

TRANSITIVE ADJECTIVES: A CASE OF CATEGORIAL
REANALYSIS*

This paper is an investigation into the criteria for establishing syntactic categories, and more specifically, into the problem of distinguishing between the categories of Adjective and Preposition. I will argue that in the history of English, at least two adjectives, *like* and *worth*, were reanalyzed as prepositions. Two questions come to mind: Why did the categorial reanalysis take place? What were the grammatical consequences of the reanalysis, i.e. what change(s) in the words' use followed as a result? The answers to these questions provide evidence as to the grammatical function of complements of different syntactic categories. They also show how very little of the evidence traditionally used by linguists to establish categories is strictly syntactic in nature.

The problem of distinguishing between the categories of Adjective and Preposition turns out not to be as trivial a problem as it may at first seem. Jackendoff (1973) noted that linguists had not taken prepositions seriously; that oversight has since been remedied in the work of Emonds, Jackendoff, van Riemsdijk, and Baltin, among others. The adjective, however, remains as the one major category which has not been seriously studied; not because no one takes it seriously as a category (at least for the familiar Indo-European languages), but rather because the internal syntax of adjective phrases has seemed less interesting.¹ With the recent development of abstract case theory, however, adjectives have taken on a new importance. We will look at one theoretical claim that has been made (e.g. in Chomsky (1981)), namely that the categories V and P can assign case (and therefore take NP-complements), while A and N do not.² The claim that adjectives cannot assign case figures in the analysis of passive: if all passive participles are adjectives, then their inability to assign case explains why NP-movement of the deep object is obligatory in the context of a passive participle.

It is clear that the claim could only be true at the level of abstract case, since it is not universally true that adjectives never assign morphological case. For example, as van Riemsdijk (1983) has amply documented, German has lots of what we might call 'transitive adjectives', i.e. adjectives which take case-marked NP-complements. So do Icelandic, Russian, Latin and many other case-marking languages. I use the term 'transitive adjective' advisedly, to

indicate only that the adjective is directly followed by a NP complement; in fact, the diachronic developments reported here suggest that the NP-complements to adjectives are usually not grammatical 'objects' but rather 'oblique objects' (cf. Bresnan (1981)).

The categorial reanalysis discussed in this paper suggests that there is something essentially correct about the idea that it is less natural for A and N to take NP-complements than for V and P to do so. The historical evidence suggests that NP-complements to adjectives are 'oblique' objects which can be realized in either of two ways: by prepositional phrases, or, in languages with surface morphological case, by case-marked NPs. The difference between case and a preposition would in this instance be a mere surface fact of a language. Once surface case is lost, then oblique NP-complements are typically replaced by PP-complements; e.g. dative case is typically replaced by *to*, genitive case by *of*. Within the Germanic family, the languages with transitive adjectives, e.g. German, Icelandic, Old English, Old High German, are those with productive case marking. The loss of transitive adjectives in English can be seen as a consequence of the almost complete loss of morphological inflection. Dutch and the Scandinavian languages other than Icelandic have also lost inflection to varying degrees, albeit more recently, and I would argue that they too, seem to be in the process of losing transitive adjectives.³ The same development occurred in the Romance languages. In sum, there is a correlation between having transitive adjectives and having surface morphological case, at least in the unmarked situation.

If this were the only possible change, there would not be much of interest to say. But in English (and some dialects of Dutch), just the right set of conditions existed for another solution to the problem of the surface realizations of oblique complements: namely the reanalysis of the head from A to P. Such a reanalysis took place for at least two words in English. In this paper, I will discuss the synchronic status of three lexical items, *like*, *worth* and *near*, which were all unambiguously adjectives in Old English. These have all been analyzed as prepositions in modern English by at least some grammarians, e.g., Quirk *et al.* (1972), but some or all of them have been considered adjectives by other linguists, e.g. Bresnan (1978, fn. 2) and Lightfoot (1980).

Apart from the categorial reanalysis itself, this change provides evidence bearing on the problem of what criteria the language learner uses to identify syntactic categories. And in turn, there are implications for the synchronic analysis of categories: among the criteria that linguists use to identify syntactic categories, which ones are really categorial and which are essentially semantic or functional? I will begin in Section 1 with the last question,

because I can hardly argue for categorial reanalysis without first deciding what counts as evidence; I need to make clear what criteria can be used to decide the synchronic status of these words, and what cannot. In Section 2 I will discuss the categorial status of *like*, *worth* and *near* in modern English, and then in Section 3, briefly document the change for *like* from A to P. The diachronic evidence shows that neither the meaning of *like*, nor those properties which I argue to be essentially functional, changed. However, other properties, strictly categorial properties, did change as a result of the categorial reanalysis. These changes testify to the role of the phrase-structure rules in the identification of syntactic categories.

1. EVIDENCE FOR SYNTACTIC CATEGORIZATION

I will begin by looking at three of the diagnostic criteria often used to identify adjectives, namely, strict subcategorization, coordination, and co-occurrence with various degree modifiers.⁴ The data show clearly that this kind of distributional criteria is actually semantic in nature, and hence it is not surprising that the facts cut across syntactic categories. The simplest statement of such distributional restrictions seems to be in terms of traditional grammatical functions such as 'locative' and 'predicate complement' rather than in terms of phrase structure categories such as AP or PP. (See Peterson (1981a, b), Grimshaw (in prep.) for arguments to the same effect.) As a result, such evidence cannot be used to argue for the syntactic category a given lexical item is assigned to.

1.1. Subcategorization

A classic test for adjectives is the ability to occur as predicate complements to 'linking' verbs such as *seem*, *become*, *look*, *act*, *turn*, *feel*, etc., which do not allow PPs (at least in the relevant sense of the verb). Another characteristic adjective position is as objective complement to transitive verbs like *consider*. Subcategorization frames have traditionally been stated in terms of syntactic categories, as shown in (1a), on the basis of contrasts like those shown in (1b).

- (1) a. *seem*, [___ AP]
 consider, [___ NP AP]

- (1) b. Sandy seems $\left\{ \begin{array}{l} * \text{out of town.} \\ \text{clever.} \end{array} \right\}$
 We consider Sandy $\left\{ \begin{array}{l} * \text{out of town.} \\ \text{clever.} \end{array} \right\}$

But it is simply not the case that only adjectives can occur in these contexts, as shown by the impeccable sentences under (2):

- (2) a. Robin looks a bit under the weather today.
 b. Kim was acting out of character.
 c. That suggestion seemed completely off the wall.
 d. Everyone considers Kennedy out of the running.
 e. We found the patient in good spirits.

The internal structure of the complement phrases in (2) is obviously that of PP. Their ability to occur in what are considered adjective frames cannot be attributed to some idiosyncratic property of a particular preposition, e.g. *out of*, since the very same prepositions are sometimes good, and sometimes not, as illustrated by the contrasts in (3). (I will use the verb *seem* throughout because it does not have any irrelevant readings.)

- (3) a. Lee sure seems $\left\{ \begin{array}{l} * \text{out of town.} \\ \text{out of it.} \end{array} \right\}$
 b. Lee sure seems $\left\{ \begin{array}{l} * \text{out of the house.} \\ \text{out of his mind.} \end{array} \right\}$
 c. Lee sure seems $\left\{ \begin{array}{l} * \text{onto the roof.} \\ \text{onto something.} \end{array} \right\}$
 d. Lee sure seems $\left\{ \begin{array}{l} * \text{under the old apple tree.} \\ \text{under the weather.} \end{array} \right\}$

Such contrasts show clearly that what is relevant is not the syntactic category of the complement, but rather the distinction between locative and directional PPs on the one hand, which are bad in these contexts, and what I will call 'metaphorical' PPs, which have nonliteral, nonlocative readings, and which are good in these contexts.

Note that if a particular PP is ambiguous between a locative and a metaphorical reading after the verb *be*, then only the metaphorical reading is available after *seem*.

- (4) a. The patient finally $\left\{ \begin{array}{l} \text{is} \\ \text{seems} \end{array} \right\}$ out of the woods.
 b. Robin finally seems at home here, $\left\{ \begin{array}{l} \text{after years of living in this} \\ \text{country.} \\ * \text{after a long day's work.} \end{array} \right\}$
 c. Lee seems over the hill as a sprinter.
 d. A brook $\left\{ \begin{array}{l} * \text{seems} \\ \text{lies} \end{array} \right\}$ just over the hill.

Nor can the ability of such metaphorical PPs to occur as predicate complements be attributed to lexical reanalysis as complex adjectives, i.e. to category conversion (Quirk *et al.* (1972), Appendix I).⁵ The usual test for lexicalization is the ability to occur prenominal. It is true that many of the metaphorical PPs which can occur in complement positions can also occur prenominal, as attributive modifiers:

- (5) a. Out-of-shape professors shouldn't attempt the marathon!
 b. Chris made a completely off-the-wall suggestion.

