Reanalysis of Verb and Preposition in English

Gwang-Yoon Goh
(Soongsil University)


The verb (V) and the preposition (P) of prepositional verbs in the English prepositional passive cannot be interrupted by other material and this phenomenon has long been explained by means of the so-called reanalysis. About when or where this reanalysis occurs, however, there has been considerable controversy among scholars. This paper argues against both the reanalysis hypothesis (that assumes that the reanalysis exists in both the active and the passive) and the no-reanalysis hypothesis (that claims that there is no such thing as reanalysis in English at all) and shows that English indeed has the reanalysis of verb and preposition for passive-permitting V+P sequences but that this reanalysis is possible and required only in the passive but not in the active.

**Key words:** prepositional passive, unification of verb and preposition, reanalysis, reanalysis hypothesis, no-reanalysis hypothesis, heavy-NP-shift, floating quantifier, subdeletion, word-internal conjunction.

1. Introduction

The **prepositional passive** (P-Passive) is a syntactic construction in which the object of a preposition in an active sentence becomes the subject of the corresponding passive sentence, as in (1) and (2):

(1) (a) The lawyer looked closely into *the document*.
    (b) *The document* was closely looked into by the lawyer.

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2) The following abbreviations are used throughout this paper: V = verb; P = preposition; P-Passive = prepositional passive; PP = prepositional phrase; NP = noun phrase; VP = verb phrase.
(2) (a) A committee deals with all the finances of the university.
(b) All the finances of the university are dealt with by a committee.

This syntactic construction in English is linguistically very conspicuous in several respects. In particular, it is crosslinguistically very rare, and even in English it is not found before the Middle English period. Furthermore, its grammaticality is determined not only by syntactic factors but also by various non-syntactic factors. Thus, the P-Passive in English has attracted considerable attention from many scholars, producing a great number of analyses from various theoretical frameworks, including traditional grammar, generative linguistics, and functional linguistics.

One of the most interesting observations about the P-Passive is that the verb and preposition of prepositional verbs in the passive cannot be interrupted by other material whereas the verb and preposition in the active can easily be separated, as we can see in (3) and (4):

(3) (a) All the committee members agreed unanimously on the proposal.
(b) *The proposal was agreed unanimously on by all the committee members.

(4) (a) The buyers have looked thoroughly into those samples.
(b) *Those samples have been looked thoroughly into by the buyers.

This unification of verb and preposition into a single unit in the passive has been considered significant empirical evidence for formation of a complex verb, and many studies have explained this phenomenon by means of the mechanism of reanalysis in which verb and preposition are reanalyzed to form a single cohesive unit that cannot be broken up by other material, as we have already seen in (3) and (4) above. About when or where this reanalysis occurs, however, there has been considerable controversy among scholars, and this controversy can be represented by two main positions, the first, (majority) position that assumes that the reanalysis exists in both the active and the passive, and the second position which claims that there is no such thing as reanalysis (of verb and preposition) in English at all.

In this paper, I will first show that neither of the two positions fully explain what really happens in the P-Passive. Then, I will argue for a third position by demonstrating that although English has the reanalysis
of verb and preposition, it exists only in the passive for the passivization of the prepositional object.

2. Previous Analyses in Generative Linguistics

2.1. Reanalysis Hypothesis

There have been numerous studies about the English P-Passive in generative linguistics and most of these studies have paid great attention to the fact that verb and preposition are united with each other to form an inseparable unit in the P-Passive and they have repeatedly employed a mechanism of restructuring verb and preposition in order to explain the P-Passive (in English). Since the very core of their analyses of the P-Passive has been a so-called reanalysis (or incorporation) mechanism, I will call their position the reanalysis hypothesis.

Under the reanalysis hypothesis, it is generally assumed that the prepositional verbs such as look into and stare at optionally undergo reanalysis, as in (5), when their components are immediately adjacent to each other. That is, when reanalysis is applied, the preposition is incorporated into the verb to form a complex verb and the prepositional object immediately following the complex verb comes to have the status of a direct object of that complex verb and therefore is permitted to be passivized like a verbal object.

