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Adverbial NPs: Bare or Clad in See-Through Garb?

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Larson 1985 develops an analysis of ‘bare-NP adverbs’ as in 1 in which certain NPs are able to appear in adverbial syntactic positions in virtue of a peculiarity of their head nouns:¹

- (1) a. John arrived last week.
b. They went that way.

For Larson, *week*, *way*, and a number of other nouns have lexical entries containing a feature [+F] that allows them to assign oblique Case to NPs of which they are the head; the difference between 2a and 2b is then that *time* is [+F] while *occasion* is [–F] and accordingly only in 2a does the adverbial NP receive the Case marking that immunizes it against violation of the constraint against Case-less NPs:

- (2) a. I’ve gone there many times.
b. *I’ve gone there many occasions.

In addition, Larson (606) posits a rule of ‘Adverbial θ -role assignment’ that says, ‘Assign an adverbial θ -role to α , where α is any phrase,’ and lists roles θ_{Time} , θ_{Loc} , θ_{Dir} , and θ_{Manner} as assignable by this rule.

In the course of his paper, Larson briefly takes up and rejects one specific version of an alternative approach to adverbial NPs. The alternative approach treats them as PPs having no overt preposition, and the specific version of it that he considers is one that he attributes to Bresnan & Grimshaw 1978,² which involves a fairly baroque apparatus that posits phonologically zero deep structure prepositions, a rule deleting such zero elements, and a constraint excluding their occurrence in surface structure. The particular arguments that he offers against an analysis of adverbial NPs as PPs are metatheoretical rather than empirical³ (‘the assumptions and devices that it invokes are ad hoc and theo-

¹ In this paper I have taken pains to avoid the common tendency among linguists to confound the notion ‘adverb’ (a part of speech) with the more general notion of ‘adverbial expression’ (which includes expressions of any category when used ‘adverbially’). I will accordingly use the more accurate designation ‘adverbial NP’ instead of ‘bare NP adverb’ and will occasionally use scare-quotes around ‘adverb’ when alluding to quoted passages in which it is applied to adverbial expressions indiscriminately.

² I will leave it to Bresnan and Grimshaw to judge the accuracy of this attribution. Their paper, as I read it, is neutral with regard to whether the underlying preposition is absent entirely from surface structure or present in a null form.

³ Larson alludes in a footnote (615) to something that might be developed into an empirical argument against an analysis of *when* and *where* as PPs, namely that ‘English only permits headed PPs in the complementizer position of infinitival relatives’ and that *when* and *where* are excluded in that position:

- (i) the cupboard in which to keep the cutlery
(ii) *the cupboard where to keep the cutlery
(iii) the day on which to clean up our rooms
(iv) *the day when to clean up our rooms

retically problematic', p. 602), and, with one exception, deal with technical details of the one specific analysis of that type that he discusses rather than with essential features of the general type of analysis that he opposes. Specifically, he notes that (i) 'the crucial P Deletion rule and the (unstated) constraint on unfilled nodes have no independent empirical support in the grammar', that (ii) 'the status of the features that single out potential bare-NP adverb heads is unclear',⁴ and that (iii) 'the initial attribution of PP status is at best undermotivated'.

The first two objections are irrelevant to the alternative version of the 'adverbial NP as PP' analysis that I will defend below. The third objection, however, relates to a central issue distinguishing Larson's approach from all 'adverbial NP as PP' approaches, namely that of whether adverbial NPs behave specifically like PPs, rather than simply having properties that are common to 'adverbial' constituents irrespective of their syntactic category.