But if we take the ability to occur in prenominal position as both necessary and sufficient evidence of lexicalization, then the question to ask is whether the class of complement PPs exemplified in (2)–(3) is the same set as the class of prenominal modifiers.⁶ The answer seems to be that the two classes are distinct, and that neither is a proper subset of the other. Many locational PPs seem not to occur predicatively, even when they have clearly been lexicalized.

- (6) a. An off-Broadway show will be appearing on campus.
 b. *The show seems off-Broadway.
 (7) a. Yaz hit an inside-the-park home run.

b.?*The winning home run $\left\{ \begin{array}{l} \text{was} \\ \text{seemed} \end{array} \right\}$ inside-the-park.

- (8) a. This is an over-the-counter drug.
 b. *This drug looks over-the-counter.

And many of the PPs which can occur predicatively cannot occur prenominally.

- (9) a. *An out-of-it student walked into my office.
 b. *An onto-something reporter hounded the President.
 c. *Only in-good-spirits guests are welcome.
 d. *We will not consider your beside-the-point objection.
 e. *No out-of-the-running candidates will be given air time.

Individual speakers may vary considerably in their tolerance for such creations, as would be expected of a lexical process.⁷ It is clear, however, that lexicalization cannot account for the occurrence of metaphorical PPs in adjectival subcategorization frames.

Thus it appears that subcategorization frames should not be stated solely in terms of syntactic category. One possible alternative is to use grammatical functions, e.g. predicate complement. In Bresnan (1981), this function is designated 'XCOMP', where XCOMP means a predicate complement of category X.

- (10) seem, [___ XCOMP],
 consider, [___ NP XCOMP].

XCOMP's can be predicated of either the subject NP, e.g. of *seem* or the object NP (e.g., of *consider*), depending on the given verb. Some additional feature will be needed to exclude locative and directional PPs, which also involve predication, as usually understood (see e.g., Williams (1980)). What is needed is something like the semantic class of 'gradable predicates', where gradability cuts across syntactic category.⁸

- (11) a. Robin seems $\left\{ \begin{array}{l} \text{a fool.} \\ \text{*prime-minister.} \end{array} \right\}$ (NP)
 b. The number three seems $\left\{ \begin{array}{l} \text{odd.} \\ \text{*even.} \end{array} \right\}$ (AP)
 c. $\left\{ \begin{array}{l} \text{Lee} \\ \text{*The square root of two} \end{array} \right\}$ seems irrational. (AP)

Examples for PP are given above in (3). Note that in (11b), *odd* has only the gradable sense of 'unusual, unexpected', and not the mathematical binary opposition of odd/even. Adjectives are usually gradable, whereas locative and directional PPs are typically not; hence a semantic feature of gradability would correctly exclude them. Note, however, that just as there are non-gradable adjectives, so are there (a few) gradable locatives, as illustrated in (12).

- (12) a. On a map, Rowley doesn't look terribly far from Boston.
 b. *On a map, Rowley doesn't look by a river.
 c. *On a map, Rowley looks on the wrong side of the tracks.
 d. Now that there's train service, Rowley no longer seems so out in the sticks.

I will not pursue further just what property characterizes the set of possible predicate complements to verbs like *seem*, nor whether the correct characterization is in terms of semantic features and/or grammatical functions.⁹ What is clear is that phrase structure categories alone are inadequate. It is obvious that although phrase structure categories may be associated with typical grammatical functions and vice versa, the mapping between them is not one-to-one. The sentences in (2)–(4) above show that in addition to predicate nominals and predicate adjectives, there are also (nonlocative) predicate PPs. Hence the fact that a phrase occurs as predicative complement to *seem* cannot be used as evidence that its head is an adjective.

1.2. Coordination

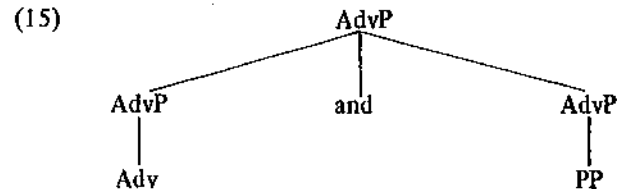
Another diagnostic often used to test syntactic category is coordination, based on the assumption that only phrases of the same syntactic category can be conjoined. Many linguists, e.g. Schachter (1977), have argued that category identity is not a sufficient condition: there must be semantic or functional identity in addition to syntactic identity for the coordination to be acceptable.

- (13) a. *Pat is in the next room and over the hill.
 b. *Pat is in love and in the next office.

A few linguists, e.g. Dik (1968) and Peterson (1981a), have argued that category identity is not even a necessary condition: as long as there is semantic and functional identity, coordination is possible even without category identity. This can easily be seen for adverbs, which conjoin freely with PPs of the same function. Thus a manner adverb can conjoin with a manner PP, as in (14).

- (14) The surgeon operated slowly and with great care.

In order to preserve the categorial identity condition, a higher syntactic node such as AdvP must be invoked, so that the identity condition can be met at that higher level.



The same is true of predicate complements. It is possible to conjoin an AP with a PP, provided that both are XCOMPs, as illustrated in (16).

- (16) a. Doctors are always warning us of the dangers of being fat and out of shape.
 b. The patient seemed cheerful and in good spirits.

Here too, the category condition cannot be maintained without invoking a new syntactic node or feature for the class of predicate complements.

Thus, like subcategorization, coordination is a test that must be used with extreme caution. As long as the mapping between grammatical function and syntactic category is basically one-to-one, then it is impossible to determine what the correct generalization is. Whether the conditions on subcategorization or coordination are stated in terms of syntactic category, e.g. PP, or grammatical function, e.g. locative, the same predictions are obtained. Crucial evidence comes from those cases where the one-to-one mapping breaks down, as it does in the case of predicate complements and locatives, and in such cases, the evidence shows that the generalizations cannot be stated in terms of syntactic category.

1.3. Specifiers

Another difference between AP and PP lies in the range of specifiers that they take. The ability to take *very* as a premodifier has always been used as a test for adjectival status, especially in discussion of passive participles (cf. Wasow (1977, 1980)). The contrasts in (17) illustrate the fact that adjectives typically take *very* but not (*very*) *much* as a modifier, and that locative PPs take neither.

- (17) a. The birds were very $\left\{ \begin{array}{l} * \text{ in the tree.} \\ \text{noisy} \end{array} \right\}$
 b. The kids were very (*much) noisy.
 c. *The kids were very (much) in the tree.

Various accounts of these facts have been proposed in the literature. Bresnan (1973) generates *very much* as a specifier to A, and posits an obligatory rule of *much*-deletion. Jackendoff (1977) argues that APs take only simple degree words, whereas PPs take quantifier phrases (QPs) as specifiers, which in turn can optionally contain a degree word. Whatever the optimal account of the details may be, here too the facts cut across syntactic category. The feature [+gradable] is very likely necessary for an adequate account of degree modifiers. Generalizing to the entire class of degree words, *so*, *how*, *too*, *very*, note that such specifiers occur freely not only with APs but also with (most) metaphorical PPs, as illustrated in (18).¹⁰

- (18) a. They seemed $\left\{ \begin{array}{l} \text{so} \\ \text{too} \\ \text{very} \end{array} \right\}$ foolish.
 b. They seemed $\left\{ \begin{array}{l} \text{so} \\ \text{too} \\ \text{?very} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{in love} \\ \text{at home.} \\ \text{out of shape.} \end{array} \right\}$
 c. How good of you!
 d. How out of shape Lee looked!
 e. How at home the hosts made us feel!
 f. How out of character Pat seemed in that role!
 g. Just how out of his mind do you think he is?

Perhaps the behavior of *enough* reflects not the category of the head, but rather the nature of the complement. That is, it can be positioned between an adjective and a PP-complement, but not between an adjective and a NP-complement. This fact cannot be attributed to an adjacency constraint on case assignment, since adjectives are assumed not to be case-assigners.

As the German data discussed by van Riemsdijk (1983) illustrates, in languages where complements precede the head, the specifier may intervene between an NP-complement and the head. But in languages in which the head of the phrase precedes its complements, (23) may well reflect a universal prohibition. German provides no relevant evidence, since NP-complements can never follow an adjectival head. But facts like the English ones obtain in both Russian (M. Halle, personal communication) and Norwegian.¹⁵ The Norwegian adjective *redd* 'afraid' behaves just like English *near* with respect to the placement of *nok* 'enough'.¹⁶

(25) a. Han er redd (for) ulver.