(5) (a) \[v \, [v \, \text{look into}] \Rightarrow [v \, \text{look-into}] \]

(b) \[v \, [v \, \text{look into the document}] \Rightarrow [v \, \text{look-into}] \]

In particular, the application of this reanalysis is assumed to be optional. This assumption has been made to explain the conflicting sets of facts.


4) Van Riemsdijk (1978) first proposed this mechanism formally by adopting Chomsky’s (1965, 1974) idea.
illustrated by (6):

(6) (a) *He can be depended entirely on.
    (b) We can depend entirely on him.
    (c) He is the person on whom we can depend entirely.
    (d) On whom can we depend entirely?

The examples in (6) show that although prepositional verbs such as depend on do not allow verb and preposition to be broken up by intervening material in the passive, as in (6a), they do so in their active forms, as in (6b-d). In order to resolve this apparently paradoxical behavior of prepositional verbs, most generative linguists (especially within the Government and Binding framework) assume that the reanalysis is optionally applied to passive-permitting prepositional verbs and that the P-Passive is allowed only when this optional reanalysis is applied.

2.2. No-reanalysis Hypothesis

Although the reanalysis hypothesis has long been the dominant position among (generative) linguists, some scholars (Postal, 1974, 1986; Koster, 1987; Zwicky, 1987; Baltin, 1995; Baltin & Postal, 1996) have argued against this hypothesis. The main point of their claim is that there is no real motivation for a mechanism of reanalysis in the English P-Passive, because the stranded preposition of a prepositional verb retains a syntactic status that is independent of the verb and the object of the preposition maintains its original syntactic status without taking on the status of a direct object of a verb. More simply, what they claim is that there is no evidence for the reanalysis of verb and preposition because preposition always maintains its syntactic status without becoming part of the complex verb that is assumed to be formed by the verb and preposition, as in (5).

In particular, Baltin and Postal (1996) present many different cases in which the object of a passive-permitting prepositional verb shows the syntactic behavior not of a direct object of a (complex) verb, but of an ordinary prepositional object. Let's consider the examples in (7) and (8):
(7) (a) I discussed ___ with Lorenzo [the problems he was having with deliveries].
(b) *I argued about ___ with Lorenzo [the problems he was having with deliveries].

(8) (a) I described ___ to himself [the victim whose sight had been impaired by the explosion].
(b) *I talked to ___ about himself [the victim whose sight had been impaired by the explosion].

In examples (7b) and (8b), if the verb in each V+P sequence (i.e., argued about and talked to) could combine with the following preposition to form a complex verb through (optional) reanalysis, making the NP following the preposition a verbal object of the given complex verb, it would be possible for the NP to undergo heavy-NP-shift. However, heavy-NP-shift can move a verbal object but not a prepositional object, as we can see in the given examples. This means that a prepositional object, even after the arguable reanalysis has applied, differs in behavior from a verbal object.

However, although such an argument may show that there is no reanalysis of verb and preposition in the given situation and thereby argue against the reanalysis hypothesis, it does not totally contradict the very unification of verb and preposition (into a single unit) in the passive. In this connection, note that the evidence from heavy-NP-shift concerns the syntactic behavior of the prepositional object only in the active and the empirical evidence for the unification of verb and preposition in the passive is still clear. Unfortunately, no previous studies explain what this important fact really means.

2.3. Summary and Conclusion

So far, we have discussed how the P-Passive is analyzed in generative linguistics. In particular, neither of the two opposing positions fully

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5) Displacement of a so-called heavy NP (an NP which is prosodically 'heavy' or contains a large amount of phonological material) to the right edge of the sentence: Heavy-NP shift is a so-called stylistic rule,

(i) They sent [the books that only got good reviews in the New York Times] to Mary.
(ii) They sent ___ to Mary [the books that only got good reviews in the New York Times].
explain what really happens to the verb and preposition which are involved in the passivization of the prepositional object. That is, the reanalysis hypothesis cannot explain the fact that the prepositional object often shows behavior that is different from that of the verbal object, as in heavy-NP-shift, whereas the no-reanalysis hypothesis cannot explain away the clear evidence for the unification of verb and preposition in the passive, which has been demonstrated in (3) and (4).

