Studia Anglica Posnaniensia XXIX, 1994

LINGUISTICS

ON THE SO-CALLED COMPLEX PREPOSITIONS

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1. Introduction

In their discussion of prepositions and their use in larger constructions, grammarians have traditionally added to the usual list of items like to, against, underneath, etc., a number of sequences consisting of more than one word, such as according to, because of, by means of, etc. In Sweet (1891: 134-135) word sequences of this kind are recognised as a distinct subclass of "group-prepositions" and in Poutsma (1926: 715-757), a very long list of such group-prepositions is given, including strings like at the cost of, beyond (the) reach of, in accordance with, etc., with illustrations of their use and some further subclassification on the basis of the kind of word combination found in them. These traditional views reappear in Quirk et al. (1972: 301-302), and are given a more systematic treatment in the same authors later grammar (1985: 669-673), which operates with the contrast of "simple prepositions" (one-word items like in, throughout, underneath) and "complex prepositions", consisting of either two words (except for, instead of, thanks to, etc.) or even three or four words (on behalf of, in (the) light of, as a result of, etc.). Restating the traditional view that these complex items are functionally similar to one-word prepositions, and hence to be included in the same word class with them, they adhere to the subclassification outlined by Poutsma, and – basing their description here partly on the earlier study of Quirk and Mulholland (1964) - further discuss the syntactic features which are peculiar to complex prepositions.

The Quirk et al. description of prepositions may be seen as a codification of traditional views of this part of English grammar, and is in turn reflected in more recent treatments of the topic in school grammars (as the most recent example, cf. Ljung and Ohlander 1992: 253, 254), where the question has of old been felt to be important from the foreign learner's point of view. The view is found also

in more theoretically oriented treatments of English syntax (cf. Halliday 1985: 188-190), but here it is also met with criticism. Thus Huddleston (1984: 341-345) presents a brief critical discussion of "complex prepositions" (in practice only of the type Prep-(Det)-Noun-Prep) which does not see any justifiable place for a class of complex prepositions in the grammar of English, and within the Government and Binding framework some analyses of a few individual "complex prepositions" have been suggested (cf. Radford 1988: 137, 250-252) which similarly make no use of that concept and indeed could not at all be made to incorporate that concept into their descriptive machinery. On the other hand this analysis itself has in turn not escaped critical comment by a writer (Olofsson 1989: 334) whose remarks seem to imply a general scepticism about the approach and a clear rejection of at least some of its applications.

The lack of consensus found among grammarians in this part of their description of English is, we believe, ultimately due to the unsatisfactory way in which the concrete data have been examined. The traditional accounts, such as those offered by Poutsma and Quirk et al., have been largely coloured by semantic considerations, even when they have included an examination of formal syntactic data, and have been one-sided in particular in their cavalier treatment of the structural analysis of the complex strings in question. It is our aim in this paper to redress the balance by concentrating on the constituent structure of our complex strings, and in the light of our findings to consider the status of "complex prepositions" in relation to the lexical class of prepositions.

2. Simple and Complex Prepositions: Definitions and Contrasts

2.1. Functional Parallelism of Simple and Complex Prepositions

Let us begin by a closer examination of what exactly is implied by the description offered by Quirk et al. In treating a complex string as functionally on a par with a simple preposition, the analysis interprets it as a head which together with a following complement (an NP or another kind of nominal element) forms a PP constituent. This interpretation is clearly brought out in the representation offered by Quirk et al. (1985: 657):

Figure 1.

Prepositional Phrase			
Preposition	Complement		
	the table		
on from	what he said		
by	signing a peace treaty		
in terms of	money		
at variance with	the official reports		

In addition to this, simple and complex prepositions are also parallel in that the functions of the phrases headed by them are basically the same: postmodifier in an NP and different types of adverbial functions (Quirk et al. 1985: 657; cf.

Halliday 1985: 190). Noting these same facts, Poutsma (1926: 757) saw it as the central grammatical role of prepositions, whether simple or complex, that they are used to turn elements into adjuncts which can function in the ways noted. The basic correctness of this seems to be beyond doubt and can be gauged from familiar structures like the following which show this basic similarity between simple and complex prepositions:

- he did not succeed in finding the boy in time. a. Despite his efforts In spite of his efforts
 - We saw nothing new in his report

besides this one case. apart from this one case.

in addition to this one case.

The man before the car in front of the car is my uncle George.

Admitting this obvious fact we must remind ourselves, however, that this parallelism is by no means limited to the kind of sequences illustrated but extends even to ordinary freely-formed prepositional phrases, as can be seen from the following examples:

- During the French revolution they left Paris. At the time of the French revolution
 - He is now living somewhere near Boston.

in the neighbourhood of Boston.

in the vicinity of Boston.

The shop across the street does not sell stamps. on the other side of the street

Once this fully general adjunct-forming function of prepositions is recognised, it is obvious that the parallelism illustrated in (1) affords no basis for treating the so-called complex prepositions as functionally different from free prepositional phrases and more closely related to simple prepositions. It is clear, therefore, that if the traditional idea is to be retained, it must be justified by reference to a different set of data.

2.2. Constituent Structure of Prepositional Phrases

In search of a more valid basis for the class of complex prepositions we must go back to the analysis of prepositional phrases given by Quirk et al. illustrated in figure 1. Analysing the phrases in terms of a prepositional head and its complement in the way illustrated, Quirk et al. assume a constituent structure where the main constituents are the preposition and the complement, and where simple structures like [on] [the table] and complex structures like [in terms of] [money] are therefore in this respect fully parallel. At the same time this analysis ipso facto draws a sharp distinction between complex prepositions and free prepositional structures, as can be best appreciated by considering items which can occur in free

prepositional phrases as well as in complex prepositions, such as account and light. In ordinary syntactic phrases, they will occur with the following structure:

PP

Det

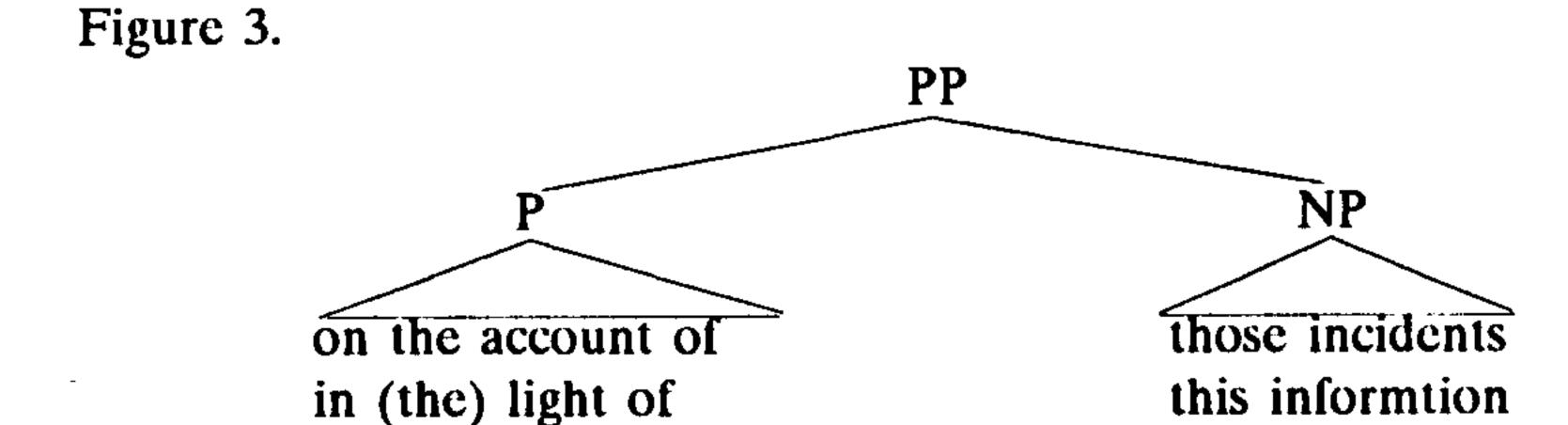
N'

PP

NP

despite his account of these accidents in the light of the candles

However, when account and light are part of a complex preposition, the structure, as given by Quirk et al., will be that indicated in figure 1 above:



Leaving aside the question of the internal structure of the complex prepositions, to which we shall return in a moment, we can now see a clear difference between the two cases illustrated: in free phrases of the form P-Det-N-P-NP, the final NP is the complement of the immediately preceding preposition, forming an ordinary PP constituent with it, while the final NP in the other construction is the complement of the whole complex preposition, so that the final sequences of those incidents and of this information are here not PPs nor indeed syntactic constituents of any other kind. In terms of this description, the structures of (1) and (2) above are easily distinguished: in (1) the constituency is the same for [despite] [his efforts] and [in spite of] [his efforts], in (2) the main constituents are different, as in [during] [the French revolution] vs. [at] [the time of the French revolution] (cf. Huddleston 1984: 341-342).

