



## *On nominal and intonational frame anaphora*

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# EPI-REVEL

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## On nominal and intonational frame anaphora

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Dans cet article, je parlerai d'anaphores nominale et intonative dont l'antécédent n'est pas explicite mais à déduire d'un élément qui est présent dans le texte. Ce qui unifie ces phénomènes est leur statut cognitif. Dans la grammaire cognitive et dans la théorie des prototypes, qui forment le cadre de cet étude, les unités grammaticales et lexicales sont liées aux représentations mentales type qui peuvent servir comme antécédents des expressions anaphoriques.

By definition, an anaphoric expression has one kind of antecedent or another. In this paper, I am going to talk about noun phrases and certain intonational phenomena as examples of anaphora where the antecedent is a cognitive frame. What unites these anaphors is the fact that their antecedents have not been made explicit in the unfolding discourse, but they are to be inferred from something else that *has* been evoked. I will describe frame anaphora from the point of view of cognitive grammar and prototype theory, where frames are intimately intertwined with the basic units of grammar.

# I. Introduction

## I.1. Definition of Anaphora

Endophoric reference can be contrasted with exophoric or deictic reference, so that while the exophoric expression finds its referent outside the text, the endophoric one finds its antecedent within the text, but the difference is not always clearcut (Levinson 1983:67). Endophora can be subdivided into anaphora and cataphora, depending on whether the antecedent occurs before or after the 'phoric' expression, respectively. I will not make use of this distinction here but only talk about anaphors and their antecedents, regardless of their order of occurrence.

For Bloomfield, anaphoric pronouns were a special case of substitution, that is, one where "the form for which substitution is made, has occurred in recent speech" (1933:248). So, an anaphoric expression is a replacement of the antecedent. Lyons discusses two basic ways of defining anaphora. According to him, the traditional view is that the pronoun refers to its antecedent. The position he himself adopts is that an anaphoric pronoun refers to what its antecedent refers to (1978:660), so that anaphora is a matter of coreference. As a footnote we may add, as Lyons does, that, strictly speaking, it is the speaker who refers, not words, but for convenience, I will continue talking about words referring.

Ducrot and Todorov (1979) point out problems with both Bloomfield's and Lyons's views. For them, a comprehensive theory of anaphora is still needed, but they suggest that anaphoric *he* "seems to play the role of a variable in the logico-mathematical language ; in other words, it only marks the place of the arguments in the predicate" (1979:284). They note that, for example, the antecedent of the underlined *he* below is not clear at all in the following sentences (1979 : 284):

1. And no one knows himself so long as he hasnot suffered.
2. A child may cry when he is afraid.
3. Only Peter said that he would come.

I will return to these sentences below.

I am going to consider anaphora from the point of view of cognitive grammar and prototype theory so that the variable-like, third person

singular pronoun is the central or prototypical anaphor, but that there are also non-central, even peripheral members in the category of anaphors. For the present purposes, I adopt the following definition of anaphora :

An anaphoric expression is one whose interpretation makes reference to another expression, present in the discourse.

This definition thus includes more than the prototypical anaphors, and also, in this view, the anaphor and its antecedent may be but are not necessarily coreferential. I will next explain my basic assumptions about grammar, discourse referents, frames and frame anaphora, and then discuss various nominal and intonational examples in the light of these notions.

## I.2. Grammatical Constructions

Cognitive grammar assumes that grammar structures concepts just as the lexicon does but that their domains are different (Lakoff 1987; Talmy1988). Talmy notes that “[T]he grammatical specifications in a sentence... provide a conceptual framework or, more imagistically, a skeletal structure or scaffolding, for the conceptual material that is lexically specified” (1988:165). So, grammar too expresses certain kinds of meaning, which tend to be relativistic and topological (Lakoff 1987; Talmy1988). In this framework, grammatical constructions are among the basic units of grammar. They can be defined as associations of linguistic form, meaning and pragmatic function (Fillmore 1985; Fillmore, Kay & O’Connor 1988 ; Lakoff 1987), and intonation is part of the linguistic form (Lakoff 1987 ; Fillmore, Kay & O’Connor 1988 ; Välimaa-Blum 1988 ; 1993). There are constructions at many levels, words, phrases, clauses and sentences, and thus the grammatical elements participate in the cognitive structuring of the lexical concepts at all levels of language. The linguistic description of a grammatical construction includes the following repertory of information (Fillmore1985 ; Fillmore, Kay & O’Connor 1988 ; Lakoff 1987) :