The categorization of adverbial NPs as PPs has considerably more support than Larson suggests. He states that 'bare-NP adverbs share the distribution of ALL other adverbial categories generally' (emphasis added) and adds that

I regard this as less than conclusive as an argument against the zero P for the following reasons. First, *when* or *where* is excluded from such constructions even when it is the object of a P and the position in question is thus uncontroversially filled by a PP:

- (v) the office from which/*where to obtain the application forms
- (vi) ?the office from where we obtained the application forms
- (vii) the day by which/*when to hand in the forms
- (viii) ?the day by when we had to hand in the forms

While overt P plus *when/where* is not fully acceptable in finite relatives, corresponding infinitive relatives are significantly worse. Secondly, at least some speakers accept a class of infinitival relatives that violate the widely accepted generalization that Larson cites, namely those with a relativized genitive:

- (ix) Rudy is a good person whose brain to pick.
- (x) The nominee whose candidacy to support is Smith.
- (xi) Freudians aren't my idea of people whose word to take on that question.

For such speakers, the generalization about infinitival relatives is not that the Comp position must be filled by a PP but that it must be filled by a constituent of which the relative expression is a proper part.

⁴ The status of Larson's feature F and his adverbial roles θ_{Time} , θ_{Loc} , θ_{Dir} , and θ_{Manner} is no clearer than that of Bresnan & Grimshaw's features 'Temp, Loc, Dir, Man'. Larson's elaboration of this remark ('Would we expect to find similar features that would allow NP's to function as VP's or S's?') misrepresents Bresnan & Grimshaw and incorrectly suggests that their approach differs from his in this regard. Bresnan & Grimshaw's features served as a license not for an arbitrary change of category but for deletion of a specific type of element—according to Bresnan & Grimshaw's account, the NPs function as PPs not because they have undergone a change of category but because, in the examples in question, they are PPs that have lost their P. An analysis of that type could allow a NP to function as a VP only by providing for deletion of a verb on the basis of features of the head of its direct object. Essentially the same possibility is open in Larson's analytic framework: irregular assignment of accusative Case to NPs whose heads bear certain features, combined with a semantic interpretation rule that supplies the content of an understood verb. There are in fact well supported analyses involving deletion of a verb from its VP (see McCawley 1974 for such an analysis for *John wants money*), though features of the object NP appear to be irrelevant to the phenomena that motivate those analyses.

'To be convincing, any such account would also have to argue for the PP status of adverbial clauses like *when John arrived* and adverbs like *subsequently* and *locally*'. Larson made a poor choice of examples when he suggested that *subsequently* and *locally* would have to be analyzed as PPs if adverbial NPs are, since those two adverbs can occupy positions (immediately preceding a VP or an AP) that neither adverbial NPs nor PPs with an overt preposition can occupy:⁵

- (3) a. Smith may have subsequently withdrawn his lawsuit.
- a'. *Smith may have that day withdrawn his lawsuit.
- a". Smith may have withdrawn his lawsuit subsequently/that day.
- a". ??Smith may have on a subsequent day withdrawn his lawsuit.
- b. There will be [locally scattered] clouds.
- b'. *There will be [in various places scattered] clouds.
- b". *There will be [various places scattered] clouds.

Likewise, while, as Larson (599) notes, adverbial NPs can appear in the normal position of strictly subcategorized 'adverbs', they cannot occupy the position of a strictly subcategorized 'adverb' in a prenominal modifier:

- (4) a. You shouldn't have worded the letter so tactlessly.
- a'. You shouldn't have worded the letter that way.
- b. a tactlessly worded letter
- b'. *a that way worded letter

The distribution of adverbial NPs⁶ is not that of ADVERBIAL constituents in general nor that of the much narrower category of ADVERBS. As far as I can determine, it agrees with that of a particular type of adverbial expressions, namely PPs that are used adverbially. Note, for example, Jackendoff's observation (1972:94–5) that only adverbs and not PPs can normally precede a V or A head:

- (5) a. John carefully opened the window.
- a'. *John with care opened the window.
- b. John vigorously stirred the soup.
- b'. ??John in a vigorous manner stirred the soup.