He is afraid (of) wolves.

b. Han er redd nok $\left\{ \begin{array}{l} * \emptyset \\ \text{for} \end{array} \right\}$ ulver.

He is afraid enough of wolves.

Thus it seems that the idiosyncratic behavior of *enough* is not really category-specific, as it first appeared to be. The exceptionality of *enough* lies in the fact that unlike other specifiers, *enough* always FOLLOWS the head of the phrase, unless prohibited from doing so by (23), in which case it will be forced to precede (or follow) the entire phrase. Note that *enough* must follow one kind of predicate nominal as well as adjectives:¹⁷

(26) a. He isn't man enough to assume responsibility.

b. Lee isn't fool enough to do such a thing.

c. * Lee isn't enough fool to do such a thing.

If this is the correction generalization, then a clear prediction is made: *enough* should be able to follow even prepositions in two cases: if the preposition takes a PP-complement, as in (27) and if the preposition is used intransitively, i.e. with no complement, as in (28) (see Jackendoff (1973)). This prediction seems to be largely borne out.¹⁸

(27) a. Lee isn't down enough in the dumps yet to seek professional help.

b. ? Lee isn't enough down in the dumps yet to seek help.

c. The cat wouldn't go up enough into the tree.

d. ? This theory is still up enough in the air.¹⁹

(28) a. The cat wouldn't go $\left\{ \begin{array}{l} * \text{enough up.} \\ \text{up enough.} \end{array} \right\}$

b. Lee isn't down enough to seek professional help.

c. It doesn't stick up enough for me to reach it.

The conclusion is that *enough* follows the head of the phrase it modifies unless prohibited from doing so by (23). The original statement that *enough* precedes prepositions is clearly wrong, since, as we have just seen, it can follow a preposition which does not take a NP-complement. However we can still use the *enough*-test to distinguish between adjectives and prepositions. Although *enough* may precede or follow prepositions, depending on the nature of its complement, it may never precede an adjective.

(29) a. Nothing is $\left\{ \begin{array}{l} * \text{enough good.} \\ \text{good enough.} \end{array} \right\}$

b. Nothing is $\left\{ \begin{array}{l} * \text{enough close} \\ \text{close enough} \end{array} \right\}$ to the beach.

c. Nothing is $\left\{ \begin{array}{l} * \text{enough near (the beach).} \\ \text{near enough (to) (the beach).} \end{array} \right\}$

This turns out to be an extremely useful test.

1.5. Other Syntactic Tests

The results of the preceding sections clearly leave us with an impoverished set of criteria for identifying categories. Subcategorization, coordination and degree modifier tests were all shown to cut across syntactic categories. Only the position of *enough* relative to the head of a phrase turned out to be usable in distinguishing adjective from preposition. Other strictly categorial facts seem to be various morphological tests, such as the ability to take a

synthetic comparative and superlative, the ability to take an *un*-prefix, which attaches to adjectives only (D. Siegel (1973)), and the ability to occur in prenominal position.^{20, 21}

(30) a. Lee is even $\left\{ \begin{array}{l} \text{more out of shape} \\ * \text{ outer of shape} \\ * \text{ inner shape} \end{array} \right\}$ than I thought.

b. * Americans tend to be un-in-shape.

c. * Pat felt un-at-home.

d. * The two in-love senior citizens walked hand-in-hand down memory lane.

Note that the synthetic comparatives in (30a) are impossible despite the fact that these lexical forms exist independently as adjectives, as in *the outer wall*, *the inner sanctum* (cf. Note 6).

2. SYNCHRONIC STATUS OF *LIKE*, *WORTH*, *NEAR*

In this section we will show that *like* and *worth* are best analyzed as prepositions, whereas *near* passes all the tests for adjectivehood, making it perhaps the only surviving relic of the class of transitive adjectives.²² (Of course, the NP-complement of *near* also alternates with a PP-complement, as in *near to* NP, just as one would expect of an adjectival head.) In the next section, I will discuss each of these words in more detail.

2.1. *Like*

It is generally agreed that *like* is a preposition in Modern English. Note the position of *enough* relative to *like* and related words, namely, *likely* and *alike*.

(31) a. That's a(n) $\left\{ \begin{array}{l} * \text{ enough likely} \\ \text{likely enough} \end{array} \right\}$ story.

b. Chris looks $\left\{ \begin{array}{l} \text{enough like you} \\ * \text{ like enough you} \\ ? \text{ like you enough}^{23} \end{array} \right\}$ to be your twin.

c. They look $\left\{ \begin{array}{l} \text{enough alike} \\ \text{alike enough} \end{array} \right\}$ to be twins.

d. How much are they $\left\{ \begin{array}{l} * \text{ old?} \\ \text{alike?} \end{array} \right\}$.

Enough must follow the clearly adjectival *likely*, just as we would expect. On the other hand, it must precede *like*, again as expected if *like* is a preposition rather than an adjective. As illustrated in (31c), *enough* can either precede or follow the adjective *alike*, which is exceptional in taking degree phrases, as noted by Jackendoff (1977, p. 155), and illustrated by the contrast in (31d).

There do exist a few marginal adjectival uses of *like* in prenominal position, as illustrated in (32).

(32) a. The like-subject constraint was proposed by Perlmutter.

b. You'll need boots, raincoats, and the like.

It seems to me that the phrase *and the like* is best analyzed as a NP with null head, and that *like* is in the position of an adjective. But such prenominal uses of *like* are clearly not productive.²⁴ Thus it is impossible to say:

(33) * Lee bought a new car and I bought $\left\{ \begin{array}{l} \text{a} \\ \text{the} \end{array} \right\}$ like.

Since prenominal use of *like* is nonproductive, the existence of the phrase *and the like* would be very weak justification for a synchronic assignment to the category A.

Nor is there any support for adjectivehood from the morphology. Neither *like* nor *unlike* have synthetic comparatives. Despite the fact that the negative prefix *un*- attaches only to adjectives, and that *unlike* clearly means 'not like', this would also be very weak justification. The relationship between the two words is not that of a synchronically productive word formation rule. See Section 3 below.

As we have argued above in Section 1.1., the fact that *like* can be used as predicate complement to verbs like *seem* does not mean that it is being used as an adjective in such cases. Observe that even when *like* is being used as a predicate complement, as in (34), it behaves like a P syntactically, the same applies to *unlike*.

- (34) Toby seems $\left\{ \begin{array}{l} \text{very much} \\ \text{enough} \end{array} \right\}$ like his grandfather.

In other words, it is unnecessary to assign dual categorization to *like*, one as P and one as A. Rather, we can give a single assignment as P.

2.2. *Worth*

As counterintuitive as it may at first appear, *worth* is best analysed as a preposition.²⁵ It certainly passes the diagnostic tests for preposition as well as *like* does, even better in fact, since there is no *unworth* with a presumably adjectival base. This probably reflects the fact that *unworth*, when it did exist, was always restricted to clearly adjectival uses, namely attributive and intransitive, which have been replaced by *unworthy*. I conclude that analyzing *worth* as a P is more a problem for the linguist's conscious mind than for his unconscious.

The *enough*-test gives somewhat odd results for *worth*, which seems to be only marginally gradable, but the relative judgments are clear, as indicated in (35).

- (35) a. Sailing is great fun, but owning your own boat isn't
- $\left\{ \begin{array}{l} \text{enough worth the trouble} \\ * \text{worth enough the trouble} \\ ?? \text{worth the trouble enough} \end{array} \right\}$ for me to want to buy one.
- b. Owning your own boat isn't sufficiently worth the trouble.

We find exactly the same pattern of judgments in (35) as we found for metaphorical PPs in (22) above. If *worth* were analyzed as an adjective, and if *enough*-shift is obligatory, then it would be difficult to explain why the phrase [*enough worth* NP] is acceptable. Except for *alike*, no other adjective phrase allows this possibility. The existence of [*worth enough*] is not counter-evidence: it is clear that in this phrase, *enough* is not a degree word modifying *worth*, but is instead the object complement of *worth*. Consider the contrasts in (36).

- (36) a. $\left\{ \begin{array}{l} \text{old} \\ \text{worth} \end{array} \right\}$ enough.

- b. How much are they $\left\{ \begin{array}{l} * \text{old?} \\ \text{worth?} \end{array} \right\}$
- c. What are they $\left\{ \begin{array}{l} * \text{old?} \\ \text{worth?} \end{array} \right\}$

The ungrammaticality of (36b) with *old* is due to a violation of the Left-Branch Condition; the grammatical examples with *worth* in (36b, c) are simply instances of preposition-stranding, after *wh*-movement of the object.²⁶ Thus despite the superficial similarity, the phrases in (36a) are quite different syntactically.

