Tsukuba English Studies (1986) vol.5, 107-121.

A Constraint on English Activo-passives*

Yoshio Endo

0. Introduction

The present paper is an attempt to examine how English activo-passives are constrained and to propose the optimal way of accounting for their behaviors.[1]

This paper is organized along the following line. In section 1, we will survey previous works on activo-passives, and point out some difficulties with them. In section 2, a constraint is proposed in order to overcome the difficulties, and various consequences will be examined which are deduced from the constraint.

1. Previous Works

Banchero(1971) claims that activo-passives are handled in the lexicon. The evidence for his claim is: (i) activo-passive formation is unproductive, (ii) activo-passives have truth values distinct from the corresponding active counterparts.

Let us examine the claims one by one. Banchero makes the first claim on the ground that activo-passives are less productive than regular passives as the following paradigm shows:

(1) Mary bought the camera.
(2) The camera was bought. (regular passive)
(3) *The camera bought easily. (activo-passive)

In the literature, the lexicon is considered to be a suitable component to deal with unproductive aspects of words, and it is for this reason that Banchero concludes that activo-passives are treated in the lexicon.

The evidence for his second claim that activo-passives have truth values distinct from their active counterparts comes from the next examples:

(4) Mary washed the dress, but it didn't wash.

(5) The dress was washed, but it didn't wash.

The activo-passive verb in (4) and (5), wash, roughly means 'bear cleaning without damage', which is clearly an idiosyncratic meaning. The existence of this kind of idiosyncracy is usualy taken as evidence for handling words with it in the lexicon, and following this tradition, Banchero concludes that activo-passives are dealt with in the lexicon.

Let us next consider Keyser and Roeper's(1984) analysis. They claim that activo-passives are dealt with in the syntax. Their claim can be summarized as: (i) activo-passives behave as transitive verbs under syntactic tests such as away test and prenominal -ing test, showing that activo-passives contain empty objects i.e. traces; the existence of trace shows that the sentences with it have undergone the syntactic operation of Move-α. Therefore, activo-passives are dealt with in the syntax. (ii) activo-passives have productive aspects[2]:

(6) Greek translates easily.
(7) The baggage transfers efficiently.
(8) Messages transmit rapidly by satellite.
(9) The letters transpose easily.
(10) The boxes will not transport easily.

(Keyser and Roeper(1984 p.383))

These are the arguments made by Banchero(1974) and Keyser and Roeper(1984). With these arguments in mind, consider the following discrepancy observed in the formation of activo-passives:

(11) John spread the bread with butter.
(12) John sprayed the wall with paint.

(13) *The bread spread with butter easily.
(14) The wall sprayed with paint easily.

Let us see how this discrepancy would be treated by the previous analyses mentioned above. In Banchero's lexical analysis, lexical specifications would be given to the effect

that whereas spray has a lexical entry for activo-passives, spread does not. But notice that the sentences in (11) and (12) have corresponding structures associated by Object-Switch:

(15) John spread the butter on the bread.

(16) John sprayed paint on the wall.

Surprisingly, activo-passives, in this case, can be formed without any difficulties:

(17) Butter spreads on the bread easily.

(18) Paint sprays on the wall easily.

Banchero's lexical analysis cannot handle this case elegantly, since the analysis would be forced to specify two lexical entries for the same verb to the effect that one is activo-passivizable while the other is not.

Let us see, next, how these cases would be dealt with in Keyser and Roeper's framework. Their syntactic analysis predicts that the actives in (11), (12), (15) and (16) are all activo-passivizable, since they derive all activo-passives by means of Move-α without any constraints. In fact, however, (11) is not activo-passivizable, as attested in (13).

2. A Constraint

The observations made above suggest that we are forced to constrain the derivation of activo-passives to account for their recalcitrant behavior. In order to clarify what the constraint is like, let us concentrate on (11) and (12). At first glance, there appears to be no difference between (11) and (12), since they both contain the non-distinct surface string 'V+NP+with+NP'. However, closer examination of these examples reveals that there is a clear structural difference between (11) and (12). This can be seen with some syntactic tests.

First, obligatory elements cannot be placed outside the environment of 'do-so' while optional elements can:

(19) *We put books on the desk and Mary did so on the shelf.

(20) We played baseball in the garden and Mary did so in the field.

The crucial difference between (11) and (12) lies in the fact that in the former sentence, PP is inside VP, while PP is outside VP in the latter sentence, as attested below:

(21) *John spread the bread with butter and Mary did so with jam.

(22) John sprayed the wall with red paint and Mary did so with white paint.