In the remainder of this paper, I will argue against both hypotheses and show that although English indeed has reanalysis of verb and preposition for the P-Passive, this reanalysis is possible only in the passive and is always required for the passivization of the prepositional object. In particular, I will demonstrate that all the evidence for and against the presence of reanalysis in English, which may appear to be mutually contradictory, can be well explained under this proposal.

3. Incorporation of Preposition into Verb in the Passive

3.1. Arguments Against the Reanalysis Hypothesis

The reanalysis hypothesis states that the verb and preposition (of prepositional verbs) are (optionally) reanalyzed to form a complex verb, thereby giving the prepositional object immediately following the complex verb the status of a direct object. If this is really true, then the prepositional object should be able to show the same syntactic behavior as the direct object of a (simple) verb. However, there are many pieces of evidence which demonstrate that the prepositional object shows the syntactic behavior of an ordinary object of a preposition, but not of a direct object of a verb, even when reanalysis could apply to verb and preposition to form a complex verb in the active.

First of all, if verb and preposition can be reanalyzed, forming a complex verb (even optionally), then the prepositional object following

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6) Although it has widely been assumed that the reanalysis hypothesis has been or at least could be given a coherent explanation within the Government and Binding theory, no such account has been formally presented so far. More importantly, there is good reason to believe that such an assumption has no reasonable ground. (Baltin & Postal, 1996, pp. 135-143).

7) Many examples in this subsection have been freely cited from Baltin and Postal (1996).
the preposition could be a verbal object and therefore, it should be possible for the prepositional object as the object of the complex verb to undergo heavy-NP-shift. However, as we have already considered, the prepositional object, unlike the direct object of a verb, cannot undergo heavy-NP-shift, as in (9)-(11): 8)

(9) (a) I discussed ___ with Lorenzo [the problems he was having with deliveries].
   (b) *I argued about ___ with Lorenzo [the problems he was having with deliveries].

(10) (a) I described ___ to himself [the victim whose sight had been impaired by the explosion].
    (b) *I talked to ___ about himself [the victim whose sight had been impaired by the explosion].

(11) (a) He explained ___ to us [the mystery that has remained unsolved].
    (b) *He talked about ___ with Mary [the mystery that has remained unsolved].

Second, although a verb can be deleted (under gapping) or be replaced by a pro-verb independently of its object, as in the (a)-sentences of (12)-(14), it is impossible to delete or replace the preposition along with the verb even when the verb and preposition could form a complex verb, as in the (b)-sentences.

(12) (a) Pavarotti loved Loren and Bond ___ Hepburn.
    (b) *Pavarotti relied on Loren and Bond ___ Hepburn.
    (c) Pavarotti relied on Loren and Bond ___ on Hepburn.

(13) (a) Pavarotti loved Loren much more than Bond did ___ Hepburn.
    (b) *Pavarotti relied on Loren much more than Bond did ___ Hepburn.
    (c) Pavarotti relied on Loren much more than Bond did ___ on Hepburn.

8) Examples (9) and (10) are the same as (7) and (8).
(14) (a) Pavarotti loved Loren as (much as) Bond did ___ Hepburn.
(b) *Pavarotti relied on Loren as (much as) Bond did ___ Hepburn.
(c) Pavarotti relied on Loren as (much as) Bond did ___ on Hepburn.

Third, at least for many speakers, the direct object of a verb can be linked to a floating quantifier,9) especially when the quantifier occurs before an appropriate element, as in (15a)-(17a). However, the object of a preposition cannot be linked to a floating quantifier in the same way, as in (15b)-(17b). Again if the reanalysis hypothesis is correct, the prepositional object as a verbal object would be expected to be linked to a floating quantifier.

(15) (a) The air force struck [those targets both] in the morning.
(b) *The air force struck at [those targets both] in the morning.

(16) (a) The lunatic shot [the girls both] with a rifle.
(b) *The lunatic shot at [the girls both] with a rifle.

(17) (a) Mike told [those employees all] about speaking to reporters.
(b) *Mike talked to [those employees all] about speaking to reporters.

Finally, the object of a preposition differs from the object of a verb with respect to the phenomenon of subdeletion or partial deletion (Bresnan 1973, 1977a, 1977b). Consider the examples in (18)-(20):

(18) (a) Robin discussed more of these problems than Mary did ___ of those problems.
(b) *Robin talked about more of these problems than Mary talked about ___ of those problems.