2.3. Internal Structure of Complex Prepositions

Within the broad general description of complex prepositions illustrated above, Quirk et al. recognise a difference between two main types of structures. In the strictest definition, they say, a complex preposition is "a sequence that is indivisible

both in terms of syntax and in terms of meaning" (1985: 671). This, however, is only an ideal case which apparently is seldom found in reality, although at least in spite of is said to behave "in every way like a simple preposition" (1985: 671). The second type, the more common of the two, includes the cases where the component words of the complex preposition exhibit syntactic behaviour of their own in that the construction can, at least to some degree, be "varied, abbreviated, and extended according to the normal rules of syntax" (1985: 671). The degree of this syntactic mobility is said to vary from case to case, there being a scale running from a fully fixed sequence (like in spite of) to one which exhibits the full mobility of an ordinary non-idiomatic syntactic sequence (like on the shelf by the door) and which then is not a complex preposition.

As is clear from this account, complex prepositions are viewed as occupying a position somewhere in the middle between simple prepositions and ordinary free prepositional phrases. This situation may be illustrated as in the following diagram:

Figure 4.

	PP		
	P	NP	
I) SIMPLE PREPOSITIONS	in throughout notwithstanding	the house nearby the years 1970 to 1975 their attempts to reach him	
II) COMPLEX a. fu	ıllv fixed:		
PREPOSITIONS	in spite of	his promise	
b. pa	artly mobile: according to on account of in (the) light of as a result of	John's account of the trip your curiosity about the occult this information from John his discovery	
III) FREE NON-IDIOMATIC SEQUENCES	on in without	the shelf by the door the light of the candles her account of their travels	

Without obliterating the contrast between complex prepositions and free prepositional phrases examined earlier in (2) - (3), this description of the internal structure of complex prepositions obviously introduces complexities which raise some questions of principle. As regards the fully fixed sequences, the question to

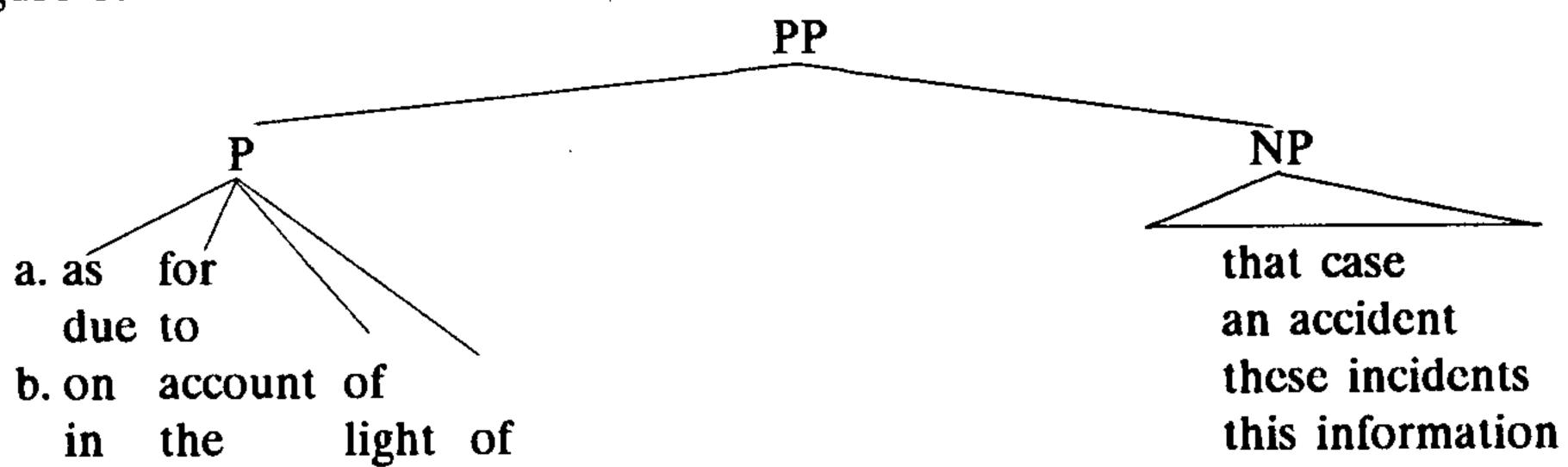
this information

of

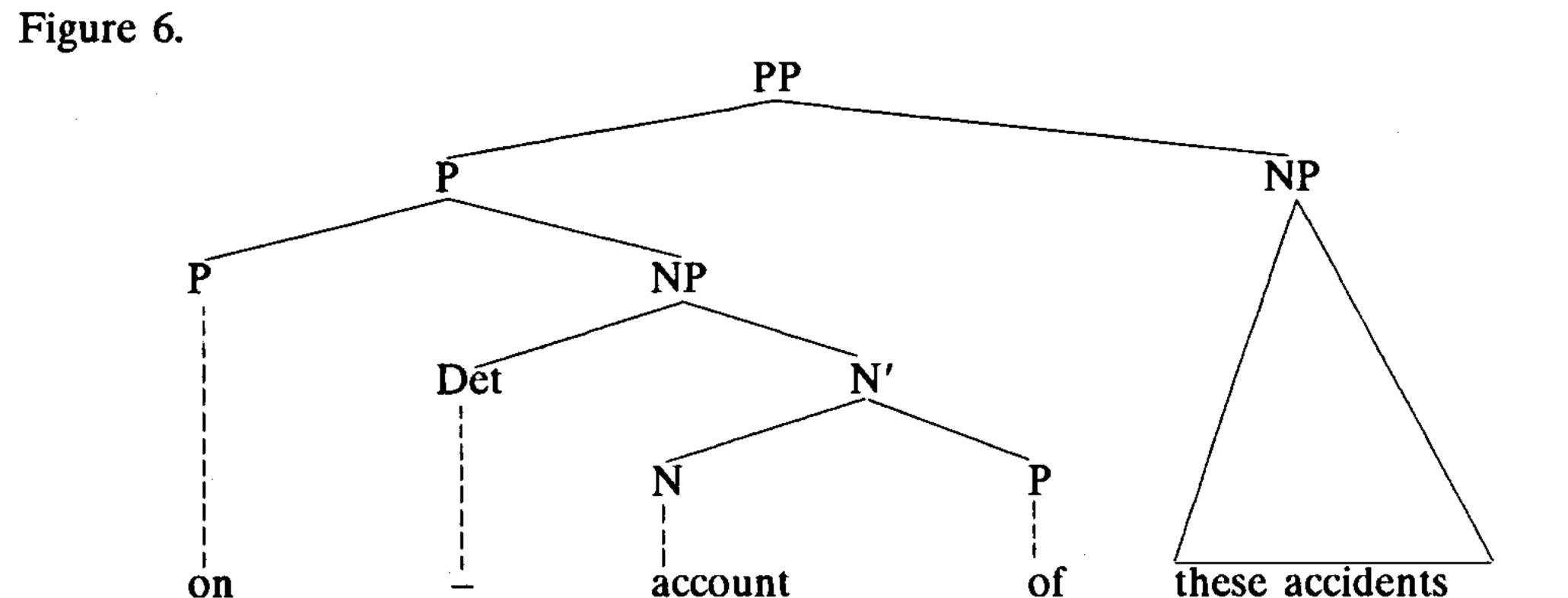
ask is this: if a sequence really behaves "in every way like a simple preposition", i.e., with no further syntactic behaviour peculiar to any of its parts, what basis is there for assigning those parts into the usual word classes and calling the string a complex preposition? Would not then the simplest analysis be to class a string like in spite of syntactically as a simple preposition, just like throughout, notwithstanding, etc., without regard to the erratic spelling of the string? This is a question which can be best studied when we deal with the sort of items that might possibly be described in such terms, and we shall return to it at several points in our discussion.