If *worth* was an adjective, then the only remotely plausible analysis would be to claim that the NP-complement were an inverted measure phrase; i.e. that the NP is base-generated in preadjectival position, parallel to *six feet tall* and *one year old*, but that *worth* was idiosyncratic in requiring inversion. Such an analysis would run into several problems. First, unlike other adjectives taking measure phrases, *worth* would require an obligatory measure phrase, as shown by the ungrammaticality of (37a). Second, lots of non-measure phrases occur, including definite NPs, as illustrated in (37b).

- (37) a. *Lee is worth.

- b. It's worth $\left\{ \begin{array}{l} \text{the time and trouble.} \\ \text{a second look.} \\ \text{it.} \\ \text{half a dozen of those other ones.} \\ \text{all the rest of them put together.} \\ \text{every penny.} \end{array} \right\}$

- c. It's very much worth it.
- d. It seems five times more worth it now than it did last year.

Third, the degree phrase and the NP-complement can cooccur, as illustrated in (37c, d).

Thus it seems reasonable to conclude that *worth* is a perfectly well-behaved preposition in modern English.²⁷

2.3. *Near*

If *worth* is usually misanalyzed as an adjective, *near* on the other hand is usually misclassified as a preposition. The reason is obviously because it takes an NP-complement, and because it can be used with verbs such as *put* that strictly subcategorize for locatives, or verbs such as *motional go* which subcategorize for directionals.²⁸

- (38) a. Kim put the lamp near the bed.
 b. Don't go near the water!

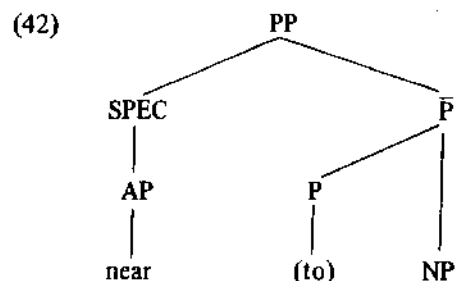
Closer examination, however, shows that *near* is best analyzed as an adjective. Contrast the behavior of *near* with that of *like* discussed above in Section 2.1., indicating that *near* is not a preposition, despite the fact that it takes a NP-complement. Note further that the mediating preposition *to*, normally optional, becomes obligatory when the phrase is modified by *enough*. Even when *near* is used locatively, it behaves syntactically like an adjective.²⁹ It takes a synthetic comparative and superlative, and *enough* follows the head rather than preceding it, as it would if *near* were a preposition.

- (39) a. Kim put the lamp nearer (to) the bed.
 b. Don't go any $\left\{ \begin{array}{l} \text{nearer} \\ * \text{more near} \end{array} \right\}$ (to) the water!
- (40) a. Kim put the lamp $\left\{ \begin{array}{l} \text{near enough to the bed to read.} \\ * \text{enough near (to) the bed.} \end{array} \right\}$
 b. Chris didn't go $\left\{ \begin{array}{l} * \text{enough near} \\ \text{near enough} \end{array} \right\}$ (to) the water to get wet.

Moreover, there exist attributive pronominal uses of *near*:

- (41) a. the near shore.
 b. a near miss.
 c. Take the nearest one to you.
 d. They remained near strangers after (nearly) twenty years of marriage.

If one wanted to claim that all locative phrases are syntactically PPs in English, one could assign the structure in (42), which would automatically solve the problems just noted by analyzing *near* as an adjective specifier.



While this structure is even plausible for some verbs, where *near* is only optionally present, as in (43a), this isn't usually the case, as shown in (43b).

- (43) a. Lee pulled the child $\left\{ \begin{array}{l} \text{near (to) her.} \\ \text{to her.} \end{array} \right\}$
 b. Lee put the toy box $\left\{ \begin{array}{l} \text{near the door.} \\ * \text{to the door.} \end{array} \right\}$

The crucial difference in (43b) is clearly whether the PP is locative or directional. That contribution to meaning is associated only with HEADS of phrases, not with modifiers. Therefore *near* must be the head in (43b), and instead of the phrase structure in (42), we must be dealing with a locative AP.

This conclusion should not be at all surprising. *Close to* and *far from* are exactly parallel to *near to*, and *close* and *far* are clearly adjectives.

- (44) a. Lee pulled the child $\left\{ \begin{array}{l} \text{close to her.} \\ \text{closer to her.} \end{array} \right\}$
 b. Lee put the toy box $\left\{ \begin{array}{l} \text{far from the door.} \\ \text{far enough from the door.} \\ * \text{from the door.} \end{array} \right\}$

The fact that these phrases are locatives accounts for their use with verbs like *put*, while the fact that they are syntactically APs accounts for the existence of the synthetic comparatives and the position of *enough* with respect to the head.

2.4. Summary

The following table summarizes the results of this section and the criteria that I have been using to distinguish between A and P. Entries are given for the 'typical' A or P, since for almost every criterion, there exist exceptional lexical items whose categorial status is not in doubt. In order to facilitate comparison, criteria have been defined so that all entries for A are '+', and all entries for P are '-'. Remember that only locatives or directionals behave like 'typical' Ps with respect to those tests that I have argued to be semantically or functionally based.

(45) Diagnostic Criteria for A versus P

	A	P	like	worth	near
(a) semantic or functional					
occurs as pred. comp. to <i>seem</i> , etc.	+	-	+	+	+
degree modification by <i>very</i>	+	-	?	-	+
degree modification by <i>how</i> , <i>so</i> , <i>too</i>	+	-	+	?	+
(b) morphological					
has synthetic comparative	+	-	-	-	+
can be base for negative <i>un</i> -prefix	+	-	(+)	-	(-)
can inflect and agree (NA for modern Eng.)	+	-			
(c) strictly categorial					
prenominal position in NP	+	-	-	-	+
occurs 'intransitively' ³⁰	+	-	-	-	+
occurs with postmodifier <i>enough</i>	+	-	-	-	+
degree modifiers without <i>much</i>	+	-	-	-	+
can be 'stranded' (NA for mod. English)	+	(-)			

Criteria can be divided into two distinct types: morphological and distributional. Morphological evidence can come from either inflectional or derivational morphology. Distributional evidence, as I have argued here, can also be divided into two types: that which has a semantic or functional basis, and that which appears to be more strictly syntactic. We will now proceed to a more general consideration of the various diagnostic criteria.

Evidence from derivational morphology is notoriously unreliable as evidence for category assignment. Often the processes are not fully productive, and speakers do not make synchronic connections between diachronically related forms. Thus the non-existence of **unnear* does not show that *near*

is not an adjective, and the existence of *unlike* shows only that *like* was not yet a preposition at the time the word was created, and says nothing about its synchronic status. Evidence from comparatives is unfortunately also unidirectional, since not all adjectives are gradable. If a word does have a synthetic comparative, then it seems reasonable to conclude that it is an adjective rather than, say, a preposition; but lack of a synthetic comparative shows nothing. If two words bear a productive synchronic relation, then morphological evidence counts; if they have a synchronically nonproductive relation, then the morphological evidence shows nothing. Obviously it can be hard to tell in a particular instance whether the relation is synchronic, since there is always the possibility of a relic. But relics characteristically lack the full range of uses of a productively related form. A typical example is that of *elder*, historically the comparative of *old*; but *elder* cannot be used everywhere that *older* can, and in fact is most typically a noun, as in *the elders of the church*. By comparison the relation between *near* and *nearer* is clearly productive.

Inflectional morphology clearly can serve to identify syntactic categories unambiguously, but it is obviously not applicable as a diagnostic for adjectives in modern English. In languages where adjectives inflect for case, number and/or gender, prepositions are characteristically invariant. Thus inflectional evidence is sufficient to distinguish between the two categories. This is true even in languages like Spanish and Norwegian, which although they lack case, still have productive number and gender agreement on adjectives. However, since modern English has completely lost all adjectival inflection, adjectives and prepositions alike are morphologically invariant. Hence the language learner (and the linguist) must rely on more syntactic evidence. It is this fact that made the categorial reanalysis from A to P possible.

As noted above, nonmorphological criteria can be divided into two types: the essentially semantic or functional distributional criteria, and the more strictly syntactic criteria. One of the major points of Jackendoff (1972) is that many apparently syntactic constraints follow from semantic constraints, so that once a language learner has learned the meaning of the word or construction, the observed syntactic distribution will follow automatically. Where supposedly syntactic criteria turn out to have a semantic basis, we should not be surprised to find exceptions to a generalization which is expressed in terms of syntactic categories. This is precisely what we have seen for the strict subcategorization and specifier systems of predicate complements in English. The kind of modifiers that a phrase takes may have a semantic explanation, but the position that these modifiers take relative to the head of the phrase

is a strictly syntactic, language-specific fact. For example, the fact that *enough* can be a modifier tells us nothing about the syntactic category of the phrase it modifies, but its position relative to the head of the phrase does.

