

A Note on Adverbial Prepositional Phrases*

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1. Meaning and Licensing

In order to explore a way to license adverbial elements in English, it is necessary and important to delimit the functions and meanings that adverbial elements have in sentences (Travis 1988, Ernst 1998, Cinque 1999). It is also known that the functions and meanings of adverbial elements are closely related to each other and that their functions are often determined based on their meanings as well as their positions (Alexiadou 1997, Suzuki 1995, 1999). We have two typical classes of adverbial elements in English: *-ly* adverbs and prepositional phrases (PPs), both of which are quite productive.

It is well known that almost all of the *-ly* adverbs are ambiguous in meaning and function (see Ernst 1984). In the cases of *-ly* adverbs, however, it may be possible to specify their meanings and functions in the lexicon with their syntactic properties, fully or partially, because they are single words. Take the *-ly* adverb *carefully* as one example; it can be used as a manner adverb in VP(verb phrase)-final and pre-verbal positions and as a subject adverb in sentence-initial and post-subject positions, as shown in (1) and (2) below (see Quirk et al. 1985 and Suzuki 1997):

- (1) a. Jim examined those samples carefully.
b. Jim carefully examined those samples.
c. Carefully Jim examined those samples.
- (2) a. Those samples were examined carefully by Jim.
b. Those samples were carefully examined by Jim.
c. *Those samples carefully were examined by Jim.
d. *Carefully those samples were examined by Jim.

It is important to notice that the occurrences of *carefully* in (2c, d) could

only possibly work as subject adverbs, like (1b, c), but they cannot be licensed because the subject NP (noun phrase) is not animate, which is different from the cases of (1). In order to explain these facts, it is necessary to specify the properties of *carefully* at least as in (3) below in the lexicon :

- (3) **carefully** : (i) [$\hat{\text{VP}}$, +manner, ζVP [+activity]]
 (ii) [$\hat{\text{IP}}$, +subject[+animate], ζPROP [+activity]]
 where the symbols $\hat{\text{ }}$ and ζ indicate “being dominated by” and “modifying” respectively, and “PROP[+activity]” means that a proposition expresses an activity.

Prepositional phrases are different from *-ly* adverbs in that they do not consist of single words but prepositions followed by NPs. Their meanings cannot be predicted from the meanings of their head prepositions, with only a few exceptions ; they will be computed from the combinations of the meanings of prepositions and complement NPs. The PPs headed by *till* and *until* are easier to characterize than those headed by *by* ; they can only be used as time adverbials with a meaning of duration while *by*-PPs can be used as time adverbials with a meaning of delimitation only if their complement NPs are related with some notion of “time”, as will be discussed in more detail in section 2 below. As is well known, these two kinds of temporal PPs show different behaviors with respect to licensing, as shown in (4) and (5) (see Klima 1964, pp.292-3 and Horn 1978, pp.136-50) :

- (4) a. *John will stay here by the weekend.
 b. John will stay here until the weekend.
 (5) a. John will leave here by the weekend.
 b. *John will leave here until the weekend.

The PP *until the weekend* can cooccur with the predicate *stay here* but not with *leave here* while the PP *by the weekend* can cooccur with the predicate *leave here* but not with *stay here* ; that is, *until the weekend* can be only used in sentences which express a state or a durative actional event while *by the weekend* can only be used in sentences which express a non-stative or non-durative actional event². In order to deal with these cooccur-

rence restrictions, it is necessary to specify the properties of these PPs as something like this :

- (6) a. **until the weekend** : [$\hat{\ } IP$, +duration of time,
 ζ PROP[+durative event]]
 b. **by the weekend** : [$\hat{\ } IP$, +point of time,
 ζ PROP[-durative event]]

where "PROP[+durative event]" means that a proposition expresses a durative event including a state and "PROP [-durative event]" means that a proposition expresses a non-durative or instantaneous event.

It is important to notice here that PPs are quite different from *-ly* adverbs in that the properties of PPs cannot be specified in the lexicon, though the properties of prepositions themselves can be ; the specifications such as in (6 a, b) cannot be given in the lexicon for each of the PPs because PPs of this kind are quite productive in that prepositions can very freely take a variety of NPs as their complements subject to certain selectional restrictions³, and therefore they cannot be listed in the lexicon. Thus, in order to license adverbial elements including PPs, we will have to compute or interpret the meanings of PPs based on the semantic properties of head prepositions and their complement noun phrases.

