (PP[by])

One would also need an additional lexical rule to provide a set of passive participles with appropriate semantic translations to appear in impersonal passives. I will not attempt to formulate such a rule, but I assume there is no difficulty in principle here.

It is clear, then, that we can provide an analysis of impersonal passives within GPSG. There is, however, a serious objection to the analysis. If we provide for impersonal passives with an additional metarule and an additional lexical rule, we are in effect claiming that it is accidental that passive participles appear in both personal and impersonal structures. The variety of languages which have both personal and impersonal passives suggests rather strongly that this is not the case. It seems desirable, then, to analyze personal and impersonal passives as the reflection of a single rule or principle. As far as I can see, however, there is no way to do this within GPSG.

Interestingly, there seems to be no problem here for GB. For GB, personal passives involve the movement of a constituent which requires case from a position to which no case is assigned into a subject position to which no theta role is assigned. It is crucial that no theta role should be assigned to the subject position since otherwise there would be a violation of the theta criterion, which requires an argument to have one and only one theta role. Impersonal passives will involve the same D-structure as personal passives but will involve no movement into subject position. Instead, a dummy will be inserted. Thus, both (15)b and (15)c will derive from the following D-structure, (15)b through movement, and (15)c through insertion of a dummy.

(21)



As Jaworska (1985) shows, it is possible within this approach to provide for passive participles with a single lexical rule. The rule will remove the ability to assign a theta role to subject position and the ability to assign case. Where the basic verb has a complement that requires case, the complement will have to move into subject position.[4] Impersonal passives will arise if some verbs that undergo this rule do not include among their complements a constituent which requires case. In this situation, no movement will be necessary. In the case of believe, we can assume that the clause is optionally marked as requiring case, so that movement may or may not be necessary. In the case of feel, on the other hand, the clause will never be marked as requiring case, so movement will never be necessary.[5] On this account, it is no accident that passive participles appear in both personal and impersonal structures since they arise through the same rule in both cases. On the face of it, then, GB is more satisfactory than GPSG here.

FOOTNOTES

* I am grateful to Gerald Gazdar and Ewa Jaworska for helpful comments on this paper. Its failings are, of course, my responsibility.

1. As Wasow (1980) points out, a semantic account seems particularly unlikely in the case of examples like (5)b given the grammaticality of examples like (i):
   (i) A new car is owned by John.

2. A TRN feature is also exploited in Cann's (1983) analysis of Latin passives.

3. A metarule for Latin impersonal passives is formulated in Cann (1983).

4. Jaworska identifies constituents as requiring case by assuming a feature CASE which has as one of its values ZERO and reformulating the Case filter as a ban on constituents with the feature specification [CASE, ZERO] at S-structure. Within this approach, case marking conventions are rules that change the value of the CASE feature from ZERO to some other value (NOM, ACC, etc).

5. A question arises as to why movement is not possible in cases where it is not necessary. Within the approach of the preceding footnote, this could be attributed to a requirement that the moved element must have all the feature specifications of the landing site. Subject position will have the feature specification [CASE, ZERO]. Hence it will only be possible to move constituents with this specification into subject position.

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