

Interpretive Asymmetries in Major Phrases

Greg Carlson
University of Rochester

1. Introduction.

It has been widely recognized in the syntax and semantics literature that the major phrases (NP (or DP's), VP (or Predicates), AP) have different levels in them that require different sorts of interpretations.¹ To take just one example, it is widely recognized that nouns may take prepositional phrases either as complements (as in (1)), or as restrictive modifiers (as in (2)):

- (1) a. the king of England
b. a decision on the course of the economy

- (2) a. the king at the end of the table
b. a decision over breakfast

These differing functions are correlated with differing syntactic configurations, which we might represent in the following way, following Radford (1988) and Jackendoff (1977):

[NPthe [N'[Nking] [of England]]]

[NPthe [N'[N'[Nking]] [at the end of the table]]

A large amount of research has been conducted over the years which explores the functions of various "levels" for semantic interpretation, of it within the X-Bar framework of syntactic categories (e.g. Williams, 1975; Zamparelli 1995).

The topic in this paper is closely related to these issues but, I will argue, fundamentally different in kind. I will be reviewing a confluence of research in syntax and semantics of major phrases which, I believe, all point in the same direction: that there is a fundamental asymmetry between the sorts of interpretations these phrases may have before, and after, the addition of their associated functional categories. While the major phrases can be used

either to make reference to type or token information, only type information is available within the lower reaches of the phrase.

Since the work on noun phrases is the most copious, and as it is where the asymmetry shows up most plainly, I will begin there.

2. Noun Phrases.

It has been noted for some time (Szabolcsi, 1987, Stowell, 1989) that some languages display an asymmetry between nominals that appear in argument positions, and those that appear in non-arguments positions, such as vocatives and predicate nominals. In Italian, for example, the non-argument positions allow no determiner to appear and generally disallow a determiner; whereas in argument positions the opposite seems to be the case (Longobardi, 1994, p. 612).

- (3) a. **(Un/il) grande amico di Maria mi ha telefonato.* (Argument)
 *(A/the) great friend of Maria called me up
 b. *Caro amico, vieni a trovarmi.* (Non-argument)
 dear friend come to visit me

On the assumption that lack of a determiner means that one has only that portion of a noun phrase which is sister to the determiner, these observations are consistent with the "DP" hypothesis (Abney, 1987). What we have been traditionally calling "noun phrases" are constituents with D as a head and NP as its sister. Thus, this syntactic asymmetry between the character of argument and non-argument noun phrases might be expressed as:

Only DP's can be arguments

Though this would seem to be immediately challenged by languages such as English which has determinerless noun phrases in argument positions ("Cats chase mice"), and predicate nominals with an apparent determiner ("John is a doctor"), more subtle arguments have been made that English and other Germanic languages in essence follow the same pattern (Crisma, 1999). One of the chief assumptions that must be made is that at least some instances of apparently determinerless noun phrases have, in fact, null determiners. Indeed, in Spanish and Italian, there do appear instances of determinerless noun phrases in selected argument positions so long as those empty positions are properly governed (Contreras, 1986; Torrego, 1989). Chierchia (1998) takes a different point of view, however, in

One might assume that definite articles in many other languages function similarly (e.g. Brugger, 1993, for a discussion of Germanic).

Longobardi (1994) takes up a different issue, that of DP's that cannot have type readings: proper names (his view is updated some in Longobardi, 2001). His well-known analysis, based primarily upon Italian data, is one that examines the surface syntax of proper names, and claims that proper names must move into the D position from their "original" position within an NP. Thus, the structure of the DP *Maria* would involve movement of a name from its position within the NP to D.

(7) [

"Common nouns must always be used to refer to a kind..."

This prevents movement to D at S-structure (though allowed is prefixation to a definite article, as in Albanian and Scandinavian). At the level of LF, however, movement to D is available. This holds not just for proper names in languages which associate no article with names or in which there is no evidence of S-structure movement, but also common nouns themselves. If the common noun remains unmoved, and is in an argument position, there must be a D; if the D is null, it is interpreted existentially:

(9) John saw [e [dogs]] (=John saw some dogs)

However, there is the option, at LF, of movement into D; in this case the DP makes reference to a kind, the kind named by the N appearing in D:

(10) [dogs [e]] have four legs.

Structures like (10) allow reference to the kind dogs as a whole, and preclude existential quantification. Throughout, Longobardi is adamant in the view that NP's cannot denote individuals, only types.