The fact that adverbial NPs are normally excluded from such positions, as in 3–4, provides evidence that they are not just any old constituent with an ad-

⁵ These remarks do not apply to *when he arrived*. I accept Jespersen's (1924:89) categorization of 'subordinating conjunctions' as prepositions and thus treat such expressions as *after he had arrived*, *because he was absent*, and *while he was absent* (Jespersen's examples) as PPs. For Jespersen, prepositions basically allow both NP and S as object, though some of them idiosyncratically allow only a NP object (*during*) and others only a S object (*while*). As the reader can verify, *when John arrived* shares the characteristics of PPs that are taken up below.

⁶ This statement applies to the adverbial uses of the NPs in question. Those NPs can also be used (without the zero P) in NP positions, subject to the qualification that *now*, *then*, *when*, *here*, *there*, and *where*, about which more will be said below, have the peculiarity of occurring only in combination with a (zero or nonzero) P and thus not being able to occupy NP positions. I note in passing that Larson's use of the term 'intrinsic Case-marking' is accurate only in connection with *now*, *then*, etc.: the Case-marking that his analysis posits is not 'intrinsic' for other adverbial NPs, since they lack it when they are not used adverbially.

verbial role but are indeed PPs. Larson's account leaves it a mystery why any of the sentences in 3–4 should be less than fully acceptable.

A second respect in which adverbial NPs behave like PPs is semantic: their semantic interpretations are of the same logical type as such PPs as *on Tuesday*, *in this manner*, and *in this direction*, and can be obtained by combining the 'normal' semantic interpretation of the NP (the interpretation that it has when it is the object of an overt preposition) with a semantic element of the same logical type as *in*, *on*, etc. Larson's paper contains no concrete proposal for the semantic interpretation of adverbial NPs, but his discussion of 'adverbial roles' suggests that each adverbial role combines with the interpretation of a NP (or other constituent used in that role) to yield a derived semantic interpretation of an appropriate logical type. But that is equivalent to combining the semantic interpretation of the NP with a function such as would be the semantic interpretation of a corresponding preposition. While Larson's approach requires semantic interpretation rules (comprising the semantic counterpart to his 'Adverbial θ -role assignment rule') that introduce those functions into the semantic interpretation, the surface zero P analysis does not, since it posits an element that will have a semantic interpretation of its own and will be combined with the semantic interpretation of its object by normal principles of semantic combination. The zero P can indeed be identified as a zero allomorph of a preposition that occurs with other NPs as objects⁷—i.e., the zero P of the first of each of the following sets of examples can be identified with the overt P of the second and makes the same contribution to the semantic interpretation as does that P:

- (6) a. I'll be in Pittsburgh \emptyset next Tuesday.
- a'. I'll be in Pittsburgh on Tuesday.
- b. Let's go \emptyset this way.
- b'. Let's go in this direction.
- c. She'll be in Paris \emptyset next week. (ambiguous)
- c'. She'll be in Paris for that period.

⁷ Possible exceptions to this generalization are expressions such as *five times* when they are used merely to count events rather than to refer to them. There is no preposition that serves to introduce expressions having that semantic role. (The *on* of *on many occasions* expresses a relation between a propositional function and a SET of events rather than the cardinal NUMBER of that set). *Five times* nonetheless behaves like a PP with regard to word order:

- (i) Sam visited his mother five times.
- (ii) ??Sam five times visited his mother.

The suppletive replacements of **one time* and **two times*, namely *once* and *twice*, behave similarly, subject to two caveats: first, *once* is ambiguous between an event-counting sense and a sense of 'at some time in the past' and the statement applies only to the former use:

- (iii) Hemingway drank in this bar *once*. (= one time)
- (iv) Hemingway drank in this bar *once*. (= at some time in the past)
- (v) Hemingway *once* drank in this bar. (= iv, \neq iii)
- (vi) ??Hemingway *twice* drank in this bar.

Second, *twice* is fairly acceptable at the beginning of a N-modifier (e.g. *a twice defeated candidate*), which it ought not to be if it were simply behaving like a PP.