2. Temporal Prepositions and Their Complement NPs

Prepositions in English are a closed class and they are rather few in number. It can be assumed that the meanings of PPs can be computed mainly in terms of the meanings of their head prepositions. In other words, prepositions will show the range of the meanings of the whole PPs that are headed by them, and their complement NPs will determine the meanings of the PPs specifically, together with the head prepositions. If this is correct, it follows that the semantic properties of each preposition will be specified in the lexicon and the semantic interpretation of the whole PPs will be determined by some general rules based on the properties of prepositions and their complement NPs.

2.1. Meanings of *By* and *Until*

In order to make a semantic interpretation of the whole PPs, it seems necessary to see what kinds of NPs prepositions take as their complements. I will now consider two prepositions, *by* and *until*, to see what kinds of complement NPs they can take to express temporal meanings. These two prepositions can be thought to have at least the following usages and meanings, according to *The American Heritage Dictionary* :

- (7)a. **by** :
1. Next to ; close to : *the window by the door.*
 2. With the help or use of ; through : *He came by the back road.*
 3. Up to and beyond ; past : *He drove by the house.*
 4. In the period of ; during : *sleeping by day.*
 5. Not later than : *by 5 : 00 p.m.*
 6. a. In the amount of : *letters by the thousands.*
 6. b. To the extent of : *shorter by two inches.*
 7. a. According to.⁴
 7. b. With respect to : *played by the rules.*
 8. In the name of : *swore by his honor as a gentleman.*
 9. Through the agency or action of : *killed by a bullet.*
 10. Used to indicate a succession of specified units of measure : *One by one they left. They were persuaded little by little.*
 11. a. Used in multiplication and division : *4 by 6.*
 11. b. Used with measurements : *a room 12 by 18 feet.*
- b. **until** :
1. Up to the time of : *We danced until dawn.*
 2. Before a specified time : *We can't leave until Friday.*
 3. Chiefly Scots. Unto ; to.⁵

As is clear from (7), the usage of *by* is wide-ranging, while *until* can only be used as a temporal preposition. In fact, the usage of *by* can be classi-

fied into 11 types, which can be further subclassified into 14 in total ; this usage can be summarized as follows : (i) time, (ii) location, (iii) agent, means and method, (iv) amount, extent and measurement, and (v) concern and conformity⁶. Thus, it will be more convenient to consider *until*-phrases first to make the point much clearer.

2.2. *Until*-Phrases

The preposition *until* is said to express “up to the time of” and “before a specified time”, as in (7 b) above, both of which can be put together as a single meaning of duration of time or period. Though *until* is used as a temporal preposition, it can take a variety of NPs as its complement.

First, *until* can take as its complement so-called “calendar terms” including a century, year, month, weekday and day and so on, as shown in (8) :

- (8) until the 18th century, until 2000, until May, until August 15th, 1945, until next Monday, until the third Friday of the month, until 9 p.m.

Second, *until* can be followed by certain kinds of expressions closely related with time, as shown below :

- (9) until next week, until last month, until today, until a minute ago, until this time, until now, until noon, until recently

We also have further examples headed with *until* followed by the NPs that are not so closely associated with time ; some instances are shown below :

- (10) a. until Christmas, until this year’s festival, until next New Year’s Day, until his birthday
 b. until the end of the party, until the end of the survey, until the end of an unpleasant debate
 c. until the boom, until the French Revolution, until the disaster of 1911, until the reign of Theodosius, until his death, until the destruction of Jerusalem, until the dissolution of the Russian armies, until maturity
 d. until further notice, until their contract, until the next issue,

until the cool breezes of early morning, until that first dedication service

The NPs in the examples of (10 a) may be considered to be similar to “calendar terms” in that each of them refers to a certain fixed day; New Year’s Day is January 1st, his birthday December 27th, the day of Christmas December 25th and the festival September 14th, although Christmas itself, for example, does not mean the date of December 25th, nor the festival the date of September 14th. It may be natural to assume that *until* can take as its complement some of the NPs that express an “event” in a broader sense. In the cases of (10 b), the NP *the end* strongly implies a certain point of time⁷, as do other NPs headed by nouns such as *beginning, birth, dawn, opening, outset, start, midst, center, middle, midpoint, stop, close, ending, finish, closing, closure*, and so on.