(19) (a) Robin examined more of these affairs than Mary did ___ of those affairs.
(b) *Robin looked into more of these affairs than Mary looked into ___ of those affairs.

9) An expression which shows the amount or number of the noun it modifies (e.g., all, many, few, little).
(20) (a) Robin believed more of these people than Mary did ___ of those people.
    (b) *Robin counted on more of these people than Mary counted on ___ of those people.

Under the reanalysis hypothesis, the verb and preposition in each (b)-sentence above can be reanalyzed to form a complex verb and the prepositional object as the direct object of that complex verb is expected to be able to undergo subdeletion, just like an ordinary verbal object, as in the (a)-sentences. However, subdeletion is possible only from the object of a verb, but not from the object of a preposition.

In short, although the reanalysis hypothesis predicts that the object of a preposition can behave in the same way as the direct object of a verb in all the situations so far considered, it consistently shows the syntactic behavior of an ordinary prepositional object, but not of a verbal object. This fact shows that the assumption of (optional) reanalysis in the active is totally groundless and even counterfactual.

3.2. Arguments Against the No-reanalysis Hypothesis

Now, one might want to argue that since the reanalysis hypothesis has no solid empirical basis, there is no reanalysis at all involved in the English P-Passive. In fact, some scholars such as Zwicky (1987) and Baltin & Postal (1996) have taken this position, thereby rejecting reanalysis as a general basis for the account of the English P-Passive.

However, there is good reason to believe that even though there is no reanalysis for (passive-permitting) prepositional verbs or V+P sequences in the active, reanalysis of verb and preposition exists in the passive, which always goes together with the passivization of the prepositional object. Before we consider the arguments for this new position, note that despite all the arguments against the reanalysis hypothesis, the empirical evidence for the unification of verb and preposition into a single unit in the passive, as shown in (21b) and (22b), is still clear and has not been successfully challenged or explained away by any previous studies.

(21) (a) The judge went thoroughly over all the evidence presented.
    (b) *All the evidence presented was gone thoroughly over by the judge.
(22) (a) Army patrols searched very carefully for the two deserters
    (b) *The two deserters were searched very carefully for by army patrols.

Interestingly, the same sort of evidence for the incorporation of preposition into verb in the passive can be derived from every situation in which the prepositional object shows the syntactic behavior not of a direct object of a verb but of an object of a preposition.

First of all, although the prepositional object, unlike a verbal object, cannot undergo heavy-NP-shift (that is, cannot move to the right end of the given sentence), a heavy prepositional object, like a heavy verbal object, can move out of its original position to the passive subject position, as in (23b) and (24b):

(23) (a) *I argued with ___ about such problems [the drivers union leader].
    (b) [The drivers union leader] was argued with ___ about such problems.

(24) (a) *I talked to ___ about himself [the victim whose sight has been impaired by the explosion].
    (b) [The victim whose sight has been impaired by the explosion] was talked to ___ about himself.

Second, although the preposition of a reanalyzable V+P sequence cannot be deleted along with the verb (under gapping) or replaced by a pro-verb in the active and this fact clearly argues against the assumption of V-P complex verb formation in the active, the preposition of the same V+P sequence must be deleted along with the verb in the passive, as in the (b)- and (c)-sentences of (25)-(27), thereby showing the unification of the verb and preposition in the passive.

(25) (a) *Pavarotti relied on Loren and Bond ___ Hepburn.
    (b) Loren was relied on by Pavarotti and Hepburn ___ by Bond.
    (c) *Loren was relied on by Pavarotti and Hepburn ___ on by Bond.
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(26) (a) *Pavarotti relied on Loren more than Bond did ___ Hepburn.
(b) Loren was relied on much more by Pavarotti than Hepburn ___ by Bond.
(c) *Loren was relied on much more by Pavarotti than Hepburn ___ on by Bond.

(27) (a) *Pavarotti relied on Loren as (much as) Bond did ___ Hepburn.
(b) Loren was relied on by Pavarotti as (much as) Hepburn ___ by Bond.
(c) *Loren was relied on by Pavarotti as (much as) Hepburn ___ on by Bond.