- c''. She'll be in Paris during that period.
- d. Vera lives \emptyset downtown.
- d'. Vera lives in the downtown area.
- e. Ed went \emptyset home.
- e'. Ed went to his apartment.

The meaning of the zero P is in each case an unmarked relation between objects of a specific sort and the S or V' that the PP combines with (e.g., the zero P in 6a expresses a relation between a proposition and a period of time, consisting in the proposition being true at that period of time).⁸

A third similarity between adverbial NPs and PPs, and another respect in which they behave unlike adverbs in the strict sense, is that they can be used as adjuncts to an N':

- (7) a. Your brother's arrival last week was unexpected.
- a'. Your brother's arrival on that day was unexpected.
- b. Occurrences of malaria here are quite rare.
- b'. Occurrences of malaria in this region are quite rare.
- c. The repression of free speech this way is reprehensible.
- c'. The repression of free speech by such means is reprehensible.
- d. His attack on you (*viciously) left me speechless.
- e. Fred's acceptance of such a menial job (??willingly) means he has little self-esteem.
- f. Lucy's performance of *Tzigane* (*beautifully) received thunderous applause.

A large body of examples similar to (7a–c') is given by Ikeuchi 1972 as refutation of the claim (Chomsky 1970:27) that 'although gerundive nominalization applies freely to sentences with verb phrase adjuncts, this is not true of the rules for forming derived nominals'. It appears that 'verb phrase adjuncts' are neither totally excluded nor freely allowed in nominalizations; rather, their acceptability depends on whether they are of a category that the surface constituent structure of NPs allows for, which includes PPs (with or without an overt P, and irrespective of whether their sense is 'adverbial') but not adverbs in the strict sense.⁹

A fourth respect in which adverbial NPs behave like PPs (though one which is of significance more from Larson's vantage point than from mine) is that if they are analyzed as objects of a zero preposition they are subject to assignment of Case by a normal assigner of Case, namely a preposition, whereas under

⁸ Levi's (1978, chapter 4) treatment of English complex nominals in terms of deletion of a limited set of semantically primitive predicate elements, e.g. *music box* < *music-making box*, provides a similar instance of zero realization of a semantically unmarked head of a constituent.

⁹ This statement does not, despite appearances to the contrary, conflict with the conclusion of Ernst (1984:111–31) that there are sentences in which adverbs appear as surface constituents of NPs. I maintain that in the cases discussed by Ernst (e.g. *Are [primarily horn players] required for the job?*), the adverb is an adjunct to the whole NP, while in the examples in 7 the PPs are adjuncts of an N' (and are thus structurally parallel to V'-modifiers).

Larson's treatment a novel principle of Case-assignment must be invoked.¹⁰ The analysis in terms of a zero P, if combined with a pristine account of Case-assignment, would let one restrict irregular assignment of oblique Case to constructions in which overtly present material is combined semantically with what in overt form would be an assigner of oblique Case, whereas Larson's analysis does not suggest any semantic restriction on irregular assignment of oblique Case.

In other respects, it is hard to see how the 'Adverbial NP as PP' approach and Larson's could be anything but equal. Whatever features an adherent of Larson's analysis might take as responsible for the assignment of Case to a given NP, an adherent of a zero P analysis could take as allowing the NP to occur as the object of a zero P. Similarly, the peculiarities of *now*, *then*, *when*, *here*, *there*, and *where* noted by Larson (612–13), namely that they are not admitted as subjects or as direct objects, nor as genitives, can equally well be described Larson's way (that they not only allow but indeed require 'Oblique Case') or in terms of a requirement that those words occur as objects of Ps.¹¹ Both descriptions account equally well for the correlation between those two peculiarities, while allowing the words in question to occur both adverbially and as the objects of overt prepositions (*from here to there*, *until now*, etc.).¹²