Leaving aside the fully fixed sequences, let us here consider the more usual type of complex prepositions, such as those classed under IIb in figure 4 above. Given a degree of syntactic mobility, the components of the complex preposition must be assigned to the word classes which determine the kind of behaviour that they exhibit (with some degree of frozenness that restricts this mobility), and this is indeed part of the Quirk et al. description. Thus, their two-word sequences are said to consist of an adverb, and adjective or a conjunction plus a preposition (cf. ahead of, due to, because of), and their three- or four-word strings are described in terms of the structure of Prep (+ Det) + Noun + Prep (cf. at variance with, with the exception of). On the other hand, the assumed constituency of the strings is not described by Quirk et al. and it might therefore be thought, as in Huddleston (1984: 342), that Quirk et al. do not assume any further structure; the full representation of complex prepositions is then simply as follows:

Figure 5.



For two-word items this is unproblematic but with the longer strings it seems to us that the Quirk et al. account does not exclude a more sophisticated structure. As they describe the individual elements of complex prepositions in terms of the traditional word classes, a sequence like P-Det-N-P as such might possibly be taken to imply that these words obey not only the normal sequence of such elements but even their normal constituency. If this is so, then (5b) should be rewritten as in (6), where complex prepositions have the internal structure of normal NPs and PPs, with the exception of the final preposition whose position then distinguishes the complex preposition from fully free phrases.



light

2.4. Syntactic Fixity and Constituent Structure

From what has been said above it emerges that complex prepositions are analysed by Quirk et al. as exhibiting internal syntactic structure (apart from the minority of fully fixed sequences), and as functioning at the same time as units comparable to one-word items. On this point of their description Quirk et al. thus analyse the traditional class of "group-prepositions" in terms of one of the principles of their basic approach to grammatical description: the idea of multiple analysis, admitting a situation where the same string of items can be equally analysed in two different ways, including even a case where a word-level unit in fact consists of several words (Quirk et al. 1985: 91). However, assuming a descriptive framework where a two-level approach of this kind is admitted in theory, Quirk et al. nevertheless seem to take it for granted that such a situation is an exceptional case which is assumed only when justified by some generalisation which cannot otherwise be expressed; thus when they analyse strings like approve of, look down on, make a fuss of as "multi-word verbs", this mode of analysis is justified by them with reference to the passives Noisy parties are not approved of (by them), They shouldn't be looked down on, She was made a fuss of, etc. Given a description which assumes internal syntactic structure for strings like ahead of, in search of, with the exception of, etc., what is the formal patterning that can be presented as a justification for saying that these strings are at the same time "complex prepositions" functioning as units in the way discussed above? To see how Quirk et al. arrive at their two-level analysis in this case we must look more closely at their discussion.

Delimiting the class of complex prepositions against free syntactic groups, the discussion presented in Quirk and Mulholland (1964) and Quirk et al. (1935: 671-672) emphasises the "cohesiveness" of the complex strings: although the exact degree of this cohesiveness varies from item to item, it is always present in complex prepositions and at times seems to be treated as a defining characteristic of the class. When the description is presented in terms of constituency as in their diagram

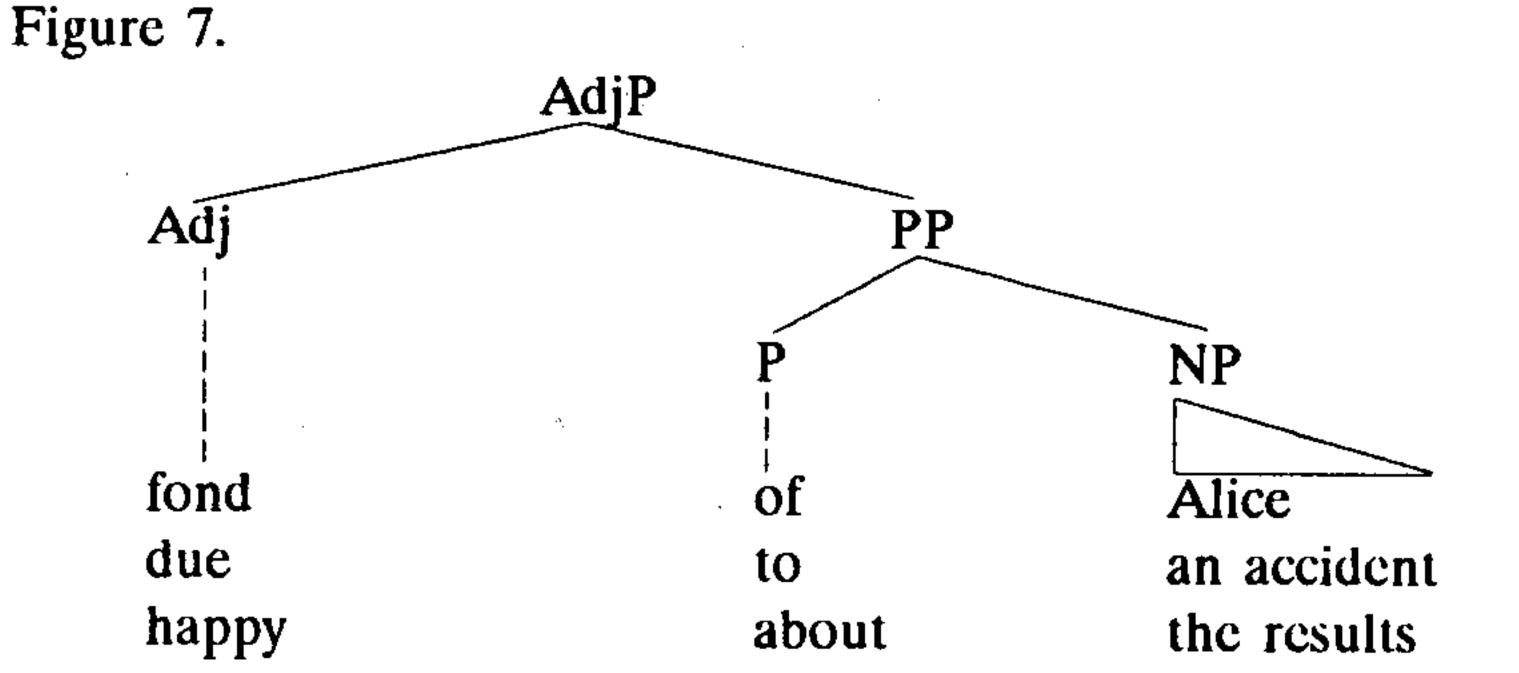
quoted in figure 1. above, it thus seems that this view of constituency is derived from the lack of freedom of the structures in question.

The detailed discussion of this "cohesiveness" of complex prepositions given in Quirk and Mulholland (1964), and in a shortened version in Quirk et al. (1985: 671-672), is limited to the strings Prep¹-(Det)-N¹-Prep²-N² but may be analogically extended to the other types of complex prepositions not explicitly considered in the discussion. As all complex prepositions end in a simple preposition, the treatment of this final word of the string is crucial for the establishment of complex prepositions as a grammatical class. In practice that part of the Quirk et al. discussion which is concerned with this question is limited to two contrasts which are said to distinguish complex prepositions from free syntactic groups: in the free group the second preposition can vary (cf. on the shelf at/above/beside the door) and the preposition and the following NP can be altogether omitted (cf. on the shelf), in complex prepositions the second preposition tends to be fixed (cf. *in spite for) and in many cases does not admit omission (cf. *in spite). These two facts are then taken as an indication that the preposition is bound to the preceding noun rather than to the NP following it, and that the constituents of in spite of his attempt (ignoring the exact status of the initial preposition) are [in spite of] [his attempt] rather than [in spite] [of his attempt], and as the argument is equally applicable to strings like according to, but for, regardless of, etc., the treatment of these strings as complex prepositions is apparently derived from the same source.