Let me emphasize that I do not wish to claim that all syntactic generalizations can or should be reduced to semantics; to do so would unnecessarily complicate the grammar. Syntactic categories and phrase structure rules are still needed to capture generalizations about the internal structure of phrases. A good example comes from numerals.³⁰ Numerals are sometimes considered to be just a special subclass of adjectives, since some of the ways in which they behave differently from typical adjectives seem to have plausible semantic explanations, e.g., the fact that they do not take degree modifiers, and the fact that there can be at most one of them per NP. But not all restrictions on numerals have semantic accounts. For example, the fact that they must be the first of any sequence of adjectives in English cannot be made to follow from the semantics in any obvious way. This suggests that we need to have a special phrase-structure position for numerals, as distinct from adjectives. Therefore it should come as no surprise that in some languages, e.g. French, numerals precede the head noun whereas normal attributive adjectives follow.

An even better example is the category Determiner, which could, in fact, be defined as the 'first position' in the NP. Consider the so-called possessive adjectives in Romance languages.³¹ Possessives are Determiners in French, just as they are in English, but not in Italian.

- (46) a. son livre/ *le son livre (French)
his book/ *the his book
- b. il sol libro (Italian)
the his book

It is hard to imagine what a semantic explanation of this fact would be.

To sum up, we expect semantically-based facts to be universal, and strictly syntactic facts such as relative position to be language-specific.³² Phrase structure rules seem to be the appropriate place to state such syntactic facts.

3. DIACHRONIC CHANGES

In the previous section, I have argued for a distinction between those category tests with a semantic or functional basis and those which reflect strictly

syntactic generalizations. Further support for the distinction as drawn in the table of diagnostic criteria in (45) comes from the historical data. If we look at the syntactic changes that *like* and *worth* have and have not undergone as a result of the categorial reanalysis from adjective to preposition, it seems clear that the phrase-structure rules, or the generalizations they express, play an important role in the identification of syntactic categories.³³ In (47)–(49), examples of *like* at various stages in the history of English are given, at points when it still behaved syntactically like an adjective with respect to (productive) prenominal use, synthetic comparison, etc. Typically adjectival uses of *like* in Old English, (Chaucerian) Middle English and (Shakespearean) Early New English are given; the fact that these sentences would be ungrammatical in modern English shows that the category change has had some syntactic consequences. For each time period, the (a)-examples contain synthetic comparatives, the (b)-examples illustrate an intransitive predicative use, and the (c)-examples illustrate the prenominal attributive use. Any further examples provide other syntactic evidence relevant to category identification.

(47) Old English³⁴

- a. Se lichoma waes slæpendum men *gelicra* ð onne
the body was [to] sleeping men more-like than [to]
deadum.
dead [men]
The body was more like a sleeping man than a dead man.
- b. Næs se wæstm *gelic*
Not-was the fruit alike
The fruit was not alike.
- c. Ealle men hæfdon [*gelicne* fruman].
All men had a like beginning.

As illustrated in (47a), OE *gelic* takes dative complements which typically precede the head.

In ME, we find complements to *like* expressed either as a NP, or as a PP introduced by *to*. For the most part, the complement can precede the preposition only if it is a pronoun. Note the existence of [*like thereto*] illustrated in (48d); however we never find * [*therelike*], which we would

expect to find if *like* were a preposition, since virtually all monosyllabic prepositions could invert with a pronominal object *there*. An example of stranding as the result of *wh*-movement is given in (48e). Since preposition-stranding was not generally possible in Chaucerian ME (Grimshaw (1975), Allen (1977)), this provides yet further evidence that *like* was categorized as an adjective.

(48) Middle English (Chaucer)³⁵

- a. if it be *liker* love or hate.
- b. an house . . . uncovered . . . and a chidyng wyf been *lyke*.
- c. A *lyk* dreme dreymt þai both.
- d. Then have I not, ne no thing [*lyk* thereto].
 . . . ne feynen it, ne be evene [*lik* to it].
 . . . that in this world ne was ther noon [it *lyche*]/*therelike.
- e. 'And what soun is it *lyk*?' quod he.

By Shakespeare's day, PP-complements to *like* were less frequent than for Chaucer, although still possible.³⁶ Prenominal uses seem to be quite productive still. Intransitive uses are common in the meaning of 'likely'; note the position of *enough*. The example in (49e) shows that *like* can be stranded; but by this point in time, *wh*-movement can strand prepositions as well. All in all, the evidence suggests that *like* is still an adjective.

(49) Early New English (Shakespeare)³⁷

- a. . . . the boy *liker* in feature to his father Geoffrey.
 . . . and earthly power doth then show *likest* God's.
 You would shew yourselves much *liker* to God who is love
 and *unliker* to Satan the accuser. (1670, Baxter)
 Swift . . . the *likest* author we have to Rabelais. (1859, Masson)
- b. T'is *like* to be loud weather.
 And [*like* enough] the duke hath taken notice.
- c. And here I take the *like* unfeigned oath.
 Should a *like* language use to all degrees.
- d. His child is *like* to her, fair as you are.
- e. What was he *like*?

It is obvious that a categorial reanalysis has since taken place. I have not yet had time to try to pinpoint just when this took place, or to determine whether the changes in use took place rather quickly, or only gradually over the intervening centuries. What is clear, however, is that just the right conditions existed in English for the reanalysis of the head from A to P. The necessary conditions are given in (50).

- (50) (i) loss of all adjectival inflection which could identify a lexical item as A;
 (ii) parallelism between AP and PP in the position of the complement relative to the head.

The categorial reanalysis reflects the fact that prepositions characteristically take NP-complements, while adjectives do not. At a point in time when virtually all adjectival complements are PPs and not NPs, the following two phrase structure rules are motivated.

- (51) a. PP → P NP
 b. AP → A (PP)

There will, however, be no rule (51c) introducing transitive adjectives.³⁸

- (51) c. *AP → A (NP)

In the postverbal position of predicate complements, either a PP or an AP is allowed. But given the sequence in (52), the phrase structure rules in (51) provide a unique answer to the questions of what syntactic category X belongs to: anything that is obviously not a verb can only be a preposition!³⁹

- (52) V [X NP] XP

A similar reanalysis occurred in some dialects of Dutch.⁴⁰ In both German and Dutch, adjectival complements typically occur to the left of the head, as illustrated in (53a). An exception in Dutch, however, is *lijk* 'like'.

- (53) a. [NP *waard*]
worth NP
 b. [*lijk* NP]
like NP

Since there is no adjectival inflection in predicative position in Dutch, the exceptional order in (53b) establishes the necessary parallelism with PP, and makes the categorial reanalysis possible. Since preposition-stranding is impossible in Dutch, the following contrast is found.

(54) a. *Wat is hij lijk? (P)

What is he like?

b. Wat is hij waard? (A)

What is he worth?

Once *like* and *worth* were identified as prepositions rather than adjectives in English, then all their clearly adjectival uses, as defined by the phrase-structure rules in (55), were forced out and replaced by related forms.⁴¹

(55) a. AP → A (PP) intransitive

b. NP → (Det) (AP) N prenominal

Like was replaced by *likely* and *alike* in its two intransitive uses, and *worth* was replaced by *worthy* both intransitively and prenominally.

On the other hand, neither the meaning of *like* nor its uses in predicate complements and adverbials have changed in the least. The examples in (56) below illustrate the various predicative and adverbial uses of *like* in Shakespeare's work.⁴² Similar examples could have been given from Old English and Middle English. These examples show that the adjective *like* had the same predicate complement and adverbial uses as the preposition *like* has today.⁴³

(56) a. **Predicate complement**

Yet he looks like a king!

How like a fawning publican he looks!

How like Eve's apple doth thy beauty grow!

b. **Manner adverbial**

Common people swarm like summer flies.

Few in millions can speak like us.

Though thou canst swim like a duck . . .

c. **Disjunct**

Therefore, like her, I sometime hold my tongue.

That we (like savages) may worship it.

Virginity breeds mites, much like a cheese.

The fact that the category change has not affected *like*'s use in predicate complements supports the claim that subcategorization for such complements should not be stated in terms of syntactic category.