The notion that individual reference is a function of higher-level functional categories finds some support from the domain of lexical semantics. It is commonly noted that the internal structure of words does not allow determiners to appear, suggesting that the categories D and DP do not appear word-internally. This should preclude reference to individuals, and, in fact, it does in most constructions. For instance, in languages which incorporate objects, no D may appear internally to the word, and proper names do not appear to be among the possible objects incorporated. In English, a number of verbs are derived from proper names (e.g. *to boycott*, *to lynch*, *to hector*), but these do not constitute reference to the individuals bearing those names (e.g. "(*) I boycotted himself" "I boycotted Charles Cunningham Boycott"), nor do nouns or adjectives derived from names (e.g. *sandwich*, *macintosh*, *davenport*; *platonian*, *sadistic*). In root compounds, even full recognizable names do not make reference: use of *Disneyland*, named after Walt Disney, does not constitute a reference to that person (e.g. "??Disneyland was founded by him"), and a Bowie knife, so-called after Jim Bowie, makes no reference to that person. It is only in synthetic

elements which require reference to the world and token-information are to be found "above" the VP. For instance, tense, which situates an event temporally within a world, is interpreted outside the VP at a higher level. Speech-act marking, which requires or conveys token information about the ongoing speech act itself (see Speas' contribution, this volume), likewise appears at this higher level. Evidentials, which require information about the (token) knowledge-state of the speaker, occur at this higher level.

The second hint, based upon syntactic argument, is to be found in a perspective of Diesing's "Mapping Hypothesis" (Diesing, 1992).

Mapping Hypothesis (p. 10)

--Material from VP is mapped into the nuclear scope

--Material from IP is mapped into a restrictive clause

This presumes a scheme of semantic interpretation that stems from Heim (1982) and Kamp (1981), where a restrictor clause provides the immediate context for the interpretation of the nuclear scope (which typically corresponds to the main assertion). The Mapping Hypothesis mainly affects the syntax and interpretation of DP's.

Evidence from the interpretation of bare plurals is one type of data Diesing considers. It is well known that bare plurals have (at least) two distinct readings: an existential reading, and a generic reading. The hypothesis is that bare plurals in subject position are interpreted existentially if appearing within the VP, but generically if appearing in the IP position. Consider (11).

- (11) Sharks are visible. (ambiguous)
a. [IP Sharks [VP e are visible]]
b. [IP [VP Sharks are visible]]

(11) is ambiguous between two readings, an existential reading in which there are some sharks that can be seen at the moment, and another generic reading in which it is stated that sharks, in general, are of such a size and composition as to make them visible entities (unlike air, microbes, or electrons). The generic reading would thus be accorded the syntactic structure (at LF) in (1a), while (1b) would give rise to the existential reading.

Diesing provides syntactic motivation for (11a) vs. (11b) comes from German, which displays a surface reflex of these two interpretations in the position of the DP. For the generic interpretation (11a) the surface position is argued to be outside the VP, whereas the existential interpretation (11b) has the DP within the VP. That is, the differing interpretations are induced by the structural differences, in particular whether the DP appears within the VP or not. Within the VP, it is interpreted existentially as in (12), but outside the VP it appears to have a generic interpretation (13). This follows naturally from the semantic assumptions of the DRT framework (Kamp, 1981, Heim, 1982) together with an additional stipulations that the operation of existential closure operates at the VP level (and not on texts), and that there is a generic operator GEN that induces a tripartite structure for generic sentences.

(12) [IP [VP Sharks(x), are visible (x)]] (existential reading)

(13) [IP GEN (Sharks (x)) ([VP e are visible])] ("universal" reading)
 (= roughly, "If something is a shark it has a propensity towards being seen")

This analysis generalizes to other argument positions, such as object position. So in (13a,b) the existential vs. the generic reading of the determinerless noun phrase *dogs* is accounted for as described:

- (14) a. John petted dogs (existential, within the VP, bound by existential closure)
 b. John hates dogs ("universal", outside the VP, in restrictor of GEN)

This line of thought is applied to other types of DP's. The point of immediate relevance is that a consequence is that any NP/DP that is intuitively "presuppositional" in character *must* move into a higher position in the IP to be interpretable; it cannot remain within the VP.