Crucial for the establishment of the class of complex prepositions, the brief remarks offered by Quirk et al. on this point seem to us to suffer from an unfortunate misconception of the key concepts of syntactic freedom or fixity and constituent structure. In their phrase on the shelf by the door the postmodifying PP by the door is an adjunct of shelf, and its form and its presence or absence are therefore fully independent of shelf. The situation is, however, fundamentally different when this adjunct is replaced by a PP functioning as a complement to its head. As an example, consider first adjective complementation as exemplified below:

(3) A is fond of B
A is due to B
A is eager (for B)
A is happy (with/about B)

The choice of the preposition, possibly with some variation, is here clearly determined by the adjective, which similarly determines the obligatory presence or optional absence of the complement. In spite of this degree of syntactic "fixity" or "cohesiveness", the normal description of these adjectives and their complements assumed even by Quirk et al. in their treatment of adjective complementation (1985: 1221-1222) is in terms of the following type of constituent structure:



Furthermore, the same analysis is obviously applicable also to complementation of verbs and nouns, as is clear from cases like the following:

- (4) a. A defends B
 A's defence (of B)
 - b. A lacks B
 A's lack of B
 A is lacking in B
 - c. A conforms with/to B
 A's conformity (with/to B)
 A is conformant with/to B

All in all it must thus be recognised that a certain degree of "fixity" is a normal feature of complementation, of nouns as well as of verbs and adjectives, and that this "fixity" is not normally seen as affecting the ordinary constituent structure of head + complement (eg [conform] [with B], [conformity] [with B], [conformant] [with B].

The implications of this insight for the analysis of complex prepositions will be obvious. Phrases like according to, in accordance with, in defence of, etc., undoubtedly have a degree of syntactic "fixity" (and offer also "semantic fixity" or idiomaticity), in that the preposition is normally determined by the preceding noun and in that the preposition and the nominal following it may be obligatory. It may seem tempting to conclude from this that the preposition therefore must form a syntactic constituent together with the preceding item and perhaps with other preceding items. Yet such argumentation is derived from an oversimplification of the facts: if applied to the analysis of complementation, it leads to results which are clearly faulty, and if it is applied to the analysis of "complex prepositions", we have therefore no reason to assume that the results are any more acceptable.

3. Four Facts of Constituent Structure

From our discussions it has become clear that the problem of the constituency of the so-called complex prepositions must be considered an open question and

¹ For the sense of the terms "adjunct" and "complement", different from the sense in which both of them are used in Quirk et al., cf. Radford 1988: 175-179, 233-235, 241-245.

² The analysis of certain verb + preposition and other similar combinations, treated by Quirk et al. as "multi-word verbs", presents some problems of its own, but this is not the place to enter into a discussion of the problems involved.

must be determined by studying them in the light of tests normally applied for that purpose. From the variety of such tests suggested in the literature we have selected four, which we believe are relatively unproblematic and applicable to the case at hand.

I) Fronting

If a string can be moved into a different position within the sentence by fronting or postponement, it must normally be a constituent (cf. Allerton 1979: 102-104; Radford 1988: 95).

- (5) a. They had never referred to your cousin.

 To your cousin they had never referred.

 Your cousin they had never referred to.
 - b. They had put off the meeting

 *Off the meeting they had put

 The meeting they had put off

II) Coordination

If two strings can be coordinated, they must be constituents, and must normally be identical functionally and usually even categorically (cf. Gazdar et al. 1985: 169-181; Radford 1988: 75-77):

- (6) a. She wrote a postcard and a couple of letters.
 - b. She wrote to John and to two of her American friends.
 - c. *She wrote a couple of letters and to two of her American friends.

III) Ellipsis

When elements are contextually deleted, the part that remains – the string that can serve as a "sentence fragment" – must normally be a constituent of the complete string (cf. Radford 1988: 90, 96).

- (7) a. That's where he got off the bus I mean off the train.
 - b. *That might put off some people I mean off some of the other passengers.

IV) Interpolation

When elements are added to a structure, the new elements may be inserted at some of the constituent boundaries of the clause (cf. Allerton 1979: 100-102), with heavy restrictions depending on the particular case in question, but such interruption is totally impossible with items which, in spite of rich internal structure, function as single units with no syntactic constituent boundaries in them. Thus, in the following examples, the parenthetical expressions it seems and I'm afraid can be inserted into a number of different positions (not all of them equally natural) as indicated by the sign ^, but with How Green Was My Valley, sister-in-law and liby-of-the-valley, all of them syntactically just nouns in the NP structure (Det) - N, any such interpolation (as in positions indicated by the symbol \(^{\text{D}}\)) yields a strongly deviant sentence (cf. Seppänen 1974: 297-299):

- (8) a. John's brother ^ found ^ your diary ^ yesterday...
 - b. John's brother was ^ reading ^ How Green ¤ Was ¤ My Valley.
 - c. My sisterⁿ-inⁿ-law ^ is ^ not ^ very fond ^ of ^ liliesⁿ-ofⁿ-the-valley.

It would be easy to find counter-examples to show the problems that a blind application of these tests, and tests of the same kind in general, can give rise to. But it seems to us neither possible nor even necessary to go further into the question as the application of the tests in the following remarks would seem to be straightforward enough to be uncontroversial.

4. Description of Two-word Sequences

4.1. Testing the Constituency

In our discussion we have noted two possible structures for these sequences: (9a), which is the analysis given by Quirk et al., and (9b), which we have suggested as a possible alternative to it.

- (9) a. [owing to] [NP] [along with] [NP] [but for] [NP]
 - b. [owing] [to NP]
 [along] [with NP]
 [but] [for NP]

Using the tests discussed above we can see the following situation:

I) Fronting:

- (10) a. Her sister, from whom she was kept apart, died at the age of 12.
 - b. The answer, to which we are now quite close, has required years of research.
 - c. *Of which box am I to put it inside?
 - d. *To the bad weather he might have been late owing.

II) Coordination:

- (11) a. Thanks to their courage and to their quick reactions, the ambassador was warned in time.
 - b. The train was delayed due to fog and to a rail-strike.
 - c. Contrary to what the newspapers say and to what the BBC claims, TV licences will be going up.
 - d. Except for me and for Bob, everyone understands Hegel.
 - e. As to his letter and to my reply, I have nothing to add.

III) Ellipsis:

- (12) a. Speaker A: Thanks to Bob we saved \$3000 on our new home.
 - Speaker B: To Bob! I was the one who recommended a new realtor.
 - b. Speaker A: As from December 30, all 18-year-old men must register for the draft.

From when? Speaker B:

Speaker A: As to the stipulations in the guarantee...

To what stipulations? I thought this guarantee was uncon-Speaker B: ditional.

Speaker A: I wrote a book together with Bob.

With that jerk! I thought you wrote it together with Bill.

IV) Interpolation:

Inspiration for this work was due, in part, to Mr. Rizzo.

These regulations apply instead, I'm told, of the ones we received previously.

This decision was made prior, I think, to the Gulf War.

The decision would have been unanimous but, as usual, for her veto.

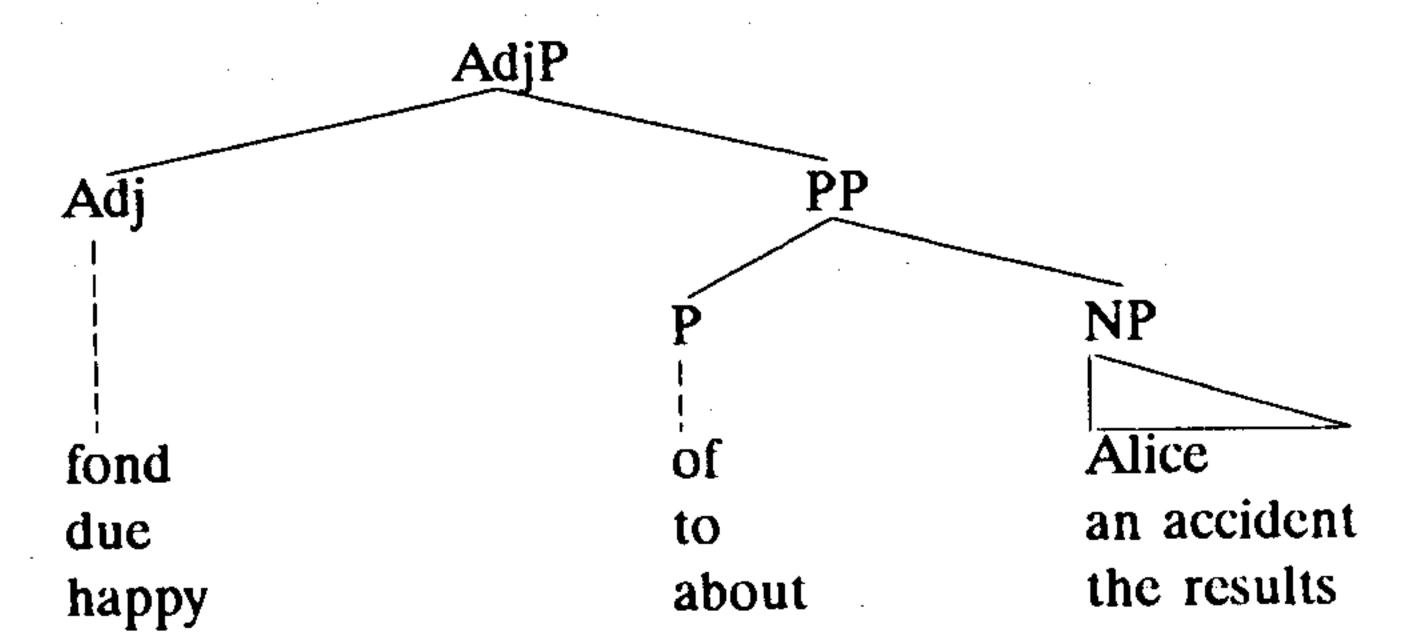
This is unacceptable because, we were told, of the recession.

