Recategorization of Prepositions as Complementizers: The Case of Temporal Prepositions in English

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Recategorization of Prepositions as Complementizers: The Case of Temporal Prepositions in English

Stanley Dubinsky, Kemp Williams

In this article we consider the syntax of temporal prepositions (e.g., after, before, while) and propose that they differ from nontemporals (e.g., without, despite, about) in that they occupy a C⁰ position whenever they occur before a clausal complement. Diachronic and dialectal evidence suggests that this distinction is attributable to a category change that the temporals underwent sometime before the 17th century. This analysis at once begs for an explanation of the difference between these temporals and the preposition for, which also fills C⁰ but exhibits quite different behavior. We first examine the dialectal and diachronic evidence for positing a category distinction between the two classes and then reexamine an account of prepositions and gerundive complements proposed by Johnson (1988). The proposal made here bears on attempts by Emonds (1985) and Grims- shaw (1991) to collapse the distinction between C and P. It provides additional evidence for the relatedness of these two syntactic categories, but also highlights potential problems with entirely eliminating the distinction between them (a direct comparison of our analysis and Emonds’s is given in footnote 5).

1 Evidence for Recategorization

One of the obvious differences between temporal and nontemporal prepositions in modern standard English is that only the former can have a tensed clausal complement (1a–b). At the same time, neither class can appear with an overt complementizer (1c–d).

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(1) a. John left after I told him to.
   b. *John left without I told him to.
   c. *John left after that I told him to.
   d. *John left without that I told him to.

Given the facts in (1a) and (1b), it is likely that the ungrammaticality of (1c) and the ungrammaticality of (1d) are unrelated. If temporal "prepositions" actually occupy C°, then they would not be expected to cooccur with an overt that complementizer, as in (1c). If nontemporal prepositions, then the ungrammaticality of both (1b) and (1d) could be attributed to a general constraint against prepositions selecting tensed complements. Attributing the ungrammaticality of (1c) and (1d) to distinct factors admits the possibility that the two structures need not be uniformly ruled out in all varieties of English. Indeed, evidence showing that the grammaticality of these structures varied (or varies) independently would support this proposal. As it happens, diachronic evidence and dialectal data both suggest that the ungrammaticality of (1c) and (1d) is the result of events separated by at least two centuries.

In certain Southeastern dialects of American English, nontemporal prepositions can be followed by a tensed CP complement, as in (2a)/(3a). Moreover, for speakers who allow (2a)/(3a), the complementizer can optionally be overt. Alongside (2a)/(3a), many of these speakers permit (2b)/(3b), with the overt complementizer that.

(2) a. %They never came to church without they brought their Bibles.
   b. %They never came to church without that they brought their Bibles.

(3) a. %Gene left despite John said he wouldn't.
   b. %Gene left despite that John said he wouldn't.

However, despite accepting (2b)/(3b), which contain a preposition followed by a CP with an overt complementizer, these speakers do not accept temporal elements such as after and since with an overt complementizer, as shown in (4).

(4) a. They came to church after (*that) they read their Bibles.
   b. Jane has been lonely since (*that) her husband died.

If after in (4a) were followed by a CP complement, as without is in (2), then there would be no plausible explanation for these speakers' rejecting that following after. If, on the other hand, after is a complementizer, then the difference between the standard and the regional dialects is explained by proposing that speakers of standard English uniformly disallow tensed CP complements of prepositions, whereas speakers of the regional dialect allow them. The temporal element after in (4a) is not a preposition, but a complementizer, and CPs cannot have multiple heads in any dialect.

Additional evidence comes from the distinct historical evolution of these elements. Although after and before continue to be acceptable with a tensed IP complement, their occurrence with an overt complementizer (i.e., with a CP complement), as illustrated in (5) and (6), is attested only through the 17th century (see Poutsma 1928 and Allen 1980).
Still, the existence of this usage up to that point indicates that after and before regularly selected tensed CP complements at and prior to that time.

(5) It is sold rythe well aftyr that the wole was. (1464; OED I:168)
(6) Before that Philip called thee . . . I saw thee. (1611; OED I:764)

In contrast, without and besides followed by a tensed CP complement (i.e., that + IP) are found well into the 19th century (and dialectally into the 20th).