- a. the morphosyntactic pattern and intonation,
- b. the compositional semantic principles for the interpretation of these forms,
- c. the pragmatic values they express.

We will see below that, within a construction, the reference relations

among the constituents may need to be specified as well.

### I.3. Discourse Referents as Mental Entities

In a conversation, the interactants create a partially overlapping cognitive model of what they are talking about, of their universe of discourse. When the participants in a speech event use NPs, which are linguistic entities, they make reference to mental entities in the discourse model. In other words, NP referents are mental entities (Karttunen 1976), and discourse reference thus does not depend on a direct correspondence of words with the external world.

That discourse referents are indeed mental entities can be shown by the following example, modified from Donnellan (1971) :

4. A. Who's the man drinking Coke over there?
- B. He's my brother.

This exchange contains an anaphoric *he*, whose antecedent is *the man drinking Coke*. What if it turns out that the man *over there* was actually drinking Pepsi? Would we say that the interactants made a mistake, since there is no man drinking Coke? Did the first speaker fail to refer? Is the second speaker's *he* without an antecedent? The answer to these questions is, of course, negative, because referring is done in a mental space (Fauconnier 1985), and in the shared cognitive model of the ongoing discourse, both the speaker and the addressee agree that there is a man who is drinking Coke. This example is important in many ways, but for our purposes, it is significant because it shows that referring is indeed done with respect to referents that exist in the minds of the participants, not in the real world. And globally, the actual, real-world identity of the referent is often not even relevant to an accurate, pragmatically felicitous understanding of a sentence.

### I.4. Frames

My presentation of frames below is based on Fillmore (1977 ; 1982), but we must note that Fillmore himself relies on work done in cognitive psychology and computer science so that what he calls a 'frame' largely corresponds to terms such as 'script' (Schank and Abelson 1977), 'scenario' (Minsky 1975) and 'Idealized Cognitive Model' (Lakoff 1987). 'Framing' has to do with interpreting experiences in structured ways. A cognitive frame is a schematic

representation of a concept or experience, which is based on a prototype representation. Frame itself is a memory structure, and particular linguistic expressions and grammatical constructions are cognitively linked to specific frames so that whenever a certain linguistic element is evoked, the corresponding frame is automatically activated in the mind, and through it, the other relevant cognitive interconnections as well.

To say that frames are based on prototypes means that they are stored in the mind in terms of a central member, which is the best example, and other than the best example are then linked to the central member through variously motivated 'family resemblances' (Lakoff 1987). To see concretely what a frame is, let us consider the classic example of *going to a restaurant*. The central, prototype representation of this event would have an outline figure, a schematic representation of a typical restaurant scene. The *going to a restaurant*-frame in our Western world would probably include tables, chairs, waiters, ordering and paying for the food, tipping, silverware, napkins and tablecloths, etc. In addition to the central features, various minor details such as ventilation, clothes hangers and brooms would also be accessible while not necessarily immediately present in the cognitive model. Thus, for example, I can felicitously tell you that *I went to a restaurant last night and the waiters were rude*. I can use the definite article with the *waiters* because in the *going to a restaurant*-frame there are always waiters and these cognitive waiters permit the use of the definite article even in the case of the first mention.

## II. Frame anaphora

Hawkins (1978) enumerates eight main uses of the definite article, and one of them is 'associative anaphora', which is close to but not quite the same as what I call frame anaphora. The example below illustrates associative anaphora and my frame anaphora.