4. CONCLUSION

In this paper I have argued for the categorial reanalysis of two transitive adjectives in the history of English; in so doing, I have had to examine the various criteria used to identify syntactic categories. Both synchronic and diachronic evidence shows that certain criteria are actually not category-specific; in particular, it was shown in Section 1 that subcategorization, coordination and cooccurrence with certain degree modifiers cut across syntactic categories, thus undermining the traditional arguments that these phenomena are based on phrase structure categories. This result is important for our understanding of the nature of these fundamental grammatical phenomena, and their representation in grammatical theory. The distinction between functionally or semantically based criteria and truly categorial or structural criteria not only helps to explain the grammatical consequences of the categorial reanalysis but also helps to clarify the overall structure of the grammar.

A number of linguists (e.g. Heny (1979), Chomsky (1981)) have recently suggested that the base component of the grammar, i.e. the phrase structure rules, can be virtually eliminated since the information they provide about subcategorization is already implicitly given in the lexicon. Commenting on the possible interpretation of the otherwise unnecessary phrase-structure rules as redundancy rules relating subcategorization frames of lexical items, Chomsky notes that "apart from order, the rule of the categorial component serves no function as a redundancy rule" (1981, p. 32). As he observes, the existence of a phrase-structure rule stating optional expansions of some syntactic category does not eliminate the need to provide subcategorization information for each lexical item belonging to that category. It does not, however, follow, as Chomsky suggests, that the categorial component does no work. The role of the phrase-structure rules *qua* 'redundancy rules' is nonetheless a significant one in the assignment of lexical items to syntactic

categories, as shown by the categorial reanalysis reported here. However redundant the phrase-structure rules seem to be, we need them to account for the cases of categorial reanalysis discussed in Section 3.

But we can draw an even stronger conclusion. The redundancy between phrase structure rules and strict subcategorization frames can be eliminated in two different ways: we could eliminate the phrase structure rules altogether, as Chomsky and Heny suggest, or alternatively, we could eliminate from the strict subcategorization frames (i.e., the lexical entries) precisely that information that the phrase structure rules express. That is, we could eliminate the redundancy not by getting rid of the base component of the grammar, but rather by changing the nature of the lexical entries. One solution is to eliminate linear order and categorial information from subcategorization frames, and instead subcategorize only for functional and semantic categories. In fact, this is the view of subcategorization in Lexical-Functional Grammar (Bresnan (1981), (in press)) and implicitly in Relational Grammar (Perlmutter (ed.) (to appear)). In LFG, it is assumed that lexical items subcategorize for grammatical functions, not constituent structure categories.⁴⁴ Grammatical functions are then mapped onto the particular phrase-structure rules and inflectional morphology of each language. This mapping can change independently of lexical subcategorization frames, which can be relatively invariant across languages and through time.

Within such a theory of grammar, the syntactic effects of the categorial reanalysis of *like* (Section 3) are exactly as expected. Phrase-structure rules are needed to explain the categorial reanalysis that took place in the history of English: what made this particular reanalysis possible is that the phrase-structure expansion of PP closely resembled the structures in which these adjectives appeared. When the English case-inflections were lost, the object function had to be encoded in phrase structure configuration rather than in case. But these adjectives now appeared in the phrase structure configuration [X NP], with an object complement, violating the unmarked universal that adjectives and nouns do not take direct objects. Thus, the phrase structure rules play an explanatory role in the historical changes discussed in Section 3. Strict subcategorization frames expressed in terms of syntactic category do not; in fact, the arguments of Section 1 undermine the evidence traditionally used for subcategorization by category.

Thus the categorial reanalysis of certain adjectives supports a theory of subcategorization based on grammatical functions rather than phrase structure categories, and also demonstrates the importance of the base component. If the role of phrase structure rules is to account for language-particular

structural facts, as argued at the end of Section 2, then they can plausibly be thought of as independent of lexical structure. The structural aspects of traditional subcategorization frames can be factored out of the lexical entry, and represented explicitly in the grammar in the form of phrase structure rules.

Brandeis University

NOTES

* Preparation of this paper was supported in part by National Science Foundation Grant No. BNS-78 16522 to Brandeis University. Valuable feedback on the ideas in this paper and on an earlier version was provided by a number of people, including Joan Bresnan, Jane Grimshaw, Frank Heny, Ray Jackendoff, Ewan Klein, Peter Peterson and Henk van Riemsdijk.

¹ See, however, Bowers (1975), Hendricks (1977), Nanni (1980), Berman (1974), E. Siegel (1976).

² Hendricks (1978) takes the even stronger position that the phrase-structure rules generate no post-head complements to adjectives. Apparent exceptions are generated by a local rule adjoining an S-bar or PP within V-bar as right sister to A. It is unclear to me whether this analysis is compatible with the categorial reanalysis discussed here. However, it seems to me that there are independent reasons for the fact that complex APs cannot occur prenominal in English, a fact which is a major motivation for his position (cf. Note (21) below).

³ Platzack's (1980) study of Swedish adjectives shows that the diachronic picture is more complicated in ways that I have not had time to investigate. Of particular relevance is the extent of influence from German.

⁴ For example, see Wasow's classic paper (1977) concerning the distinction between verbal and adjectival passives. Although his diagnostics do distinguish adjectives from verbs, this paper shows that only some of them are actually sufficient criteria for adjectivehood, in the sense of distinguishing adjectives from prepositions. The main purpose of this section is to sort out those diagnostics which are not category-specific. See also Wasow, Note 9.

⁵ See, e.g., Nanni (1980), who argues that one source of strings like *easy to please* is as base-generated (lexically derived) complex adjectives.

⁶ As pointed out to me by J. Grimshaw (personal communication), who also provided several of the relevant examples, the phenomenon of category conversion raises nontrivial questions about the internal structure and morphology of lexically reanalyzed phrases which I will ignore here. Note however, that although converted words normally inflect like the category they become (Quirk *et al.*, Appendix I), (e.g. *They are 'has-beens'*), converted adjectives do not take synthetic comparatives or superlatives, even when they are monosyllabic.

(i) That's the 'in' thing to do.

(ii) *That's the 'innest' thing to do.

⁷ In fact, of the examples in (9), (d, e) are decidedly better than (a-c).

⁸ The obvious problem is to determine where the boundary between syntax and semantics lies. In this paper I am assuming that a syntactic category is one defined by the phrase-structure rules. At issue then is whether the phrase-structure rules should be allowed to include features such as [\pm gradable] or [\pm predicate].

⁹ See Grimshaw (1981b, in prep) for further discussion. Dick Carter points out (personal communication) that some verbs which take predicate complements seem to impose categorial restrictions as well. For example, the verb *become* takes NP and AP complements but does not appear to allow any of the metaphorical PPs, as illustrated in the near minimal pair below.

- (i) Lee became mad.
 (ii) * Lee became out of his mind.

Since these seem to be semantically equivalent predicates, the categorial difference must account for the difference in acceptability. Further reflection shows that the difference must be semantic in nature, rather than categorial, since as Joan Bresnan points out (personal communication), (iii) is impossible even though *lunatic* is an adjective that seems roughly synonymous with *mad*.

- (iii) * Lee became lunatic.

Moreover, if the conclusions drawn in Section 2 about the synchronic status of *like*, *worth* and *near* are correct, then there are certain PPs that occur with *become*, as well as certain APs that do not:

- (iv) Robin became more and more $\left\{ \begin{array}{l} \text{like her brother.} \\ \text{unlike his former self.} \end{array} \right\}$
 (v) With his real estate holdings, Robin has become worth a fortune.
 (vi) * Robin has become near the edge of bankruptcy.

Thus, it seems that *become* takes gradable nonlocative XCOMPs of any category, although the necessary degree of gradability is obviously more restricted than for specifiers (see Section 1.3.), or for complements to most other linking verbs.

Note that these contrast between (i) and (ii) provides further evidence against the lexical conversion analysis of predicative PPs: if they are lexicalized complex adjectives, it would be impossible to distinguish between examples like (i) and (ii). The only PPs which can be used as complements to *become* are those which can also occur prenominally (cf. (5a)):

- (iii) Over the years, Lee/the sweater became out of shape.

¹⁰ I have no explanation for why *very* seems less felicitous than the other degree words with many such PPs. Such examples are often heard, and certain of them, especially those which have been converted to adjectives, sound perfect to me, e.g. *very out of shape*. Also curious is the fact that the exclamation *How in love they are!* seems decidedly better than the question *How in love are they?*.

¹¹ So do predicate nominals:

- (i) He's very much a fool.
 (ii) He's very much the perfect gentleman.

¹² The only systematic exception is that if the PP contains an adjective, e.g. *in good spirits* or *in good shape* as opposed to just *in shape*, then no specifier seems to be possible:

- (i) * How (much) in good spirits did you find the patient?
 (ii) * How (much) in good shape should you be to run a marathon?

¹³ Neither Bresnan (1973) nor Jackendoff (1977) included prepositions in their accounts of the syntax of *enough*.