(7) . . . it was next to impossible that a casket could be thrown into her garden . . . without that she . . . should have caught intimation of things extraordinary transpiring on her premises. (1853; C. Brontë, Villette, ch. xii; OED XII:226)
(8) The representatives of the majority, besides that they would themselves be improved in quality . . . would no longer have the whole field to themselves. (1860; J. S. Mill, Considerations on Representative Government; OED I:819)

There thus seems to be a 200-year interval between the last attested use of temporals with overt complementizers and the last attested use of nontemporal prepositions (such as without and besides) followed by a tensed clause. This supports the hypothesis that the modern ungrammaticality of after that and before that in the standard dialect is due to a categorial shift on the part of temporal prepositions sometime in the 16th century, and that the ungrammaticality of without that is due to a more recent innovation that bans all prepositions from taking tensed finite complements. Speculation that the disappearance of after that might be the result of some superficial constraint, and possibly related to the loss of wh-that, is without basis. Allen (1980) notes that wh-that constructions die out by the end of the 15th century, whereas after that (etc.) is attested until the late 17th century. Under the proposal made here, the ungrammaticality of wh-that in the standard dialect has to do with the presence of phonologically overt elements in both Spec CP and C0, whereas the ungrammaticality of after that is the result (beginning in the 17th century) of two elements occupying the same node. Notice that the former constraint still admits dialectal exceptions (Haden 1993), but the latter does not.

(9) a. %I didn’t get why that she was supposed to wait for them.
    b. *They came to church after that they read their Bibles.

Seeing that this change affected a single semantically coherent set of lexical entries, one might ask how critical the role of purely syntactic recategorization is in accounting for this change, and whether the category shift might be an epiphenomenon accompanying some “real” semantic shift. The answer can be found in comparing the evolution of these elements with the evolution of another preposition that has come to function as a complementizer, namely, for. For is quite distinct from the temporals, as shown by the fact that it selects as complements only untensed, irrealis clauses (i.e., infinitivals). Compare (10) and (11).
(10) a. John danced after she finished singing.
b. *John danced after her to sing.

(11) a. *For she would leave early would be a shame.
b. For her to leave early would be a shame.

There is thus, a priori, no reason to suppose that the evolution of for should parallel that of after and before. The first attestations of for preceding the subject of an infinitive date from late 14th-century texts.¹

(12) It is better for a synner to suffre trybulacyon . . . in his life . . . than to be eternally tourmented in hell. (1508; OED IV:411)

Following suggestions by Stockwell (1976), the earliest instances of constructions like (12) had a structure such as that given in (13), where a synner is the NP object of the preposition for and controls a null PRO infinitival subject.

(13) It is better [PP for a synner₁] [CP PRO₁ to suffre trybulacyon] . . .

Stockwell suggests that for was reanalyzed as a complementizer and that by the 16th century (12) might have actually been analyzed as in (14).

(14) It is better [CP for [IP a synner to suffre trybulacyon]] . . .

This view garners support from the fact that constructions that require an analysis such as (14) do not generally occur until later—that is, until well into the 16th century, based on Lightfoot’s (1979) citations.²

¹ The use of for plus a bare infinitival, meaning ‘in order (to)’, is found much earlier and seems unrelated to the use of for before the subject of an infinitival. This usage is attested as early as the beginning of the 12th century, and for is certainly a preposition in these cases. Sentence (i) provides a 13th-century example of the usage.

   (i) He bi gan to schake ys axe, for to smyte anon. (1297; OED IV:410)

The for-to clause in (i) might have either of the following structures:

   (ii) [PP for [CP IP PRO to smyte anon]]

   (iii) [PP for [NP to smyte anon]] (adapting from Lightfoot 1979)

In other cases, where for to VP does not have a purposive meaning, it appears to be “part of the infinitival morphology” (Lightfoot 1979:187–188). This is evident from the fact that a subject, when it does appear, has nominative Case and precedes for. Accordingly, (iv) alternates with (v) in the 14th century, and (vi) does not appear until 200 years later (see Lightfoot 1979:186–195).

   (iv) [for to go] is necessary (from 1205)

   (v) [I for to go] is necessary (from 14th c.)