From the survey it emerges that while fronting of the kind illustrated is usually excluded, the other tests, or at least two or three of them, are generally applicable to our two-word strings and thus show the structure of the sequences to be [apart] [from this], [except] [for you] etc.

4.2. Labelling in the Two-word Sequences

Given the constituency of our own sequences, how is the structure to be represented in a tree diagram? Tentatively, let us consider a figure like the following:

Figure 8.



In this representation the status of the last two elements as a PP constituent follows from our discussion, and the treatment of the whole string as a PP will be uncontroversial, agreeing as it does with both the traditional and more modern views. In contrast to this, the categorisation of the first element, here given as a preposition, is less clear. The Quirk et al. analysis, following Poutsma (1926: 716-719), regards the first element as an adverb, an adjective or a conjunction (Quirk et al. 1985: 670) The description does not explicitly specify the basis of the assignment of the various items to these subclasses, but one is forced to assume that the first elements are treated here according to their ordinary word-class classification, i.e., the word class to which they normally belong outside of these structures. The following lists show some examples of the possible conclusions which might be drawn if the reader chose to list these sequences according to the word class of the first element:

(14)Adverb + preposition: up against outside of back of up to

off of next to inside of close to

(15) Conjunction + preposition: because of as to except for but for as for

Adjective + preposition: (16)exclusive of owing to

regardless of due to

contrary to preliminary to

To this list we might add thanks to which cannot easily be assigned to any of the classes given but might be described in line with the previous lists as follows:

(17)Noun + preposition: thanks to

A description along these lines seems to us highly problematic if considered in the light of the usual word class analysis in English. Because of the syncretism so commonly found in English, many words belong to more than one word class, and assigning any use of such a word to a given word class one is obviously considering that particular use and ignoring other uses; for instance, classing as, behind, but, except, outside, round, etc., as prepositions, one leaves out of account the fact that these items may elsewhere be conjunctions (as and but), nouns (behind, outside and round), verbs (except and round), adjectives (round) or adverbs (behind, outside and round). In this light, the basis on which the traditional analysis speaks here of adverbs, conjunctions or adjectives, seems to be unacceptable.

To see how a different approach can be developed it is useful to look at the question from a more theoretical point of view. According to the principles of X-bar theory, the head of a phrase of the X-bar level must be an X, i.e., the category of the head determines the category of the whole phrase (cf. Radford 1988: 229-230). Formulated in relatively recent syntactic work, this requirement is only an explicit recognition of an analytical principle generally followed even in traditional grammars not explicitly written in terms of X-bar theory: an adjective with its complements is an AdjP, a verb with its complements is a VP, a noun with its complements is an NP, and a preposition with its complement is a PP. But since constructions like as for you, due to a mistake and outside of this case are analysed as Prepositional Phrases even by Poutsma and Quirk, should not the head in all

of these cases be a preposition even if that head is as, due, outside rather than as for, due to, and outside of?

To come to the concrete facts, let us return to the strings assumed by Quirk et al. to be headed by an adverb or conjunction. The traditional use of these terms may be considered in the light of some concrete examples using *since* to illustrate a pattern similarly found with *after*, *before*, etc.

- (18) a. We haven't seen him since he moved to Bayonne.
 - b. We haven't seen him since the war.
 - c. We haven't seen him since before the war.
 - d. We haven't seen him since.

The traditional description of (18) would be that *since* is a conjunction in (18a) where it introduces a finite clause; a preposition in (18b-c) where it is accompanied by an NP complement or a PP complement, and an adverb in (18d) where it has no complement.³

In this context, the most relevant case is that of (18c), where a preposition takes a PP as its complement – a structure that is obviously less common than (18b), but is traditionally recognised by grammarians (cf. from behind the counter, until after the show etc; Quirk et al. 1985: 658). Using this case as a model we will classify the heads in because of NP, except for NP, etc., as prepositions, as is indeed done by Radford (1988: 250). There is, however, an important difference between the two roughly parallel cases in that from, till, etc., are freely used with NP complementation, and even with PP complements are free in the sense of admitting of different kinds of PPs, as from behind the tree, from under the house, from before the war, from between 1914 and 1929 etc. In the phrases we are here dealing with, such freedom is severely limited: an NP complement is possible only in a limited number of cases (with apropos, but, except, inside but not with aside, because, upwards, etc.), and the PP complement that follows them must be headed by a specific preposition.

Having dealt with the complex prepositions assumed to be headed by an adverb or a conjunction, let us next consider thanks to as a complex preposition in which thanks might be classed as a noun, following the general trend of views of Quirk et al. It is worth considering some concrete facts which are relevant here.

As a noun thanks is exceptional in its lack of a singular form, but regular in taking determiners and adjectives as premodifiers and having PP complementation (to NP, for NP) and in functioning in the usual NP positions (subject, object, prepositional complement, etc.) as illustrated in the following:

- (19) a. He gave his thanks to the host and left.
 - b. Many thanks for making my trip a pleasant one.
 - c. My sincere thanks to you and your wife for all your kindness.

d. We didn't expect any thanks for our labour.

But this is not true of the word thanks in thanks to. As a PP, thanks to NP can of course function as an adverbial, but not as a subject or object, and even its phrase-internal syntax is different:

- (20) a. Thanks to Bill we won the game.
 - b. *Our thanks to Bill we won the game.
 - *Many thanks to Bill we won the game.
 - 1. *Thanks to Bill for his help we won the game.

In contrast to its use as a noun, thanks in thanks to NP has the adjunct-forming property which is characteristic of prepositions and lacks the typical syntactic properties of nouns. The simplest description which can handle these facts is obviously one which classifies thanks in this function as a preposition with the additional specification that it requires the PP to-NP as its complement.

Next, let us consider the cases where the most important word of the complex preposition is classed by Poutsma and Quirk et al. as an adjective, i.e., cases like exclusive of, irrespective of, regardless of, etc.

To examine whether the head of these expressions can be an adjective in this function, we must consider some basic syntactic and semantic facts of the use of adjectives, as in the following examples (cf. Huddelston 1984: 347):

- (21) a. They were happy about the examination results. We considered him guilty of robbery.
 - b. Free from financial difficulties, he could devote the whole of his time to his hobby.
 - c. Too young to have a driving licence, it seems that she has in actual fact already been taught to drive.
 - d. She came back last week, full of happy memories but tired by the long journey.

One central fact about adjectives is that as semantic predicates they are necessarily interpreted as making a predication about some subject (expressing a property of the subject.) This is obvious in their use as predicate complements to the subject or the object of the clause, as in (21a), but applies equally to (21b), where they are connected with the subject of the clause: free from financial difficulties means '(because) she was free from financial difficulties,' etc. Against this background compare now the interpretation of complex prepositions, as in (22):

- (22) a. Originally due to a misunderstanding, this case has come to be part of the standard practice in the field.
 - b. Due to an accident, they were two hours late.
 - c. Regardless of the feelings of their fellow workers, they decided to continue the experiments.
 - d. Regardless of the first results, the experiments were to be continued.