Third, although a floating quantifier can be linked only to the direct object of a verb in the active, it can be linked not only to a verbal object but also to a prepositional object in the corresponding passive, as we can see in (28)-(30). Thus, this fact also demonstrates that the prepositional object has the same syntactic behavior as that of the verbal object in the passive, contrary to the claim of the no-reanalysis hypothesis, thereby arguing for our reanalysis(-only)-in-the-passive hypothesis.

(28) (a) *The air force struck at [those targets both] in the morning.
(b) [Those targets both] were struck at in the morning by the air force.

(29) (a) *The lunatic shot at [the girls both] with a rifle.
(b) [The girls both] were shot at with a rifle by the lunatic.

(30) (a) *Mike talked to [those employees all] about speaking to reporters.
(b) [Those employees all] were talked to about speaking to reporters.

Fourth, although the evidence from the phenomenon of subdeletion can be used to contradict the reanalysis hypothesis itself, it fails to show that there is no reanalysis in the passive. This is because the same kind of subdeletion is impossible in the corresponding passive sentences both for the verbal object and the prepositional object, as in (31)-(33):
(31) (a) *More of these problems were discussed by Robin than ___ of those problems were discussed by Mary.
    (b) *More of these problems were talked about by Robin than ___ of those problems were talked about by Mary.

(32) (a) *More of these affairs were examined by Robin than ___ of those affairs were examined by Mary.
    (b) *More of these affairs were looked into by Robin than ___ of those affairs were looked into by Mary.

(33) (a) *More of these people were believed by Robin than ___ of those people were believed by Mary.
    (b) *More of these people were counted on by Robin than ___ of those people were counted on by Mary.

Finally, it has sometimes been argued that there are some cases in which the preposition of a V-P complex verb behaves only like an independent preposition, not as part of a complex verb, even in the passive (Postal, 1986, p. 283, fn14; Baltin & Postal, 1996, pp. 129-130). Consider the examples in (34) and (35):

(34) (a) The bridge was flown (both) over and under.
    (b) Communism was talked, argued, and fought about.

(35) (a) Fascism was fought for by Goebbels and (then) against by De Gaulle.
    (b) Fascism was fought for by Goebbels and then, but, I assure you, only then, against by De Gaulle.

In the examples in (34) and (35), we can see that a preposition or a verb can be conjoined or deleted independently of each other. Since the preposition under a reanalysis hypothesis is usually assumed to be incorporated into a verb, being morphologically attached to the verb, such examples as (34) and (35) may appear to argue against the presence of reanalysis of verb and preposition even in the passive.

However, such examples do not necessarily deny the presence of reanalysis in the passive. As for examples such as those in (34), note that the preposition can show the same behavior even when it is morpho-
logically attached to a verb by occurring with a verb in the prenominal position, as in (36):

(36) (a) These days, communism is a very rarely talked-, argued-, and fought-about ideology.
    (b) This is one of the most frequently talked- and, (??)among Canadian linguists), written-about topics in linguistics.

Here, talked-about, argued-about, and fought-about on the one hand and talked-about and written-about on the other are clearly single structural units, respectively, but their word-internal parts can be conjoined (or deleted), as in (36a) and (36b).

In fact, word-internal conjunction or deletion of a similar sort, although not very common, can be found elsewhere, as in (37) and (38):

(37) (a) (?)His approach to that linguistic problem is system-internal and, (upon further review), -external as well.
    (b) Jane coordinates intra- and, (just once in a while), extra-mural activities.
    (c) The activities that she is most interested in are intra- and, (to a lesser extent), extra-mural.
    (d) Pre- and post-World War II automobiles

(38) (a) (?)This is an easy-to-understand and -solve problem.
    (b) (?)He always played a very easy-to-love or -admire character.
    (c) (?)She usually played a very easy-to-(either)-love or -hate role.
    (d) (?)But somehow this hard-to-argue-for or -against position has been very popular among generative linguists for a long time.