Further confirmation is given by the extractability of NP out of PP. The extraction of an NP out of PP located inside VP is allowed, whereas that of NP out of PP located outside VP is not:

(23) Which desk did you put the book on?

(24) *Which ground did you play baseball in?

The application of this rule to (11) and (12) reveals the following contrast:

(25) Which butter did you spread the bread with?

(26) *Which paint did you spray the wall with?

Beside this syntactic evidence, there is also a semantic reason to believe that in (11), PP is an obligatory element, whereas in (12) it is not. Consider the following:

(27) John spread the bread *(with butter).

(28) John sprayed the wall (with paint).

In (27), the deletion of PP forces us to interpret the sentence in an entirely different way, i.e. spreading the bread using a rolling pin.[3]

These observations suggest that a constraint like the following is operative:

(29) Single Argument Condition (SAC) (Preliminary version)
Activo-passives are licensed iff the associated verbs select a single obligatory argument.[4]

With this condition in mind, let us reexamine the paradigm in

question.

(30) John spread the bread *(with butter).
(31) John sprayed the wall (with paint).
(32) John spread butter (on the bread).
(33) John sprayed paint (on the wall).

To be noticed here is the fact that the sentences in which PPs are deletable are activo-passivizable, with the SAC satisfied, while those in which PPs are not deletable are not activo-passivizable, with the SAC violated:

(34) *The bread spread with butter easily.
(35) The wall sprayed with paint easily.
(36) Butter spread on the bread easily.
(37) Paint sprayed on the wall easily.

In this way, the peculiar behavior of activo-passives can now be explained away by means of the SAC. In the remainder of this paper, we will see how the SAC operates on various cases to determine their activo-passivizability.

First of all, consider the next pair, observed by Nakau (1986), which are related by an operation analogous to Object Switch:

(38) Worms crawl on the apple.
(39) The apple crawls with worms.

The SAC predicts that both (38) and (39) are activo-passivizable, since the V in each sentence selects a single argument, i.e., PP. But this prediction is not born out:

(40) *The apple crawls (on) easily.
(41) *Worms crwl (with) easily.

The comparison of the well-formed activo-passives of (35), (36) and (37) on the one hand and the ill-formed ones of (40) and (41) on the other suggests that Ps are the offending element which prevent the proper formation of activo-passives. Let us revise the SAC by incorporating this information.

(42) Single Argument Condition (final version)
Activo-passives are licensed iff the associated verbs select a single obligatory NP argument.

Let us see how this revised SAC will work. Consider the following minimal pair, with the first selecting PP and the second selecting NP:

(43) John shot the bird.
(44) John shot at the bird.

Nakau(1986) ingightfully observes that (43) and (44) have distinct truth values. The crucial difference is that (43) necessarily implies that the bird had physical contact with a bullet, whereas (44) does not. This fact can be confirmed by the next sentences whose second conjuncts deny the bird's having had physical contact with a bullet:

(45) @John shot the bird but he missed it.
(46) John shot at the bird but he missed it.
(@ indicates that the sentence has a contradictory reading)

The SAC makes the prediction that only (43), with V selecting a single NP, is activo-passivizable.

(47) The bird shot easily.

In fact, the unique reading of (47) is the one compatible with not (44) but (43). This fact is confirmed by the following example:

(48) @The bird shot easily but it flew away.[5]

Let us next consider pseudopassives:

(49) John was depended on.

The corresponding activo-passive is not valid as predicted by the SAC:

(50) *John depends (on) easily.

Incidentally, English has 'V+P' strings whose cohesion is so

tight that they behave as if they constitute single verbs (see Endo(forthcoming)). Consider, for example, such a verb as look after. The fact that this string behaves as a single verb is shown by the fact that it does not obey the constraint on the Heavy NP Shift to the right(cf. Ross(1967)), which states that no NP may be moved to the right out of the environment of [P__]:

(51) *John camped [$_{p}$beside]__yesterday morning [$_{np}$ the lake you mentioned the other day].
(__indicate the extraction site of NP)

(52) John [$_{v}$looked after]__throughout the class [$_{np}$ the baby you mentioned the other day].

The SAC predicts that the sentence with look after is activo-passivizable, since a single verb, look after, selects a single NP as its obligatory argument. This prediction is, in fact, born out:

(53) The baby looks after easily.

Consider the next sentences with put and position which are synonymous with each other:

(54) They put books on the shelf.
(55) They positioned books on the shelf.

The crucial difference between put and position lies in the fact that they have distinct syntactic subcategorization frames, which is shown by the next sentences where deletion of PP induces ungrammaticality only in the case of put.

(56) John put books *(on the shelf).
(57) John positioned books (on the table).