In (22a), due to a misunderstanding is clearly an AdjP, related to the clause

³ It remains to note that this traditional view leaves open the question whether there are not some adverbs which can take complements. If the answer to that question is affirmative then the possibility exists that some of the phrases headed by "complex prepositions" are in fact AdvPs. The question itself is of interest but must be left to be explored in another context.

subject ('the case was officially due to a ...'), whereas due to an accident in (22b) clearly does not contain predication about the clausal subject (not: 'they were due to an accident') but is a free adverbial modifier of the whole clause ('their leaving late was due to an accident'); in this case then due is not an adjective and due to NP is not AdjP but a PP, with due itself a preposition. In (22c) we have an instance of ambiguity: regardless of NP can be either an AdjP linked to the subject they ('they were regardless of (i.e., oblivious of, forgetful of) their fellow workers' feelings'), or then a PP, modifying the clause as a whole ('whatever the feelings of their fellow workers, ...'). In (22d) the first interpretation is excluded on semantic grounds (experiments cannot be regardless), and regardless is then here unambiguously a preposition.

Without multiplying examples we can conclude that in describing strings like due to NP, regardless of NP, subsequent to NP, etc., a distinction is to be made between their use as AdjPs and PPs, analysing the head correspondingly as an adjective or a preposition.

With two items included in the Quirk et al. list we will, however, make an exception: devoid (of) and void (of), both described by them as complex prepositions. Normally, these words function as heads of AdjPs related to the subject (He described the place as (de)void of any interest; Devoid of human feeling, they were not worried about the victims of their politics), and as far as we can see, attempts to use them in any other way produce ungrammatical sentences (cf. *Devoid of human feelings, the experiments were continued). We will therefore assume that these two items are not at all used as prepositions and must be struck off the list.

Finally, we may note the items irrespective of and according to are different from all the other complex prepositions in that the head according and irrespective are not at all used outside of these particular collocations, although they may have adjectival connections (cf. the adjective respective and the adverb accordingly). The classification of these items as prepositions followed by a PP complement is, however, fully straightforward on the basis of their adjunct-forming character and does not require any further discussion.

Having considered our two-word sequences both from a practical aspect of descriptive adequacy and from a more general theoretical angle, we conclude that the first word of these strings is always to be classed as a preposition and the diagram tentatively given in figure 8. above can be accepted as an appropriate representation of the syntax of the strings.

4.3. Some Special Cases

To conclude our discussion of the two-word strings, we would like to look at three cases which are idiosyncratic: à la, on to, and out of. The first of these is mentioned by Quirk et al. among their complex prepositions (1985: 670), but it is obvious that à la has no internal structure in terms of English syntax because and à la are not elements assigned to any grammatical class in English. The complexity meant in this case is thus nothing more than a matter of orthography, comparable to the situation found in names like La Rochelle, Du Maurier, Des

Moines, De la Roche, Van der Golz, etc., where the orthographic "complexity" has no syntactic counterpart (cf. Seppänen 1971: 314-321). In the syntax of English there is no need to speak of complex nouns in the one case, or of complex prepositions in the other case.

With on to we must first distinguish the free combination of on and to, as in (23a), from the case where on to is a spelling variant, mainly found in British English, of onto, as in (23b).

- (23) a. From London we went on to York.

 He then went on to say that he had never met the accused.
 - b. She jumped onto (on to) the horse He fell onto (on to) the ice.

For Quirk et al. on to is a complex preposition, whereas onto is simple, even though the distinction between the two is represented by them as spelling variation (1985: 675). In many other descriptions, on to is treated as a unit (cf. OED). From our point of view spelling must necessarily be treated as an unreliable cue to syntactic structure, and the way to approach the problem must be by applying our tests once more. The results can be gauged from the following sentences:

- (24) a. *To what part of the floor did the coins fall on?
 - *The tray to which the coins fell on is over there.
 - b. *The coins fell *onto* the tray and *to* the dish. *He's *onto* something, and *to* a good thing I suppose.
 - Speaker A: The taxman is onto you.
 - Speaker B: *Not to me, but to everybody else in this company, I hope!
 - Speaker A: I threw the money onto the bed.
 - Speaker B: *To the bed? I thought you said you put it on the night table.
 - d. *The mouse made the timid man jump on, as I'm told, to the desk.

From the examples it appears that when on to is used as a variant of onto, this spelling does not correlate with any syntactic behaviour of the parts as independent units of grammar. We can thus class it as a single preposition with onto and on to as spelling variants.

With out of, the situation is again different since the spelling out of is established in standard usage, although one-word spellings are found in substandard English: outa, outer, and outta, all of them recorded in the Supplement to the OED. In substandard varieties of the language out of can thus clearly function as a simple preposition (cf. Get outta here before I smack you one!), but in standard usage its status is less clear. For Quirk et al., out of is a complex preposition; elsewhere it

A Note that some verbs, which mainly appear to deal with attaching, gluing, sticking, etc., allow both onto and to as prepositional complements. This means that certain tests, like coordination, will yield acceptable sentences, cf. They glued the pieces onto the deck and to the hull. However, the constituent structure here is not glue sth on [to NP1] and [to NP2], but rather glue sth [onto NP1] and [to NP2], (cf. They glued the pieces to the deck and onto the hull) so that these cases of coordination are not relevant in this connection.

is often described as a unit (cf. OED, 1909: vol VII, 262-3) while Radford (1988: 250) analyses it exactly like because of, i.e., with out a preposition followed by a PP complement, thus presenting an analysis which is in turn criticised by Olofsson (1989: 334) as assigning to out of more structure than is needed. What are the facts of the case?

- (25) a. *Of which of the rooms did she come out?

 *That situation, of which I thought we would never get out, has taught me an important lesson.
 - b. *Did he come out of the kitchen or of the bedroom?

?Are we out of sugar or of tea?

c. Speaker A: He seemed to have taken it out of his pocket.

Speaker B: *Of which pocket? I didn't see.

Soon the ship was out of sight - of my sight, that is, because John could still follow its course.

d. ?She had joined the others out, it seemed, of a sense of duty.

They had turned him out, it seems, of his post as managing director.

While these examples show a great deal of fixity here, appearing to lend support to a unitary analysis, the possibility of ellipsis or interruption, at least in some cases, forces us to side with Radford in treating out of NP as a P (P + NP) sequence, i.e., as a member of the two-word "complex prepositions".

- 5. Description of the Three- and Four-word Sequences
- 5.1. Status of the Final Preposition

The question we must now address is the constituent structure of the threeor four-word sequences, in particular the status of the final preposition which, as we saw above, is the crucial point in the analysis of these sequences. Recapitulating what has been previously indicated, (26a) below shows the main points of the Quirk et al. analysis, and (26b) shows a similarly simplified version of a different analysis, proposed above as a possible way of analysing final prepositions in these strings:

(26) a. [in favour of] [NP] [in charge of] [NP]

[at the expense of] [NP]

[in favour] [of NP] [in charge] [of NP]

[at the expense] [of NP]

We shall next test these analyses by applying to them the same tests that we used above.

I) Fronting

(27) Of which proposal do they seem to be in favour?

Of what part of the teaching programme at this department are you in charge?

With whom are the judge and jury at variance?

They sent us some instructions about the format of the publication, with which our article seems to be in full conformity.

The man with whom he promised to put me in contact had left London before I got there.

With these people we have nothing whatsoever in common.

For this you will get something in return.

II) Coordination

(28) Your answer has nothing in common with the questions or with the issue at hand.

Our claim was filed in compliance with the warranty and with the stipulations in the contract.

The agreement was signed in accordance with the rules and with the specific regulations laid down by the committee.

In view of what has come to light and of the possibilities left open to us, I think we should reconsider our previous decision.

The size of the proposed billboards is in line with company policy and with police regulations.

On behalf of the President and of the committee members, I declare this fair open.

The concert is in aid both of cancer research and of heart disease.

III) Ellipsis:⁵

- (29) Speaker A: The tallest buildings in London are small in comparison with those in Hong Kong.
 - Speaker B: With those in Hong Kong? What about New York?
 - Speaker A: In the light of what you've said, I agree to the changes.
 - Speaker B: Of what I've said! Don't put the bonus on me!
 - Speaker A: This is in line with company policy.
 - Speaker B: With company policy yes, but what about the union?
 - Speaker A: The company has spent millions of dollars in search of gasoline.
 - Speaker B: Of oil, I suppose you mean.
 - Speaker A: Put it on top of that box.
 - Speaker B: Of which box? This one over here?

⁵ As is normally the case ellipsis here too presupposes a previous occurrence of the string subjected to ellipsis, and is therefore difficult to separate from echoic utterances, which need not be fully convincing as arguments. But if this objection is raised against some of the examples quoted, there still remain enough examples of a different sort to prove the point that is at issue in our discussion.