¹⁴ The judgments indicated here are mine; for at least some speakers, the examples in (22d) are acceptable. This might follow from their being converted adjectives, with *enough* following the entire complex word.

¹⁵ Because of the word order constraint requiring that the finite verb be in second position (cf. Maling and Zaenen (1981)), in Norwegian it is possible for adverbs to occur between the finite verb and its NP-complement, but they cannot occur between a nonfinite verb and a NP-complement. One can easily imagine a raising-type analysis of the 'Verb-Second' word order constraint which would account for this fact about adverb placement in Norwegian, in conjunction with the prohibition sketched in (23). Nonfinite verbs form a single constituent with their complements. If finite verbs, on the other hand, are 'raised' into a separate Aux node, they would not form a single constituent with their complements, and hence (23) would not be relevant.

¹⁶ Lars Hellan informs me that there are four adjectives in Norwegian which can take direct NP-complements: *redd* 'afraid', *lik* 'like', *naer* 'near', and *verd* 'worth'. They inflect like adjectives unless they have a following NP-complement, in which case they are invariant, and do not exhibit agreement with the subject. It is interesting that of these four, only *redd* and *naer* have synthetic comparatives.

¹⁷ Examples like these are discussed in Bresnan (1973), where it is proposed that *enough*-shift requires a null specifier. Frank Heny (personal communication) points out examples like (i) below, which have interesting implications for an *of*-insertion analysis of complements to (deverbal) nouns.

- (i) There was destruction enough of small towns during the war.

¹⁸ Obviously relevant is the question of whether the first P in such phrases is the head, or just a specifier; see Section 2.3. below, and also Waksberg (1977) for discussion. It isn't clear how to tell for metaphorical PPs.

¹⁹ Note however that *out of* does not behave as predicted:

- (i) * He isn't yet out enough of shape.
 (ii) ? The cat wouldn't come out enough of the bag.
 (iii) The cat wouldn't come out enough from the bag.

One might wish to argue that *out of shape* has been lexicalized as an adjective, and hence cannot be split up, especially since (ii) seems at least marginally better. But the same pattern holds of *out of* in phrases which cannot appear prenominaly:

- (iv) * He doesn't seem out enough of it to be institutionalized.
He doesn't seem enough out of it to be institutionalized.
- (vii) * He seems out enough of his mind to be deemed crazy.
He seems enough out of his mind to be deemed crazy.

Perhaps *out of* has simply been lexicalized as a complex preposition taking a NP-complement.

Other complex PPs with *of* behave similarly.

- (iv) ? He was living just off enough of the main street for it to be quiet.
- (v) He was living just enough off (of) the main street for it to be quiet.

In this case, the optional *of* seems to be ignored for the purposes of the constraint in (23).

²⁰ Although only adjectives may occur in prenominal position, they may themselves be lexicalized complex adjectives with internal structure, e.g. that of PP. Thus I consider the examples of prenominal PPs given earlier to be adjectives nonetheless, and hence prenominal position is a good criteria for distinguishing categories.

²¹ R. Oehrle (personal communication) suggested to me that the restriction against PPs in prenominal position may have nothing to do with syntactic category, but may be accounted for by whatever rules out (i).

- (i) * a [yellow with age] manuscript.

Williams (1982) has argued that English has a 'Head-Final Constraint', which requires that prenominal phrasal modifiers of N must be head-final. Malting (1970) proposed essentially the same constraint, albeit in a bidirectional form, requiring that the head of the phrasal modifier be adjacent to the head N. Note, however, that even if such an adjacency constraint accounts for the failure of PPs to occur prenominaly, it does not account for the differences between *near* and *like*, nor does it explain why in Modern English, the heads do not inflect like typical adjectives:

- (ii) * I've never seen a man liker him.
- (iii) I've never seen a man more like him.

²² R. Oehrle (personal communication) suggests that *due* may be another surviving transitive adjective; note that it occurs prenominaly in such phrases as *in due course* and that its NP-complement also alternates with a PP-complement, as in *due to*. Not all speakers accept *due* NP, however. A clearer example is *opposite*, mentioned by Ross (1972). I have not had time to consider these and other possible exceptions, if any, to the generalization that adjectives in English do not take NP-complements, but do not consider them serious counterexamples. See Note (39) below.

²³ This last example is possibly a VP modifier, as in *to laugh enough* or *to look around enough*. Contrast the pattern in (31b) with complex adjective phrases such as *yellow (enough) with age*.

²⁴ Unlike many other languages, English usually requires pronominal rather than null heads in examples like (33) below. In general, null heads are allowed only with generic interpretation, as in (i), or with superlatives, as in (ii) (See Quirk *et al.* (1972)).

- (i) Only the very rich live in Manhattan.
- (ii) We use only the very best/strongest.

Note the degree modifier *very* and the synthetic comparative; in inflectional languages, the adjective would be marked for gender, number and case. Since generics are semantically (and grammatically) plural, the generic reading is unavailable for examples like (33); the null-head analysis of the phrase is impossible, and the sentence is out. Only the fixed expression *and the like* survives.

Since on a nongeneric reading of such phrases a word cannot be an adjective, the only available analysis is that it is a noun; this seems to have occurred in examples like (iii), as shown by the plural endings.

- (iii) Did you ever see the likes of him?
Did you see the others?
Do come in, my dears/my dearests.

The earliest citation of the plural *likes* in the OED is 1787. Note that there must be a category distinction between the converted nouns in (iii) and the adjectives in null-head NPs as in (i)–(ii), which never take plural endings. There is no semantic explanation for this fact. Even superlatives, which might be argued to have a unique reference and hence fail to pluralize, allow plural pronominal heads:

- (iv) We chose the biggest ones.

²⁵ The fact that our first intuitions about *worth* and *near* turn out to be wrong shows how misguided the attempt to provide notional definitions of categories is.

²⁶ I don't know what to make of the fact that *worth* does not pied-pipe (nor does *like*). As Emmon Bach pointed out to me, *worth* is also unusual in being a *rough*-predicate that takes gerundive rather than infinitival complements:

- (i) This matter is well worth looking into.
- (ii) This problem is worth your having Lee look into.

This peculiarity seems to be independent of the categorial assignment of the head. Visser (1963, vol. II, Section 1058) cites both *worth* and *past* as adjectives taking *ing*-complements with non-subject gaps, although he notes that the categorial status of the head is in certain cases unclear.

²⁷ There is also a noun *worth*, as illustrated below:

- (i) At least you got your money's worth.
- (ii) Don't underestimate the worth of descriptive syntax.

- ²⁸ As opposed to *go in go wild, go bananas, go mad*, etc., which does take adjectives.
²⁹ The only indication that *near* is a less than perfect adjective is the oddness of using the locative specifier *right*, as pointed out to me by H. van Riemsdijk. Note the contrast between *near* and *close*:

- (i) Put it right near the door!
 (ii) ? Put it right close to the door!
 (iii) ? Put it right near to the door!

- ³⁰ This is clearly an oversimplification, since I would like to allow for the analysis of verbal particles and certain adverbs as intransitive prepositions (see Jackendoff (1973) and references therein).
³¹ Pointed out to me by F. Heny (personal communication).
³² I owe this example to J. Grimshaw (personal communication).
³³ As J. Lyons puts it, "What may be universal in human language are the combinatorial properties of the major categories relative to one another". (1968, p. 333)
³⁴ I will not document here any changes in the use of *near* which may have occurred, since they would not be the result of a category change.
³⁵ Examples were taken from Bosworth-Toller (1898).
³⁶ Examples were taken from Tatlock & Kennedy (1963).
³⁷ I have no idea why this possibility for PP-complements was lost.
³⁸ These examples and those in (53) below were culled from Spevack (1973) and from the OED; unless indicated otherwise, the examples are from Shakespeare.
³⁹ Thus I agree completely with Wasow (1977, fn. 10) that "a single lexical item (or even two or three) appearing in a given environment seems like very weak justification for adding a phrase structure rule to the grammar". Hence I am claiming that the existence of *near* and *opposite* does not justify postulating (48c). Nor does the idiom *by and large* justify a phrase-structure rule allowing the conjunction of P and A!
⁴⁰ In the absence of inflection, even verbs and prepositions may temporarily be confused. My favorite example is the line from Handel's *Messiah*, where . . . *we like sheep* is repeated for quite some time before the concluding VP *have gone astray* forces the correct analysis.
⁴¹ I owe this observation to A. Zaenen and Guido Thys (personal communication).
⁴² Another possible example of the influence of the phrase-structure rules is the development of *like* as a subordinating conjunction in spoken English; this development can be seen as a natural consequence of the rule $PP \rightarrow P S$ as a way of introducing subordinate clauses in English, as suggested by Emonds. Despite being condemned by prescriptive grammarians, this usage is the only real possibility in spoken American English, since for many speakers, *as* is restricted to the written language.
⁴³ See Quirk *et al.* (1972, Ch. 8) for a discussion of the grammatical distinction between adverbial adjuncts and disjuncts.
⁴⁴ Note that contrary to the claim that adverbs do not strictly subcategorize anything (Jackendoff (1977, p. 78), adverbs can and do take X-bar complements in some languages. In Icelandic, for example, *líkur* 'like' has the same three uses illustrated in (53). The predicate complement use exhibits adjectival agreement; both adverbial uses, however, have the invariant neuter singular nominative inflection characteristic of

adverbs. As either an adjective or an adverb, it can take a NP-complement. The exact nature of the relation between adjective and adverb is an interesting problem for future research, but I know of no independent motivation for claiming that their complements are attached at different levels.