   (vi) [for me to go] is necessary (from 1567)

² Lightfoot (1979) rejects the reanalysis of for from a preposition to a complementizer in favor of a different approach. However, the approach that he adopts (based on Chomsky 1973) is not tenable within the current syntactic model. Lightfoot suggests (pp. 196–197) that in the construction for John to leave Comp(S’) expands to PP, that this PP is headed by for, and that John moves from subject of S to the complement position under PP.

   (i) [S’[ComplPP for [NP John₁]]] [S t, to leave]
(15) a. for us to go is necessary (1567)
   b. what would be better than for you to go (1534)

In (15a), for example, the string *for us to go* occupies subject position and cannot consist of autonomous PP and CP constituents. It would appear, then, that the reanalysis of *for* in preclausal position, from preposition to complementizer, opened the way for the temporal prepositions to follow. The recategorization of prepositions into complementizers is thus seen to be a development in the English language in which semantic factors may have played a secondary role, but in which syntactic parameters were preeminent.

2 Prepositions and Gerunds

In this section we will examine Johnson’s (1988) account of the subcategorizational properties of temporal and nontemporal prepositions based on their interaction with clausal gerunds. Johnson’s proposed distinction between temporals and nontemporals will turn out to make the correct predictions regarding the latter, but not the former.

Johnson (1988) observes that gerundive complements of nontemporal prepositions can have null, genitive, or accusative subjects. The gerundive complements of temporal prepositions, on the other hand, cannot support accusatively marked subjects. These facts are shown in (16).

(16) a. John left without me telling him to. (cf. . . . without my telling him to)
   b. Johni left without ei being told to.
   c. *John left after me telling him to. (cf. . . . after my telling him to)
   d. Johni left after ei being told to.

Under Johnson’s account, the nontemporal prepositions are (optional) exceptional Case-marking (ECM) prepositions. Accordingly, in (16b) and (16d) both *after* and *without* are claimed to have a CP complement containing an (appropriately) ungoverned PRO. In (16a) *without* is said to select a bare IP complement and to assign accusative Case to its subject, *me*. The ungrammaticality of (16c) is attributed to a violation of the Case Filter, which follows from the inability of temporal prepositions to select a bare IP clausal complement. Johnson’s representations are given in (17).

(17) a. John left without [IP me telling him to].
   b. Johni left without [CP[IP PROi being told to]].
   c. *John left after [CP[IP me telling him to]].
   d. Johni left after [CP[IP PROi being told to]].

3 Note that POSS-ing clauses can appear following temporal prepositions, which is expected if they are NPs.

(i) a. John left [after my telling the story].
   b. *John left [after me telling the story].

We follow Reuland (1983) in accepting evidence presented by Horn (1975) and Williams (1975) that POSS-ing clauses are NPs.
Johnson derives the requirement that after take a CP complement in (17c) from Larson’s (1988) analysis of the scopal ambiguity present in (18) (originally pointed out in Geis 1970).

(18) John left after Sheila said he should leave.

(18) can be interpreted as meaning either ‘John left after the time of Sheila’s saying that he should leave’ or ‘John left after the time which Sheila said he should leave at’. Larson accounts for this by proposing that a temporal operator may be moved either out of the clause containing the verb said (resulting in the former interpretation) or out of the more deeply embedded clause containing the verb leave (resulting in the latter interpretation). The two representations, under Larson’s account, are given in (19).

(19) a. John left \([PP \text{ after } [CP \text{ Op}_i [IP \text{ Sheila said } [CP \text{ he should leave} \ t_i]]]]\).
   b. John left \([PP \text{ after } [CP \text{ Op}_i [IP \text{ Sheila said } [CP \text{ he should leave} \ t_i]]]][\).

On the basis of these and other facts, Larson demonstrates that a finite clause following a temporal preposition must contain a null temporal operator that moves to Spec CP.\(^4\)

Although providing a very plausible account for the Case marking of subjects of gerundive clauses, Johnson’s and Larson’s accounts of prepositional complementation raise at least two objections: (i) If temporals are prepositions that always select a CP complement, why can the head of this CP never be overt?

(20) *John left [after [that [I told him to]]].