That is, put selects two arguments, NP and PP, while position a single argument, NP. The SAC then makes the interesting prediction that position but not put is activo-passivizable, which is verified by the following sentences:

(58) *The books put on the shelf properly.
(59) The books positioned on the table properly.

Let us now turn to double object constructions:

(60) John gave Mary books.

In (60) V selects two NPs as obligatory arguments:

(61) John gave *(Mary) books.
(62) John gave Mary *(books).

The SAC correctly predicts that both (61) and (62) are not activo-passivizable:

(63) *Mary gave (books) easily.
(64) *Books gave (Mary) easily.

This fact concerning the double object construction is particularly interesting when we realize that the SAC makes a further prediction. That is, if there is a verb which, at first glance, selects double objects, but either one of which is, in fact, optional, then the SAC will be satisfied, and acceptable activo-passives should be formed. Let us consider the verb, teach, as a candidate:

(65) John teaches boys English.
(66) John teaches (boys) English.
(67) John teaches boys (English).

The next sentences, in fact, verify our prediction:

(68) Boys teach easily.
(69) English teaches easily.

Woolford(1984) observes another interesting paradigm concerning the double object construction:

(70) The Nurse fed Bill the cake yesterday.
(71) *The Nurse fed ø the cake yesterday.
(72) The Nurse fed Bill ø yesterday.

(73) They read Bill the article yesterday.
(74) They read ø the article yesterday.
(75) *They read Bill ø yesterday.

The paradigm above indicates that feed is a verb whose direct object is optional, while read is a verb whose indirect object is optional. According to the SAC, only (72) and (74) should be activo-passivizable. This is correct:

(76) *Bill fed the cake easily.
(77) *A cake fed easily.
(78) The baby fed easily.

(79) *Bill read the article easily.
(80) The article read easily.
(81) *Bill read easily.

The sixth prediction the SAC makes is that verbs which select sentential complements resist activo-passive formation, since they select Ss, not NPs. As seen below, this prediction seems to be correct:

(82) John thinks that Mary is honest.
(83) *That Mary is honest thinks easily.
(84) *It thinks easily that Mary is honest.

Finally, consider the next sentence which contains what is now called a 'small clause':

(85) John considers Mary smart.

Whatever analysis is taken for the complement structure of this construction(e.g. NP+AP for Williams(1983), AP* for Chomsky (1981)), it is clear that V does not select a single NP, so the SAC predicts that (85) cannot involve activo-passives, a prediction which is born out:

(86) *Mary considers smart easily.

The same would hold for sentences that contain what we call 'exceptional case marking verbs', which also do not take a single NP; rather, they select S (if S' is assumed to be really deleted or to be changed into S), S' (if S' does exist but is not just counted) or NP+VP (if neither S' nor S exists):

(87) John believes Mary to eat rice.
(88) *Mary believes to eat rice easily.

3. Conclusion

In this paper, a constraint on activo-passives was proposed. Our claim is that activo-passives are licensed so far as the Single Argument Condition (SAC) is satisfied.[6,7]

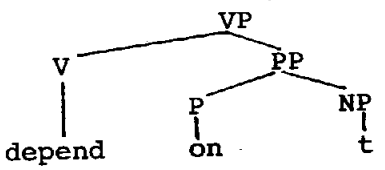
Appendix

One might wonder what status the SAC has in the system of the grammar. There are three possibilities that come to mind. Let us explore the possibilities one by one.

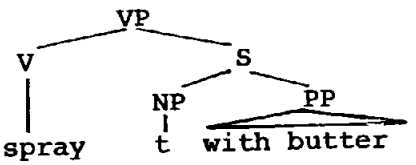
The first approach is to incorporate the SAC as such in the rules of activo-passivization.

The second is to assume Kayne's binary branching approach. In his analysis, the sentences barred by the SAC have the following structures.

(i)



(ii)



If we assume that no activo-passive verbs have the ability to co-superscript elements to constitute complex proper governors, then (i) would be ruled out as an Empty Category Principle (henceforth ECP) violation. Notice that P, not being a proper governor, cannot properly govern the trace of the complement. How about (ii)? Assuming that no activo-passive verbs can govern across the S boundary, (ii) is again ruled out by the ECP, since the trace under the S remains ungoverned. In this approach, the effect of the SAC is deduced from the general principles of the ECP and some assumptions on activo-passive verbs. This analysis is based on the assumption that activo-passive verbs do not allow for readjustment operations, which is allowed for in the core case of regular passives.