The complement NPs of *until*-PPs in (10 c) are all headed by a variety of “event” nouns; it is natural to say that *the boom, the revolution, the disaster* and *the reign* express some kinds of events, and it can also be said that the birth and death of someone are considered to be “events”. The other NPs in (10 c) such as *the destruction, the dissolution* and *maturity* have similar properties, but they are interesting in that their head nouns, *destruction, dissolution* and *maturity*, are derived from or closely associated with so-called telic verbs⁸, *destroy, dissolve* and *mature*, respectively; they imply that they will have the endpoint of time of the actions which they express. Thus it is important to note that the NPs of this kind can be used as complement NPs of *until*. On the other hand, however, the cases of (10 d) are difficult to explain because the complement NPs in these cases cannot be easily considered to express any kind of event. However, in order to explain the well-formedness of the *until*-PPs in (10 d), we will be forced to assume that their complement NPs all may imply a point of time when some things that are related to them happened or will happen⁹; with this assumption, the *until*-PPs in (10 d) can be considered to have such meanings as shown below:

- (11) a. until further notice : until the time when further notice will be given

- b. until their contract : until the time when their contract was made
- c. until the next issue : until the time when the next issue will be out
- d. until the cool breezes of early morning : until the time when the cool breezes of early morning blew
- e. until that first dedication service ; until the time when that first dedication service was held

Notice here that the complement NPs in the PPs contain modifiers ; these modifiers, especially *further*, *this* and *next*, may be important when the NPs are used as complements to *until* to imply some point of time.

2.3. *By*-Phrases

As seen in (7) above, the preposition *by* has 14 usages or so, but I have suggested that the usages can be collapsed in this manner : (i) time, (ii) location, (iii) agent, means and method, (iv) amount, extent and measurement, and (v) concern and conformity. *By* is ambiguous, but when it works as a temporal preposition, it may be expected to take as its complement the same range of NPs as the preposition *until*.

Let us now examine what kinds of complement NPs the preposition *by* can take and what meanings the *by*-PPs will have by replacing *until* with *by* for the examples above. The examples in (12 a, b) are what the preposition *until* is replaced with *by* for some of the examples in (8) and (9) :

(12) a. by the 18th century, by August 15th, 1945, by next Monday
cf. (8)

b. by next week, by today, by noon, by now, by recently cf. (9)

Naturally, *by* can take as its complement NPs headed by calendar terms, as in (12 a), and by words that are closely related with time, as in (12 b). Now it might appear that we could say “by a minute ago” or “by two weeks ago”, but in fact we cannot¹⁰. We will also have the expressions in (13) by replacing the preposition *until* with *by* for some of the examples in (10) above :

- (13) a. by Christmas, by this year's festival, by next New Year's Day
 b. by the end of the party, by the end of the survey
 c. by the boom, by the French Revolution, by his death,
 by the destruction of Jerusalem, by maturity
 d. by further notice, by their contract, by the next issue,
 by the cool breezes of early morning, by that first dedication
 service

Clearly we can say "by Christmas", "by next New Year's Day", "by the end of the party" and "by the end of the survey" in (13 a, b) to express a certain notion of time, "no later than the time mentioned". We can see here that *the end* has a meaning involving a certain concept of time, "the final part of a period of time", when it is used together with some "activity" NPs such as *the party* and *the research*, although it can have a number of other meanings.

Next, it is interesting to see what meaning the other expressions of *by*-PP in (13) can express. All of the PPs in (13 c, d) cannot be used as temporal expressions. For example, it has been seen above that the PP *until their contract* in (10 d) means "until the time when their contract was made", but the PP *by their contract* in (13 d) cannot mean "by the time when their contract was made"; further, the PP *until the destruction of Jerusalem* in (10 c) means "until Jerusalem was destroyed" but the PP *by the destruction of Jerusalem* cannot mean "by the time when Jerusalem was destroyed". As observed above, the NPs that appear as the complements to the preposition *until* in (10 c, d) are not closely associated with a notion of time, but they express some kinds of event in its broader sense. It can be seen that the preposition *by* cannot take as its complement such NPs as follows; *the boom, the French Revolution, his death, further notice, the next issue, the cool breezes of early morning, that first dedication service*.

This difference between *until* and *by* may come from the following: the preposition *until* can only be used as a temporal preposition, so *until*-PPs will be interpreted as temporal expressions as far as they make sense, even when their complement NPs are not closely related to a notion of

time ; on the other hand, the preposition *by* can be used not only with a temporal reading but also with other readings, as shown in (7 a) above, so *by*-PPs will be interpreted as temporal expressions when their complement NPs are involved with some notion of time, but otherwise, they will be interpreted as other kinds of expressions such as agent, means, method and so on.