(ii) If the CP selected by a temporal preposition always contains a temporal operator, why can the operator never be overt?

(21) *John left [after [when [I told him to]]].

As Johnson acknowledges, his account does not explain the ill-formedness of either the overt that-complementizer in (20) or the overt temporal operator when in (21).

Accepting Johnson’s analysis of (16a) and (16b), let us assume that nontemporal prepositions, such as without, select either NP or clausal complements and are optional ECM heads in the latter instance (i.e., they can select either CP or IP clausal complements). Suppose now (on the basis of the evidence presented in section 1) that temporal elements such as after are bicategorial: they can occupy either \(P^0\) or \(C^0\). When after is a preposition, it subcategorizes only for an NP complement. These differences between after and without are illustrated in (22).\(^5\)

\(^4\) Larson bases these conclusions on across-the-board extraction facts, as well as on the restriction of interpretations by the Wh-Island Constraint, the Complex Noun Phrase Constraint, and the Adjunct Condition.

\(^5\) If one were to adopt Emonds’s (1985) program of entirely collapsing the distinction between \(P\) and \(C\) (claiming that all complementizers belong to the category \(P\)), then the distinction between temporal and nontemporal prepositions given in (22) would necessarily be stated in terms of subcategorization. For Emonds, subjectless gerundives are bare VPs, gerundives with possessive subjects are NPs with a phonologically null head, and gerundives with accusative subjects are presumed to be NPs followed by bare VPs in which the subject NP is Case-marked by the preposition (Emonds does not treat ACC-ing clauses explicitly). In order for Emonds
(22) a. without:  \[ P, [\ldots \text{NP}] \]
\[ [\ldots \{\text{CP/IP}\}] \]

b. after:  \[ \{P, [\ldots \text{NP}] \} \]
\[ \{ C \} \]

The two possible configurations for after are illustrated in (23), with the moved temporal operator showing up in (23b).

(23) a. We threw a party \([P \text{ after } [\text{NP John's departure}]]\).

b. We threw a party \([\text{CP Op}_i \{C_1 \text{ after } [\text{IP John departed }t_i]\}]]\).

In (23a) after is a P and assigns Case to its NP complement, John's departure. In (23b) it is a C.6

The analysis adopted here presents immediate solutions to the two problems cited above. First, if after is required to have a CP complement, as Johnson (1988) suggests, then (20) should be grammatical. If, on the other hand, after is a complementizer, then (20) is an instance of a clause containing two overt complementizers and as such is ill formed. (20) is repeated here, with the appropriate structure.7

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6 It is first proposed in Huang 1982 that preposition-like elements introducing adjunct clauses might be complementizers.

7 Lasnik and Saito (1992) also observe that this structure correctly rules out sentences such as (20). They further illustrate that the structure accounts for subject-object asymmetries in the extraction of wh-elements from adverbial clauses. They do not suggest that temporals might form a special class with regard to their ability to occupy Case, nor do they make any proposal regarding the difference between after and for.

This explanation assumes that the CP complement of after cannot iterate. Otherwise, we might predict a structure such as (i).

(i) John left \([\text{CP after } [\text{CP that } [\text{IP I told him to}]]]\).
(20) *John left \( [\text{CP} \text{ of after that}] [\text{IP} \text{ I told him to}].\)

The second question concerned the impossibility of an overt temporal operator in constituents headed by after. In Larson’s and Johnson’s accounts, a tensed complement clause following after contains a temporal operator, and this operator moves to Spec CP. The ungrammaticality of (21) is anomalous and must be ruled out in an ad hoc manner, if after is a preposition taking a CP complement. This is especially so, in view of the fact that many prepositions can take \([+\text{wh}]\) CP complements.

(24) a. They talked for hours [about [whether Frank ought to leave]].
   b. I won’t bore you [with [why everything is such a mess]].
   c. I’ll have everything ready [by [when they get in]].

Under the present account, (21) is ill formed because after is a complementizer. The structure of (21) is analogous to that of (25).\(^8\)

(25) *John left \( [\text{CP} \text{ after [IP wheni [IP Frank heard the story ti]]}].\)

(25) is ungrammatical because the \(\text{wh}\)-element when has adjoined to IP. In Chomsky 1986:92 it is assumed (on the basis of data brought out by Lasnik) that \(\text{wh}\)-elements may not adjoin to IP. Lasnik’s data are given in (26).