Speaker A: They came by way of the capital.

Speaker B: Of what particular capital? Please be more specific.

IV) Interpolation

(30) In the light, however, of what you have said, I agree to the changes.

P.D. James is in the process, or so I'm told, of completing a new book.

The company has spent millions in search, not only of coal, but of oil too.

The assembly is sometimes carried out by human workers in place, believe it or not, of robots.

In view, we feel, of what has come to light, a decision on this matter should be postponed.

Having dealt with the four tests of constituency we may close by noting that there are considerable differences between the behaviour of the tested complex prepositions with regard to the tests: some strings show full syntactic freedom with all the tests (e.g., in return for, in conformity with), while several others do not admit of fronting but are generally amenable to two or three of the remaining permutations. Whatever "fixity" there may be in the complex strings examined, the final preposition of the sequence clearly is not "fixed" in the relevant constituent structure sense.

As our findings go against the Quirk et al. analysis, and particularly against their description of *in spite of* as fully fixed, it may be appropriate to examine here how our tests apply to this particular case:

(31) a. Fronting:

*Of what obstacles did he say he would do it in spite?

b. Coordination:

In spite of your objections and of the points raised by Dr. Andersson, we feel confident that we can proceed with the project.

c. Ellipsis:

Speaker A: He did it in spite of John and the auditor.

Speaker B: Of what auditor? I didn't know they had one in this firm.

d. Interruption:

The morning air was clear and clean, in spite, one might add, of the traffic and crowds.

From our examination it is then clear that for all of the three- or four-word sequences including even the item in spite of, a constituent structure must be assumed where the final preposition forms a PP constituent with the following nominal element: [as a result] [of NP], [in accordance] [with NP], [in spite] [of NP], etc.

5.2. Further Internal Structure of the Three- and Four-word "Complex Prepositions"

Exploring the position of the final preposition in our three- or four-word complex prepositions, our examination so far has not given any direct indication of the structure of the rest of the string. The details of that structure are not part of the main concern of our study but are of sufficient interest to warrant a brief discussion of the question. For a start, consider sequences like the following, given with the categorial description assumed by both Poutsma and Quirk et al., the constituency of the final sequence argued for above, and the uncontroversial description of the whole phrase as a PP:

(32) [PPP]	(Det)	N	[PPP	NP]]
with	-	reference	to	your letter
in	-	memory	of	my father
in	-	conformity	with	your study
as	a	result	of	this finding

What is striking here is the fact that the PPs following the noun are identical with those found in fully free phrases, as in the following:

(33) His article contains no reference to your book.

I have only pleasant memories of my years in London to tell them.

I am surprised at their slavish conformity with the dictates of the manager.

The most important results of this discovery were not discussed until much later.

As is normal in complementation, the preposition of the PP complement and the obligatoriness or otherwise of the complement is determined by the head noun, and this is so in (32), and equally in (33). Even in the case of the "complex prepositions" of (32), we are thus clearly dealing with noun complementation, and must recognise this fact by introducing into our description the diagram the N' constituent, thus changing (32) into something like the following:

(34) [PPP	(Det)	[n'N	[PPP	NP]]
in	-	memory	of	your father
at	the	expense	of	John
for	the	sake	of	all of us
in	•	place	of	you

In this form, however the representation is highly implausible in its failure to recognise the NP status of the string following the initial preposition: surely the speakers who normally treat Det + N' sequences as NPs have no evidence which would lead them to assign a different analysis to strings like those in (34). In fact, the complex prepositions of (34) give us direct evidence on this point in the form

of mutual variation between the postmodifying of NP and the premodifying genitive: in memory of your father \approx in your father's memory, at the expense of John \approx at John's expense, for the sake of us all \approx for all our sake(s), in place of you \approx in your place. The full conformity of this variation with the ordinary NP syntax forces us to recognise the NP status of the Det - N' sequence in (34), and to extend this analysis even to the zero + N' cases where the zero determiner varies with a genitive. This argument is further strengthened by the possibility of adjectival premodification, as in (35):

(35) He acted in full conformity with the regulations.

Do it for your own sake.

He won by the sheer virtue of his persistence.

They are in desperate need of help.

Revising the diagram of (34) so as to show the NP status of the Det + N' or 0 + N' sequence, we derive the following structure:

(36)	[PPP	[NP(Det)	[n'N	[PPP	NP]]]
` '	with	-	reference	to	your letter
•	in	-	memory	of	my father
	in	-	conformity	with	your study
	as	a	result	of	this finding
	by	-	virtue	of	his persistence
	in	(the)	light	of	his actions

In the examples above we have examined those instances of Quirk et al.'s complex prepositions where the putative N exhibits clear noun-like properties. Although these constitute the majority of their three- and four-word strings, there are, of course, others which do not take determiners, genitives or adjectives in the pre-N position. The proper analysis of the string is far less clear in those cases, but there are some points which argue for a P + N' structure in at least some of those more marginal cases. As regards the constituency of P + N', we may sometimes delete the preposition (cf. Shall I put the van in front of the house? Back of it, if you don't mind.) and may sometimes vary the preposition (by dint of |for dint of or on pain of |under pain of, cf. Quirk et al. 1985: 672). As for the N (P + NP) part of the string, the very fact that it is normal for nouns to be postmodified by PPs argues for the P + NP constituency (cf. Huddleston 1984: 44), and if the preposition of this PP is the one normally found with the preceding noun, then of course there is an additional reason to assume an N + PP structure (cf. in view of, on top of, in front/back of, etc.).

While considerations of this kind may suggest a P + (N + NP) structure, they are of course not compelling arguments, and in many cases the analyst may ultimately have a somewhat awkward choice between two alternative structures:

(37) a. in [spite [of XP] on [top [of XP]

b. [in spite] [of XP] [on top] [of XP]

In the former analysis, recognising P + NP structure solely on the basis of general consideration of English phrase structure, we will have to add the specification that the part in spite, on top, etc., is fully fixed; with the latter case we have assumed that the P and the N have lost their grammatical identity and have syntactically merged into a single preposition, with the string in spite of thus analysed as a two-constituent string on a par with because of, inside of, etc. The orthography, of course, appears to be derived from the former of the two views, but need not necessarily be taken as a reliable cue to structure, as we have seen earlier (cf. à la, on to) and as is equally shown by the spelling of instead of him, suggesting a two-constituent item by the side of in his stead, clearly showing that is and stead are independent constituents. With no clear arguments for either analysis, the grammarian does best to leave the question open.

6. A New Type of Complex Preposition

In our discussion in the preceding sections we have been examining the constituent structure of the so-called complex prepositions of the shorter and the longer variety (according to vs. in (the) face of), and have argued that in all the cases of this kind listed by Quirk et al. or their predecessors, the final preposition forms a PP constituent with the following NP. One consequence of this conclusion is that the structure Preposition + Complement, which was supposed to make inside of and in spite of structurally analogous to in and despite, does not at all exist. Introduced into the grammar on the basis of an untenable analysis, the class of complex prepositions as defined by Quirk et al. is empty, and the term itself is thus not helpful in the description of English.

Before leaving the question, let us consider one theoretical possiblity. In all the cases we considered, we saw that it was the structural position of the final preposition which excluded the analysis of "complex prepositions" as a constituent. In the light of this it might be asked what happens if the complex string does not end with a preposition. In the lists offered by Poutsma and Quirk et al., the only item of this kind is the very marginal: on top (1985: 673), but the list given by Curme contains a couple of items of that kind: on board, and (on) the side (1931: 565). What is the proper description in this case?

For on board, the facts of the actual usage are straightforward:

(38) They got on board the train in Manchester.

Most of the passengers on board the ship were sailing from Le Havre to New York.

From its overall distribution, it is clear that the phrase on board the train etc.,

⁶ Note that here we finally have that high degree of fixity which Quirk et al. claimed for in spite of. But while in spite does indeed seem to represent the most frozen end of these strings, the final preposition of is mobile and thus forces on us a different view of the whole string.

is a PP, yet the structure on [board the train], parallel to our analysis in the previous cases, is clearly out of the question as board, or nouns in general, do not take NPs as complements, and no evidence seems to exist, as far as we can see, which could justify such an exceptional analysis in this one case. Rather, the constituency must be [on board] [the train], as is also suggested by the formal behaviour of the string:

A. SEPPÄNEN, R. BOWEN, J. TROTTA

(39)Did you meet them on board the train or the boat? Are they getting off or on board the train? He was not on board the ship – the train, I mean.