I note finally that the one factor that Larson identifies as affecting whether a NP can be used adverbially, namely its head noun, is at best one of several factors that interact in determining what the possible adverbial NPs are. It is easy to find nouns that combine with some determiners and modifiers into adverbial NPs but do not yield an adverbial NP when combined with different determiners and modifiers:

- (8) a. We went there the same day.
- a'. We went there on/* \emptyset a subsequent day.
- b. I talked to Lucy that evening.
- b'. I talked to Lucy on/* \emptyset an evening in May.
- b''. I talked to Lucy one evening in May.
- c. We went to Florida last Christmas/Tuesday.
- c'. We went to Florida on/* \emptyset Christmas. (cf. on/ \emptyset Christmas Day)

¹⁰ This paragraph does not constitute an endorsement of the notion of 'Case'. I adopt here the role of a capitalist merchant selling rope to communist executioners.

¹¹ In these respects, *now*, *here*, etc., differ from their Japanese counterparts *ima*, *koko*, etc.; e.g., in Japanese one says *Koko wa doko desu ka?*, literally 'Where is here?', in circumstances where an English speaker would say 'Where am I?' or 'Where are we?'.

¹² Larson's examples of *now*, etc., as object of P contain a minor error that should be corrected. In (i), *here/there* is not the object of *in*; rather *in* is a 'particle' like *out* in (ii) (to be distinguished from the preposition *out of*) or *over* in (iii):

- (i) Dolores lives in here/there. (cf. Larson's 31b)
- (ii) Dolores lives out (*of) here/there.
- (iii) Dolores was standing over here/there.

Note that the *in* of (i) is obligatorily stressed, whereas the preposition *in* can be unstressed.

- c''. We went to Florida on/% \emptyset Tuesday.¹³
- c'''. We go to Florida every Christmas/Tuesday.
- d. We're going to Hawaii in/* \emptyset the summer.
- d'. We're going to Hawaii in/* \emptyset February.
- d''. We're going to Hawaii (*in) next summer/February.
- e. John spoke (?in) the same way as Frieda.
- e'. John spoke in/* \emptyset such a way as to offend everyone.

Some generalizations are easily discernible, e.g. that *next N*, *last N*, and *every N* are acceptable as adverbial NPs if *N* denotes a recurring time interval (e.g. *summer*, *May*, *Tuesday*, *Christmas*), irrespective of whether *N* otherwise can be the head of an adverbial NP. No single generalization appears to delineate the class of potential adverbial NPs accurately. Larson's treatment thus is not viable in the pristine form in which the *N* assigns Case to its NP irrespective of what determiner and adjectives the NP has, which would imply that all the sentences in 8 were well-formed; it would at least have to be revised to the extent of allowing the assignment of Case to be sensitive to other factors such as determiners and adjectives. To the extent that the head *N* is merely one among many factors affecting whether a NP can be used adverbially, doubt is cast on the special role that Larson's analysis gives to it.¹⁴

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¹³ The symbol %, introduced in 1970 by Larry Horn and Paul Neubauer (see Neubauer 1976), indicates that there is dialectal or idiolectal variation in the acceptability of the example.

¹⁴ For valuable comments on an earlier version of this note, I am grateful to Richard K. Larson and four anonymous referees of an anonymous journal. Subsequent to the completion of this note, an article has appeared (Emonds 1987) that includes criticisms of Larson's 1985 analysis that overlap those made here; Emonds, however, does not draw the distinction between Adv and PP that figures prominently in this note, and indeed maintains (620–21) that adverbs in *-ly* are PPs with a zero P and a zero head N. While the position on categories adopted in McCawley 1982 and assumed here does not prevent adverbs from being derived from PPs, it implies that they will not be PPs in surface structure, since the surface head will not be the underlying P but the adverb itself; thus, even if there is no underlying category distinction between e.g. *subsequently* and *at a subsequent time*, the conception of categories assumed here will provide for the surface category distinction that is needed to account for the distinctions of acceptability noted in such examples as 3.

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