(26) a. Bill thinks \( [\text{CP} \text{ that [IP Johni [IP I like ti]]}]].\)
   b. *Who thinks \( [\text{CP} \text{ that [IP whoi [IP I like ti]]}]?\)

(26b) is ill formed because a \(\text{wh}\)-element who has adjoined to the lower IP, and (25) is impossible for the same reason. Even if the overt operator when did occupy the specifier position of the CP projected by after, the sentence would still be ungrammatical. That is, the temporal operator must be null, as (27) shows ((27b–c) are cited from Haden 1993).

(27) a. John left \( [\text{CP} \text{ Op}/*\text{wheni [CP I would after [IP Frank heard the story ti]]}].\)
   b. \( [\text{CP} \text{ Wheni [CP I was and a little tiny boy ti]]} \ldots \text{A foolish thing was but a toy. (Shakespeare’s Twelfth Night)}\)
   c. %I’ll have to talk to the investigator to find out \( [\text{CP} \text{ whati [CP I started it]}]]). \text{ (Ozark English)}\)

In (27a) a null temporal operator can occupy Spec CP, but the overt \(\text{wh}\)-element when

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As pointed out by a reviewer, CP recursion is limited in its distribution and appears to arise only in the complements of certain proposition-selecting verbs, such as say and think. This is illustrated in (ii).

(ii) John said \( [\text{CP} \text{ Bill [IP he could never trust]]}.\)

Notice that the CP recursion in (ii) is lexically licensed by the V that selects the highest CP as its complement. In (i) the CP is an adjunct; and if CP recursion is restricted to arguments, then we should not expect to find it in temporal adjuncts of the sort being discussed here.

\(^8\) It is assumed that (i) involves a free relative \(\text{NP}\) complement of the preposition (not complementizer) after.

(i) After what Frank said to him, Bill ought to sue for slander.
cannot do so. This is predicted by the Doubly Filled Comp Filter (Chomsky and Lasnik 
1977) and by Rizzi’s (1991) Wh-Criterion (developed from May 1985), which also rule 
out (27b) and (27c) in standard English. However, (27a) with when is worse than (27b) 
and (27c), which are attested in English texts prior to the 16th century and in modern 
American dialectal speech. We would suggest that an additional factor analogous to the 
Wh-Criterion serves to rule out (27a).

Rizzi (1991) formulates the Wh-Criterion as follows:

(28) The Wh-Criterion
a. A wh-operator must be in a spec-head configuration with a [+wh] X₀.

Later in his paper, Rizzi suggests that other features such as [+neg] might also require 
agreement in a spec-head configuration. Now consider the difference between adjunct 
clauses introduced by when and adjunct clauses introduced by after.

(29) a. When Harry finished speaking, John left.
b. After Harry finished speaking, John left.
c. *When after Harry finished speaking, John left.
d. %When that I was and a little tiny boy, . . .

In (29a) the clause introduced by when refers to a particular (singular) instant, whereas 
in (29b) the clause introduced by after refers to a potentially infinite set of instants 
delimited only by pragmatic considerations. In view of this, suppose that when carries 
the feature [+sing] and after, the feature [−sing]. If this feature is also checked in the 
spec-head configuration, then the ungrammaticality of (29c) follows from an agreement 
clash between the [+sing] specifier when and the [−sing] head after. Since the comple-
mentizer that is presumably neutral in this regard, we would expect that (29d) would be 
permissible in dialects where that is also neutral with regard to the feature [wh].

Returning to the problem that initiated this discussion, we find that we do not yet 
have a solution for the inability of temporal prepositions to take ACC-ing complements. 
Assuming Johnson’s proposals concerning ECM prepositions (e.g., without), Larson’s 
proposals concerning operators in the complements of temporal prepositions, and the 
proposal made here concerning the categorial status of after, the sentences in (16) should 
have the structures shown in (30).

(30) a. John left [PP without [IP me telling him to]].
b. John left [PP without [CP IP PROi being told to]]].
c. *John left [CP Op₁ after [IP me telling him to tj]].
d. John left [CP Op₁ after [IP PROi being told to tj]]].