Let us next turn to the third possibility. Assume that activo-passives involve a lexical rule to the effect that an external argument is dethematized and the activo-passive verbs cease to assign Case to their internal arguments, which reminds us of Burzio's generalization. With this stipulation in mind,

consider the sentences which are ruled out by the SAC:

(iii) *John$_i$ depends [$_{pp}$ on t_i] easily.
(iv) *The bread$_i$ spreads t_i [$_{pp}$ with butter] easily.

In both of these sentences, PPs, failing to receive Case, cannot meet the vasibility condition of the θ-criterion. Thus both of the sentences are ruled out by the θ-criterion (see Chomsky(1986) and Fabb(1984)). In this approach, the effect of the SAC is deduced from the θ-criterion and some assumptions related to Burzio's generalization. The main idea behind this last approach was suggested to me by Toshifusa Oka (personal communication). See also Oka(1986). Note that, in this approach, adverbs,without which activo-passives are ruled out, must not be arguments, or they would violate the θ-criterion, but must be adjuncts, which is necessitated by entirely different reasons, for instance,the need to properly predicate the properties of the subject NP (cf. Endo(1985)).

NOTES

* I would like to express my deepest gratitude to Prof. Minoru Nakau, Hiroaki Horiuchi, Jun Abe, Toshifusa Oka and Masao Okazaki for invaluable comments and suggestions on an earlier version of this paper. I am indebted to Wayne Lawrence, Nicholus Teele and Michael Watson for kindly acting as informants. The responsibility for the remaining errors, of course, is my own.

[1] In this paper, I will be concerned mainly with syntactic aspects of activo-passives. See van Oosten(1977) and Fellbaum (1985), among others, for the semantic and pragmatic aspects of the construction.

[2] Banchero expresses the productive nature observed by Keyser and Roeper by means of lexical redundancy rules. This position suggests that all activo-passives can be handled in the lexicon. I will not go into this issue in this paper.

[3] This observation is due to Ito(1981).

[4] In this definition, the subject is not counted as an

argument. If counted, the condition would be Double Argument Condition.

[5] In Nakau(1986), another insightful observation is made:

(i) John swam the Channel.
(ii) John swam in the Channel.

(i) necessarily implies that John swam from one point of the Channel to the other end, while (ii) does not. This can be clarified with the following sentences:

(iii) @John swam the Channel, but at the middle he stopped.
(iv) John swam in the Channel, but at the middle he stopped swimming any farther.

Consider the next activo-passive:

(v) The Channel swam easily.

As the SAC predicts, the only reading this sentence has is the one which is compatible with (i) but not (ii). This can be shown by the following sentence:

(vi) @The Channel swam easily, but at the middle everybody stopped swimming any farther.

[6] Prof. Minoru Nakau (personal communication) pointed out to me that another condition might be imposed on activo-passives to the effect that stative verbs resist activo-passivizations:

(i) The circle contains the dot.
(ii) *The dot contains easily.

The unacceptability of the sentence in question could be explained independently of the SAC, since the verbs are all stative verbs. This possibility might prove to be another decisive factor to license activo-passives, which is worthy of further research.

Toshifusa Oka (personal communication) suggested to me that activo-passivizable verbs might have a unique property to the effect that they involve a lexical rule dethematizing an external argument whose predicate is not specified as [+affect]. If so, then the ungrammaticality in (82)-(88) might

be attributable to the fact that no verbs in question are specified as [+affect]. He also reminded me of the fact that Fiengo(1980) formulates a similar constraint on nominal passives: derived nominals whose predicates are not specified as [+affect] cannot involve in nominal passives:

(iii) the enemy's destruction of the city
(iv) the city's destruction by the enemy
(v) the enemy's discussion of the city
(vi) *the city's discussion by the enemy

This parallelism seen between activo-passives and nominal passives would merit further research, I think.

[7] I assume that syntactic activo-passives are always possible so far as the SAC is satisfied. Notice that even activo-passives which, at first glance, seem unacceptable are acceptable under some condition or other. I speculate that the following three factors are crucial.

a) when the addition of modal elements, manner adverbs or negative elements enhances the predicative force of verbs (see Endo(1985) for further discussion on this point):

(i)??The cathedral destroys easily.
(ii) The cathedral will destroy easily.

b) when the relationship between NP and V is interpreted to be semantically tightly connected.

(iii) *Pens buy well.
(iv) Unsold stocks buy back with difficulty.

c) when the relationship between NP and V is interpreted as pragmatically tightly connected.

(v)??John punches well.
(vi) Rocky punches well.

Those who accept (vi) have knowledge of the movie Rocky, in which Rocky is a boxer, not an ordinary person.

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Institute of Literature and Linguistics
University of Tsukuba