This makes for an interesting list of types of DP/NP's:

- Things "bound by" the generic operator
- Strong quantifiers
- Definites and demonstratives
- Proper names
- Specific indefinites

--Partitives

--Pronouns (though not discussed explicitly)

One good question to ask is, what do all these sorts of noun phrases have in common? They are not all strong (Barwise and Cooper, 1981; Milsark, 1974), nor are they all definite; they are not all quantificational, nor does it appear that all induce a tripartite structure. So perhaps a better question to ask is, what types of DP's can remain within the VP at the level of LF (taken to be the input to semantic interpretation)? The list is not very long:

--Weak indefinites

In Carlson (in press) it is argued that weak indefinite noun phrases (*a man, three cats, several papers...*) are distinguishable from all the other sorts of noun phrases in one crucial respect: their semantics is definable based solely on type information. For all other sorts of noun phrases some kind of token contextual information is required. For instance, proper names obviously require a notion of reference to a particular, context being one such particular. Quantifiers like *every* require contextual information. Consider a situation in which students a,b,c, and d have left the room. Did *every* student leave? What you have to know, of course, is that a,b,c, and d are the only students in the context. This is token information. By way of contrast, we need no recourse to token context to evaluate weak indefinites: in the situation described we know that four students left, or that some students left. It might appear offhand that even weak indefinites require reference to individuals. But this is not so--the particular identity of individuals is irrelevant, as is context.³

A slightly different but related discussion is to be found in McNally (1998), in which she seeks to characterize the types of noun phrases that may appear in the English existential construction. In sentences like "There are several envelopes on the desk", the postverbal NP *several envelopes* is securely within the VP. Her argument is that the nature of these noun phrases can be captured in this way: "The postverbal NP will thus have to be interpreted as a property...". What McNally intends by using the term "property" is noun phrases that can be defined solely with regard to type information.

The discussion of VP-meanings here is also consonant with a suggestion made by Dominique Sportiche (pc), based in part on observations about the nature of English Gapping constructions. His idea is that determiners and NP's actually become dissociated

in the syntax, with the D part of the DP appearing higher in the tree, outside the VP, leaving only the NP within the VP. To illustrate the basic idea, instead of assigning the sentence (15) the structure in (15a) as is the custom making use of Quantifier Raising, the structure is better represented as (15b):

- (15) The man saw every cat
a. [The man_x [every cat_y [x see y]]] (no!)
b. [The_x [every_y [man_x see cat_y]]] (yes!)

Whether this suggestion can be fully motivated remains to be seen. However, it has the character of leaving type information only within the VP.

Thus, Verb Phrases as well may have the same sorts of characteristics as the better-understood DP's, type information alone in the lexical projection, and any token information is made available only with the addition of higher functional projections. Something like this has also been explored in Svenonius (1996) and Guéron (ms).

4. Adjective Phrases

Much less work has been done on the intricacies of the interpretation of AP's than on DP's and VP's. Consequently, this section will be brief. But here, too, once this asymmetrical interpretive framework is in mind, AP's quite plausibly fit the pattern outlined above for VP's and DP/NP's.⁴ Again, our point of departure is the very common idea that adjectives phrases express predicates that apply to individuals, so an adequate representation of the semantics of an AP like [AP clever] is simply *clever(x)*.

Rothstein (1999) argues that the meanings of adjective phrases should not be so analyzed. Her strategy is to compare the denotations of adjective phrases to those of verb phrases. The main difference between them is that VP's form predicates, whereas AP's do not, but require the presence of the copula in order to function as a predicate. From the present perspective, addition of a copula is the higher-level functional category that makes available Q -0.0155785 T

"packaging" they cannot be located in time, even though they might have duration.
Consider the following contrast:

(16) (=Rothstein's (51))

- a. Yesterday, the witch made John clever for three hours.
- b. Yesterday, the witch made John clever at three o'clock.

In (16a), the phrase *for three hours*

I have reviewed some of the research in this paper which appears to support the notion that major phrases, NP, AP, and VP, have a semantics that differs qualitatively from the semantics of the higher-level projections in which they may be embedded. I have left aside discussion of PP's, unsure whether to count them as major phrases at all, and having nothing to offer about them in any case. My goal here has been to establish the plausibility of a certain view--that these categories encode type-information only--and that research conducted with this view of the organization of the grammar in mind may lead us to understand better the character of natural language.

Footnotes

1. I wish to thank the audience of the Conference on Asymmetry for their comments and help. In particular, I have gained increased perspective from discussion with Anna-Maria DiSciullo, Jacqueline Guéron, and Peter Svenonius.
2. Longobardi does address the fact that proper names do, occasionally, function as genuine predicates, meaning roughly "x has the name Y". So, if I complain there are too many Jeff's in the department, *Jeff* is functioning as a predicate and not a name.
3. One has to deal with vagueness of quantifiers like *many* and *quite a few*, and I will not get into the question here of how one accomplishes this in the absence of context (see Chierchia and McConnell-Ginet (2000) for an analysis which does not necessarily rely on context).
4. This section needs to be qualified by Cinque's (1995, 1999) analysis of AP in the DP domain being placed among the functional categories in the DP. If this is so, then the type/token asymmetry might have to be located in the functional domain only. However, Rothstein's focus, on the other hand, is on AP's that are functioning as predicates of sentences, and comments here are limited to that.

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