Although it is clear from the facts presented above that after does occupy C₀, it is not 
immediately obvious why after cannot Case-mark the subject of its IP complement in 
(30c), considering that without can do so in (30a). In fact, if one compares after with the
prepositional complementizer *for, one might expect the grammaticality judgments for (30c) and (30d) to be the reverse of what they are. Consider the facts in (31).

(31) a. It is impossible \([_{CP} \text{ for } _{IP} \text{ me to leave}]\).
   b. *It is impossible \([_{CP} \text{ for } _{IP} \text{ PRO to leave}]\).

Under the standard treatment, *for assigns Case to *me in (31a) and to PRO in (31b), rendering the first grammatical and the second ungrammatical. Why is this not the case in (30)?

The answer involves Larson’s requirement that temporal prepositions obligatorily select clauses containing temporal operators. Assuming that something akin to Rizzi’s (1991) Wh-Criterion is at work here, let us state the following requirement (adapting from Rizzi):

(32) **Temporal Operator Criterion**

   a. A temporal operator must be in a spec-head configuration with a \([ + \text{ temporal}] X^0\).
   b. A \([ + \text{ temporal}] X^0\) must be in a spec-head configuration with a temporal operator.

According to (32), the relation between the operator in (30) and *after is analogous to the relation between a \([ + \text{ wh}] C^0\) and a wh-operator. In this fashion, a temporal complementizer such as *after is required to stand in a spec-head configuration with a temporal operator.

Suppose now that we distinguish purely structural relations holding between heads and phrases, such as Case assignment and agreement, from the lexically projected relation of \(\theta\)-assignment, in a manner similar to that proposed by Manzini (1992). Expanding the scope of relations covered in Manzini’s K(Case)-government to include agreement, let us define \(\sigma(\text{structural})\)-government as follows:

(33) \(\sigma(\text{structural})\)-government

   \(\alpha \sigma\)-governs \(\beta\) iff \(\alpha\) “structurally addresses” \(\beta\), \(\alpha\) a lexical head, and \(\beta\) phrasal.

Here, following Manzini, the term *structurally addresses is taken to mean ‘assigns an index of position’. It is assumed that \(\sigma\)-government may be spelled out by agreement morphology on the head, Case morphology on the phrase, or a combination of the two. We also adopt a principle of unipolarity, such that

(34) **Unipolarity**

   If \(\alpha \ X\)-governs \((X = \theta \text{ or } \sigma)\) \(\beta\), then \(\beta\) is to the right/left of \(\alpha\).

This principle requires that a given head in a given projection govern (in a given manner) in only one direction. Accordingly, where the specifier is on one side of \(\alpha\) and the complement is on the other, \(\alpha\) cannot \(X\)-govern both. A given head may \(\theta\)-govern and \(\sigma\)-govern in the same direction—for example, in the case of a \(V\), which both \(\theta\)-govern and \(\sigma\)-governs (assigns structural Case to) its object NP. A head can also \(\theta\)-govern in one
direction and \( \sigma \)-govern in another—for example, in the case of \( I^0 \), which \( \theta \)-governs VP and \( \sigma \)-governs (agrees with) the subject NP. What a head cannot do is X-govern (where \( X = \sigma \) or \( \theta \)) simultaneously in two directions.\(^9\)

The Unipolarity Principle (34) can readily explain the divergent behavior of after and for. Since after necessarily \( \sigma \)-governs (i.e., agrees with) its specifier, in accordance with the requirements laid out in (32), it cannot \( \sigma \)-govern (i.e., Case-mark) the specifier of its complement. Since Spec IP in (30c-d) is neither \( \theta \)-governed nor \( \sigma \)-governed, it is available for PRO. The complementizer for, on the other hand, does not select any operator-like element and thus does not \( \sigma \)-govern the specifier of its own projection. It therefore can and does \( \sigma \)-govern to its right, and Case-marks the specifier of its complement IP, licensing the overt NP in (31a).