As for examples such as those in (35), on the other hand, unlike (34), (36), (37), and (38), they seem to result from deletion of some large portion of the given sentences rather than from simple conjunction (or deletion) of verbs or prepositions. Thus, they can be considered to have come from the passive sentences in (39) through deletion:

(39) (a) Fascism was fought for by Goebbels and (then) (it was fought) against by De Gaulle.
    (b) Fascism was fought for by Goebbels and then, but, I assure you, only then, (it was fought) against by De Gaulle.
Since the preposition *against* in each sentence of (39) cannot be deleted along with the verb *fought*, into which it should have been incorporated to form an inseparable complex verb *fought against* through reanalysis (under the reanalysis hypothesis), one might argue that the preposition is not part of the complex verb (i.e., *fought against*) but an independent preposition even in the passive.

However, there is good reason to believe that the syntactic behavior of the preposition in such sentences as those in (39) is due to something other than the absence of reanalysis in the passive. Let's consider the sentences in (40) and (41):

(40) (a) *Goebbels fought for Fascism and (then) De Gaulle ___ it as well.*
(b) Goebbels *fought for Fascism and (then) De Gaulle ___ for it as well.*

(41) (a) *Fascism was fought for by Goebbels and (then) ___ for by De Gaulle as well.*
(b) *Fascism was fought for by Goebbels and then, but, I assure you, only then, (it was fought) for by De Gaulle.*

The examples show that although the preposition cannot be deleted in the active under the given circumstance, as in (40a) and (40b), it must be deleted along with the verb *fought* in the corresponding passive sentences, as in (41a) and (41b), thereby arguing for the unification of verb and preposition into a single unit in the passive.

Now note that the sentences in (41a) and (41b) have exactly the same syntactic structures as those in (39a) and (39b), respectively, only with the different prepositions *for* and *against* involved. Note also that when the preposition cannot be deleted, as in (39a) and (39b), the preposition is (semantically) different from the preposition in the preceding clause. Since the preposition is always deleted along with the verb in the given situation unless it is (semantically) different from the preceding preposition, the unusual syntactic behavior of the preposition *against* given in (39a)

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10) Some speakers may feel that example (40b) is a little odd. Even those speakers, however, will find the following example good: *Goebbels fought for Fascism and (then) De Gaulle ___ for democracy.*
and (39b) should be explained in the semantics of the given sentences or of the elements involved rather than their morphosyntax. Thus, all the apparent counterexamples so far considered do not contradict the presence of reanalysis in the passive but can be well explained under our reanalysis-(only)-in-the-passive hypothesis.

4. Conclusion

So far, we have tried to explain what really happens to the V+P sequences which is involved in the passivization of a prepositional object, especially whether there is any evidence for the widely assumed, so-called reanalysis of verb and preposition. Our discussions can be summarized as follows. First, there is no (evidence for the) reanalysis of verb and preposition in the active. Second, the empirical evidence for reanalysis in the passive is invariably maintained in all situations which have been claimed to contradict the presence of reanalysis. Finally, the reanalysis of verb and preposition occurs only in the passive.

English passives including the P-Passive are the syntactic phenomena which have perhaps been the most extensively discussed in generative grammar, playing an important role in the development of early transformational grammar and most subsequent theories of grammar. Despite extensive discussions which have produced many insightful observations, though, no previous study of English passives has been able to provide a unified account of the P-Passive which fully addresses many important questions raised.

In fact, as far as the English P-Passive is concerned, it always appeared that generative linguists were confronted with a choice between a well-motivated and well-supported theory and a relatively small piece of recalcitrant data, thereby making it reasonable to expect most unresolved problems to be superficial and to be explained away in due course. However, research on the P-Passive based on such a choice (and mostly built upon some sort of reanalysis mechanism) not only has had little success but also is defective. This is because there is considerable counterevidence against the core assumptions of reanalysis and because the grammaticality and acceptability of the P-Passive cannot be sufficiently explained only by formal (i.e., syntactic and lexico-semantic) factors without referring to non-syntactic and/or functional factors influencing
the passivization possibilities of prepositional objects.\textsuperscript{11}

In conclusion, there is a pressing need for an alternative analysis of the P-Passive in English which not only incorporates the new observation about reanalysis of verb and preposition but also explains many nonformal factors involved in the passivization of prepositional objects.

\textbf{References}


\textsuperscript{11} See Goh (2001) for the discussion of the roles of functional factors in determining the passivization possibilities of the prepositional object.