Actually, the *by*-PPs in (13 c, d) can be used as non-temporal expressions ; all of them may be said to express a broader sense of means, as shown below :

- (14) a. Their way of life was changed by the French Revolution.
- b. The family was made unhappier by his death.
- c. Some more warning will be made by further notice.
- d. The project was determined by their contract.
- e. The coming of autumn will be known by the cool breezes of early morning.

As noted above, the preposition *by* can be used to express (i) time, (ii) location, (iii) agent, means and method, (iv) amount, extent and measurement, and (v) concern and conformity ; it can be considered that *by*-PPs can be interpreted in some way, based on the meanings of their complement NPs, which may be involved with one (or more) of the notions above, (i) - (v).

3. Summary

In order to license adverbial elements in sentences, it is necessary to delimit the syntactic and semantic properties of the elements as well as those of other sentence elements. Among adverbial elements, *-ly* adverbs and prepositional phrases are quite productive ; the properties of *-ly* adverbs can be put in the lexicon because they consist of single words, while those of PPs cannot because prepositions can take NPs as their complements freely as far as they meet the restrictions of semantic selection. Therefore, we have to have some way to give semantic interpretation to PPs, based on the semantic properties of prepositions and their complement NPs, which are put in the lexicon.

For this purpose, I have considered two kinds of PPs headed with *until* and *by*; *until* can only be used in temporal expressions while *by* can be used in a number of expressions such as (i) time, (ii) location, (iii) agent, means and method, (iv) amount, extent and measurement, and (v) concern and conformity. To make the point clear, *until*-PPs have been examined first, and next *by*-PPs. It has been observed that the complement NPs of *until*-PPs are not only those NPs which are more or less closely related with a notion of time but also NPs which are not involved with time, such as *the boom*, *the French Revolution*, *further notice*, *the next issue*, *that first dedication service*. On the other hand, the preposition *by* can take as its complement only NPs which are closely related with a temporal notion such as century, year, month, week, day and so on, not NPs which are not involved with time; actually, *until the boom* is used as a temporal expression but *by the boom* can only be used as an expression of means, not a temporal one.

Finally, it seems that we will have to explore further how the syntactic and semantic properties of prepositions and nouns should be described and put in the lexicon, in order to give proper semantic interpretations to NPs and PPs and to license adverbial PPs in sentences successfully.

[Notes]

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1 Swan (1980, p.613) explains the usage of *until* and *by* (as a temporal preposition) as follows: *Until* is used when we talk about a continuing situation or state that will stop at a certain moment in the future, while *by* is used to talk about an action that will happen at or before a future moment.

2 This restriction will be reversed in negative sentences, as illustrated below:

- (i) a. *John won't leave here by the weekend.
- b. John won't leave here until the weekend.

This is because “not leave” has a meaning similar to “stay”.

3 Clearly, prepositions and their complements are subject to certain kinds of semantic selection; thus, we cannot say “*until the wall”, “*until the children” and so on.

4 There is no example listed here; *Oxford Advanced Learner's Dictionary* lists the following example: *By my watch it is two o'clock.*

5 It could be possible to exemplify this usage as follows: *You can stay on the bus until London. Oxford Advanced Learner's Dictionary* paraphrases “until London” as “until you reach London”.

6 Leech and Svartvik (1975) classify the usage of *by* into four: (i) agent, (ii) means, (iii) place and (iv) time. Leech (1989) classifies it to five: (i) agent, (ii) means, (iii) place, (iv) time and (v) usage in idioms such as *by hand*, *by now*, *by all means*, *by any means*, *by no means*, *by day*, *by night* and so on.

7 *The American Heritage Dictionary* defines *end* as follows: the point in time at which an action, event, or phenomenon ceases or is completed. Notice however that whether or not the end has this meaning depends on the PP which follows it; for example, *the end in the end of a string* does not have this meaning, but “an extreme edge of something”.

8 Declerck (1991, p.57) defines the notion of telic as follows: There is telic Aktionsart when the situation referred to tends towards a goal, i.e. tends towards a necessary terminal point, without which the situation is not complete.

9 Notice here that it is possible to make such an assumption only for *until*-PPs, not for *by*-PPs; see the discussion on the difference between *until*-PPs and *by*-PPs, especially concerning the examples in (13) below.

10 Remember that **by a minute ago* and **by two weeks ago* are ill-formed but *until a minute ago* in (9) is well-formed. Note further that we can say “until five years old”, but not “by five years old”.

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