With its structure [on board] [the train], is on board in fact an item that satisfies the Quirk et al. definition of complex prepositions? The answer to the question depends crucially on the internal structure of on board. Is on board syntactically a constituent with an internal structure of P + N or is it a unit with no separate syntactic behaviour of its parts, and thus describable as a simple preposition in spite of its spelling? So far as we can see, on and board do not exhibit any behaviour that would compel us to treat them as syntactic constituents. Likewise, the case is different from in spite of, by dint of, on top of, and even on board of (cf. Curme 1931: 673), which may be influenced by the usual N + PP patterning of nouns. Admitting that this may be an unclear borderline case, we will assume that on board is in fact a simple preposition, ignoring once more the spelling.

As far as on top is concerned, used in colloquial American English as in on top the car (Quirk et al. 1985: 673), the case appears to be parallel to on board the train, and can thus be dealt with in the same way.

With the combinations with side, the facts are clearly different:

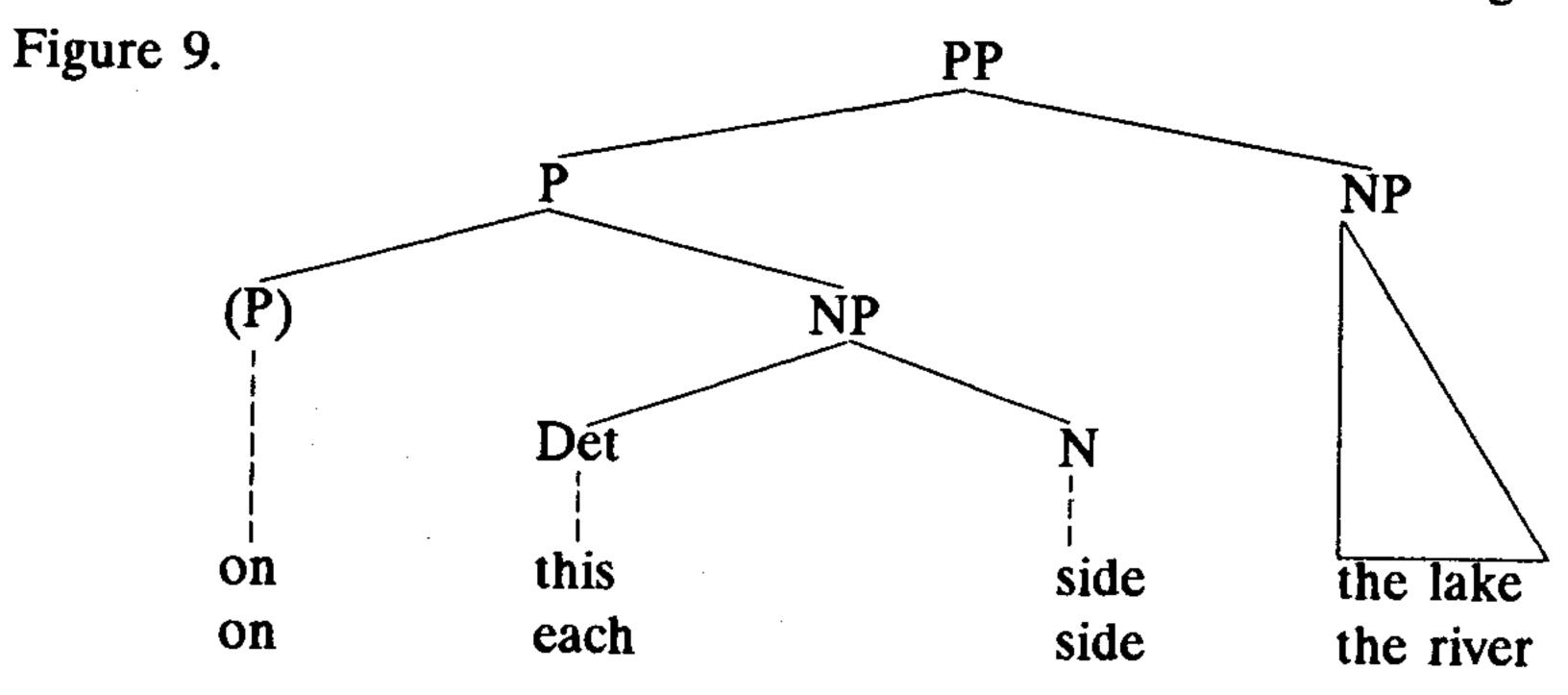
- Their house is on this side the lake, isn't it? (40) a. On that side the river, there are only two small villages. There were poplar trees on either side the river.
 - ?Do they live that side the river? ?This side the railway track the land is marshy.
- *This side the river is almost uninhabited. (41) ?*I like the other side the river better than this side.

Admitted by Curme and certainly well-attested in historical sources (cf. OED s.v. side), the sentences are accepted by some speakers but are felt by many speakers to be slightly odd, suggesting regional speech or perhaps older forms of English. In (40a,b) the structure is clearly [(on) Det side] [the river], with [(on) Det side] functioning as a preposition as shown again by the following pattern:

It is on this side the river and the road, isn't it? (42) They live on that side the river – I mean the railway track.

Additionally the possibility of varying the first constituent (this side, each side,

both sides) shows that it has normal NP structure D + N', and the addition of on clearly turns the NP into a PP. Here we thus have the following structure:



The case illustrated in (41) above, where this side the river, etc., functions as the subject or object of the sentence seems even more problematic; it is not clear whether such forms are historically attested (no examples are given in the OED), and they seem to be totally rejected by many speakers, even many of those who accept Det-side NP in an adverbial function.

To sum up, although the judgements on acceptability are somewhat uncertain, we are clearly dealing here with a structure where a string which is a PP or NP, with the normal PP/NP structure functions as a preposition taking the normal type of prepositional complement. We have thus found a case which is a "complex preposition" in the sense of Quirk et al. Yet, to judge by the fact that this is the only clear example of its kind on the long list offered by the older grammarians, and that even this string (without the preposition of) sounds awkward to modern speakers of English, this type of structure has never been a living part of the grammar of English.

7. Conclusion

The negative conclusion to which our examination has led us raises two questions which are partly related. First, if the strings generally offered by grammarians under the term "complex prepositions" do not - by the grammarians' own definition – qualify as such, what then are they? The question is simple and straightforward, but not so easy to answer. To see why this is so, compare the following two cases:

- (43)He [looked after] the baby. Why did they [laugh at] us?
- (44) They deprived us of the necessities of life. You must take good care of everything. Don't let him pull the poor boy's leg.

In speaking of "multi-word" verbs in their description of the kind of verb plus preposition combinations illustrated in (43), Quirk et al. start with the view that the verb and the preposition form a unit both semantically and syntactically, i.e.,

that the combination is an idiom that functions as a syntactic constituent. On such a view it is easy and natural to assign the string to a grammatical class (the class of verbs in this case) and to indicate the specific nature of this verb in a modifier ("multi-word verb" or "complex verb"). Applying the term "complex preposition" to the strings we have been examining, traditional grammarians have similarly assumed that the string as such is a unit both semantically and syntactically, and the terms "preposition" and "complex preposition" follow the usual approach. Considering now the situation illustrated in (44), we see strings which are idioms, or contain parts that form an idiom, but in this case those "idiom-forming" bits clearly do not form a syntactic constituent. In this case we can still use the semantic term idiom, but there is no syntactic term available: for what is not a unit of any kind in syntax, syntacticians have, naturally enough, not devised any term. The situation is different with those strings with side, whether NPs or PPs, which are followed by an NP complement and where one could indeed speak of "complex prepositions" in the traditional sense of the term. But of course, structures of this kind seem to be very marginal in English, and for many speakers apparently do not at all exist.

This leads us to the second question. "Complex prepositions", as we have seen, are part of an approach to linguistic structure which explicitly recognises the possibility of multiple analysis, i.e., existence of structures where a complex unit with internal syntactic structure at the same time functions in the way of simple word-level units. In the case examined, the application of that approach has been, we have argued, largely mistaken, and it is therefore natural to ask whether the other cases of such an analysis are equally suspect. The more general question is of interest again from a purely practical point of view, but equally as a purely theoretical question about the complexity of the patterning that we manipulate in our everyday communication. For the present, however, further exploration of the issue must be left to future work.

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