⁴⁵ See especially Grimshaw (1981b, in prep.), who argues for this position based on the grammatical relations of subject and direct object.

BIBLIOGRAPHY

- Allen, C.: 1977, *Topics in Diachronic Syntax*, unpublished Ph.D. dissertation, U. Massachusetts, Amherst.
 Baker, C. L. and J. McCarthy (eds.): 1981, *The Logical Problem of Language Acquisition*, MIT Press, Cambridge, Mass.
 Baltin, M.: 1978, *Toward a Theory of Movement Rules*, unpublished Ph.D. dissertation M.I.T.
 Berman, A.: 1974, 'Adjectives and Adjective Complement Constructions in English', Report No. NSF-29, Department of Linguistics, Harvard University.
 Bosworth-Toller: 1898, *An Anglo-Saxon Dictionary*, Oxford University Press.
 Bowers, J.: 1975, 'Adjectives and Adverbs in English', *Foundations of Language* 13, 529-562.
 Bresnan, J.: 1973, 'Syntax of the Comparative Clause Construction in English', *Linguistic Inquiry* 4, 275-344.
 Bresnan, J.: 1978, 'A Realistic Transformational Grammar', in M. Halle, J. Bresnan, and G. Miller (eds.), *Linguistic Theory and Psychological Reality*, MIT Press, Cambridge, Mass.
 Bresnan, J.: 1980, 'The Passive in Lexical Theory', Occasional Papers No. 7, MIT Center for Cognitive Science; to appear in Bresnan (in press).
 Bresnan, J.: 1981, 'Control and Complementation', to appear in Bresnan (in press).
 Bresnan, J. (ed.): in press, *The Mental Representation of Grammatical Relations*, MIT Press (to appear 1982).
 Chomsky, N.: 1981, *Lectures on Government and Binding*, Foris, Dordrecht.
 Crystal, D.: 1967, 'Word Classes in English', *Lingua* 17, 24-56.
 Dik, S.: 1968, *Coordination: Its Implications for the Theory of General Linguistics*, North-Holland, Amsterdam.
 Emonds, J.: 1976, *A Transformational Approach to English Syntax*, Academic Press, New York.
 Grimshaw, J.: 1975, 'Evidence for Relativization by Deletion in Chaucerian Middle English', *NELS V*, pp. 216-224.
 Grimshaw, J.: 1981a, 'Form, Function and the Language Acquisition Device', in C. L. Baker and J. McCarthy (1981), pp. 165-182.
 Grimshaw, J.: 1981b, 'Subcategorization and Grammatical Relations', paper presented at the Harvard Mini-Conference on the Representation of Grammatical Relations, December 12, 1981.
 Grimshaw, J.: in prep., 'Theories of Subcategorization', Linguistics Program, Brandeis University.
 Hendricks, R.: 1978, 'The Phrase Structure of Adjectives and Comparatives', *Linguistic Analysis* 4, 255-299.

- Heny, F.: 1979, Review article, Chomsky, N., *The Logical Structure of Linguistic Theory*, *Synthese* 40, 317–352.
- Jackendoff, R. S.: 1972, *Semantic Interpretation in Generative Grammar*, MIT Press, Cambridge, Mass.
- Jackendoff, R. S.: 1973, 'The Base Rules for Prepositional Phrases', in S. Anderson and P. Kiparsky (eds.), *A Festschrift for Morris Halle*, Holt, Rinehart and Winston, New York, pp. 345–856.
- Jackendoff, R. S.: 1977, *X-bar Syntax: A Study of Phrase Structure*, Linguistic Inquiry Monograph Two, MIT Press, Cambridge, Mass.
- Kaplan, R. and J. Bresnan: 1980, 'A Formal System for Grammatical Representation', Occasional Papers No. 13, MIT Center for Cognitive Science; to appear in Bresnan (ed.).
- Lightfoot, D.: 1980, 'The History of NP Movement', in T. Hoekstra, H. van der Hulst, and M. Moortgat (eds.), *Lexical Grammar*, Foris, Dordrecht, pp. 255–284; also in C. L. Baker and J. McCarthy (1981), pp. 86–119.
- Lyons, J.: 1968, *An Introduction to Theoretical Linguistics*, Cambridge University Press.
- Maling, J.: 1979, 'Adjective Phrases and the Order of Constituents', unpublished general paper, MIT.
- Maling, J. and A. Zaenen: 1981, 'Germanic Word Order and the Format of Surface Filters', in F. Heny (ed.), *Binding and Filtering*, Croom-Held, London and MIT Press, Cambridge Mass., pp. 255–278.
- Oxford English Dictionary, A New English Dictionary on Historical Principles*, Clarendon Press, Oxford.
- Nanni, D.: 1980, 'On the Surface Syntax of Constructions with Easy-type Adjectives', *Language* 56, 568–581.
- Perlmutter, D. (ed.): to appear, *Studies in Relational Grammar*, Chicago University Press.
- Peterson, P.: 1981a, 'Problems with Constraints on Coordination', *Linguistic Analysis* 8, 449–460.
- Peterson, P.: 1981b, *The Progressive Construction in English*, unpublished Ph.D. dissertation, University of Newcastle, N.S.W., Australia.
- Pinker, S.: 1980, 'A Theory of the Acquisition of Lexical-interpretive Grammars', Occasional Papers No. 6, MIT Center for Cognitive Science; to appear in Bresnan (ed.).
- Platzack, C.: 1980, 'Adjectives with Noun Phrase Complements in Swedish – A Phenomenon with Implications for the Theory of Abstract Cases', unpublished ms., Institute for Nordic Languages, University of Lund, Sweden; revised version to appear in *The Linguistic Review*.
- Quirk, R., S. Greenbaum, G. Leech, and J. Svartvik: 1972, *A Grammar of Contemporary English*, Seminar Press, New York; Longman Group Ltd., London.
- Riemsdijk, Henk van: 1983, 'The Case of German Adjectives', this volume. An earlier version appeared in J. Pustanowsky and V. Burke (eds.), *Markedness and Learnability*, U. Mass. Occasional Papers in Linguistics 6, pp. 148–173.
- Ross, J. R.: 1972, 'The Category Squish: Endstation Hauptwort', *CLS* 8.
- Schachter, P.: 1977, 'Constraints on Coordination', *Language* 53, 86–103.
- Siegel, D.: 1977, 'Nonsources of Unpassives', in J. Kimball (ed.), *Syntax and Semantics* 2, Seminar Press, New York, pp. 301–317.

- Siegel, E.: 1976, *Capturing the Adjective*, unpublished Ph.D. dissertation, University of Massachusetts, Amherst.
- Spevack, M.: 1973, *The Harvard Concordance to Shakespeare*, the Belknap Press of the Harvard University Press, Cambridge, Mass.
- Tatlock, J. S. P. and A. G. Kennedy: 1963, *A Concordance to the Complete Works of Geoffrey Chaucer*, Peter Smith.
- Visser, F.: 1963, *A Historical Syntax of the English Language*, Vol. I–IIIb, E. J. Brill, Leiden.
- Waksberg, J.: 1977, 'The Structure of Prepositional Phrases in the X-bar Theory', unpublished ms., Brandeis University.
- Wasow, T.: 1977, 'Transformations and the Lexicon', in P. Culicover, T. Wasow, and A. Akmajian (eds.), *Formal Syntax*, Academic Press, New York, pp. 327–360.
- Wasow, T.: 1980, 'Major and Minor Rules in Lexical Grammar', in T. Hoekstra, H. van der Hulst and M. Moortgat (eds.), *Lexical Grammar*, Foris, Dordrecht, pp. 285–312.
- Williams, E.: 1980, 'Predication', *Linguistic Inquiry* 11, 203–238.
- Williams, E.: 1982, 'Another Argument that Passive is Transformational', *Linguistic Inquiry* 13, 160–163.