The specific requirement in (32) that the temporal operator and the temporal head be in “a spec-head configuration” becomes problematic when the temporal head selects an NP complement, and we will show that a simplification of (32), in terms of \( \sigma \)-government, is warranted. As pointed out by a reviewer, when a \([ + \text{temporal}] X^0 \) heads a PP and takes an NP complement, the NP must denote ‘times’. Thus, after the news must mean something like ‘after the time of the broadcast of the news’ or ‘after the time of the receipt of the news’. Now, according to (32), this PP should have the following derivation, wherein one type of \( \sigma \)-government (Case marking) is to the right, and another type of \( \sigma \)-government (temporal operator spec-head agreement) is to the left.

\[(35) \ [PP[\text{the news}]_i \ [P^i \text{after } t_i]]\]

Although (35) satisfies (32), it violates (34). Suppose, however, that we change (32) to take advantage of the fact that \( \sigma \)-government can work in either direction.

\[(36) \ \text{Temporal Government Criterion}\]
\[\text{a. } \ [ + \text{temporal}] X^0 \text{ must } \sigma \text{-govern a temporal XP.}\]
\[\text{b. } \ \text{A temporal XP must be } \sigma \text{-governed by a } [ + \text{temporal}] X^0.\]

According to (36), since the complement of after in after the news is itself a temporal XP, it can satisfy the Temporal Government Criterion without moving from its Case-marked position. In (37), then, all \( \sigma \)-government (Case assignment and temporal government) is to the right.

\[(37) \ [PP[P^i \text{after } [NP \text{the news}]]]\]

(36) will only force \( \sigma \)-government to be leftward when the complement of the \([ + \text{temporal}]\)

\(^9\) Under (34), a verb must \( \theta \)-govern in one direction. Under the VP-internal subject hypothesis, this would require that all arguments of the verb be base-generated on the same side. This position is consistent with VP-internal subject proposals, such as that of Diesing (1992:23–29), wherein this position is assumed to be \( \theta \)-governed by the verb. Since the position is always empty at S-Structure in English (under Diesing’s account), it is plausible that the English VP has the following structure, with rightward \( \theta \)-government: \([VP[V \ NP_{OBJ}] NP_{SUBJ}]\). According to Diesing, if PRO is required to be ungoverned and is generated in VP-internal position, then it must move into some higher functional projection. German (which has both IP and VP subjects at S-Structure) is unproblematic, since the VP is head-final.
head is not the temporal XP with which the head must agree. This naturally happens whenever the complement is an IP containing a temporal operator.

Under this analysis, then, after and for can both take either NP or IP complements. They differ in that, when after occupies a C⁰, a temporal operator moves out of its IP complement into Spec CP, and the constraint stated in (36) forces it to σ-govern leftward. This then precludes it from Case-marking the specifier of its complement IP. When after selects an NP complement, which must be [+temporal], it σ-governs this complement, allowing it to both Case-mark the complement and satisfy the Temporal Government Criterion. Since no temporal XP is ever involved with the preposition for, and it is never required to σ-govern leftward, it is presumed to Case-mark its complement for or the NP specifier of its complement IP in every instance. The italicized constituents in (38) are those that are σ-governed by the head of the phrase.

(38) a. \([CP \ X P_i \ [after \ [IP \ldots \ t_i \ldots \]]]\)
b. \([PP \ after \ NP]\)
c. \([CP \ for \ [IP \ NP \ldots \ ]]\)
d. \([PP \ for \ NP]\)

References

On Verbs That Fail to Undergo V-Second

Hilda Koopman

In this article I develop an analysis for the syntactic distribution in Dutch of particle verbs, verbs with an inseparable prepositional prefix, verbs with the prefix her- ‘again’, and particle verbs prefixed with her-. Empirical evidence based on the distribution of particle verbs and the prefix her- will establish that the finite verb in nonroot environments in Dutch is in situ (or more correctly quite low in the structure). I will show that the proposals developed in Koopman 1994 for the way in which lexical properties are satisfied yield a direct and simple explanation for the paradigms under discussion and solve certain long-standing problems in Dutch syntax. Insofar as these proposals uniquely rely on the mechanism of head movement and are intended as a general theory for the way in which lexical properties need to be satisfied, the analysis developed here yields strong support for my 1994 proposals, which can be seen as a particular implementation of Chomsky’s (1993) checking domain.

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