THE ASSOCIATIVE ANAPHORIC USE OF THE  
DEFINITE ARTICLE.  
'*Ruth adores working in her garden - she even loves the  
weeds.*'

We assume now that referring takes place with respect to a cognitive model of the discourse, in the mind of the speaker, and the relevant aspects of this model are shared by the addressee. In this example now, when the speaker mentions the noun *garden*, he evokes a whole

cognitive frame of a garden in his and the addressee's discourse model, and in this mental garden, just as in the real ones, there are weeds. Therefore, the definite article in *the weeds* is licensed by the cognitive frame of a garden, which is the antecedent of *the weeds*.

Since the antecedent in frame anaphora is a cognitive frame, it may be exceedingly complex, so that, for example, coreferentiality cannot be required, and to access the antecedent, the addressee may need to go through very complicated (but not necessarily lengthy) inferencing processes. Halliday and Hasan call a similar type of anaphora 'collocation' and define it as a "cover term for the cohesion that results from the co-occurrence of lexical items that we in some way or other typically associate with one another, because they tend to occur in similar environments" (1976:287). Their description seems to require a linguistic convention of association, which, however, is not necessary at all in frame anaphora. Hawkins's associative anaphora is formed by "habitual association" (1978:287), and this suggests a psychological association, which is more realistic, but in frame anaphora, there need not be any kind of *habitual* association, since a frame makes available not just the habitual features of the antecedent, but also those which are peripheral and thus not habitual. Clark's "bridging" resembles frame anaphora (1975).

The frames are thus relatively stable cognitive representations and anaphors can make reference to any aspect of these memory structures. Peters and Rapaport (1990) propose that there may be differences in the evokability of entities depending on whether they belong to the basic level or a superordinate level. The basic level categories are cognitively more richly structured than those at the superordinate levels, and thus they may be the source of a greater number of automatically activated mental entities than the superordinate ones. The authors also note that the evokability of an entity may depend on whether it belongs to the context-dependent or context-independent properties of the categories so that, should the entity be utterly unrelated to the discourse context, it may not become salient at all and will thus not be as effortlessly available as an antecedent as those entities which are more pertinent.

Peters and Rapaport talk about entities, but the same facility or difficulty applies to any aspect of a frame representation, not just entities. If an attribute of a frame is truly peripheral, it may be harder

to access than its central features. The examples below show how that the cognitive links to the antecedent frames are sometimes indeed rather round-about and thus not obviously immediately accessible, so that it would seem hard to maintain that there are any habitual or typical associations between anaphors and their antecedents. And sometimes an anaphoric link seems to be *forced* by the use of certain morphosyntactic elements. This forced link may ultimately depend on both linguistic and non-linguistic factors, as we will see below. For all these reasons, frame anaphora seems to be slightly different from both collocation and associative anaphora, and I therefore prefer to use a distinct term. Next, we will see examples of frame anaphora which go from the prototypical case to truly peripheral ones.

### III. Pronouns and General Words

The third person pronouns exemplify the prototypical anaphora. But what does it mean to say that they are prototypical? Basically, it means that they need a coreferential antecedent for their interpretation. Let us compare an indefinite anaphoric NP with a pronoun anaphor:

6. John has a cat(**i**) and a dog. The cat(**i**) is gray and it(**i**) has no tail.

The difference between *the cat* and *it* is in their semantics: while pronouns carry relatively little semantic information, a full NP corresponds to a full cognitive frame. But, even with pronouns we must talk about cognitive frames, because a pronoun agrees with its antecedent in certain fundamental aspects. Consider the following sentence:

7. John(**i**) arrived late and he(**i**) didn't even apologize.

The pronoun *he* is coreferential with *John*, and their referent thus is the same mental entity in the cognitive model of the discourse. This coreferentiality is based on the fact that the pronoun carries the central semantic and syntactic features of its antecedent, which are as follows. First, there is only one person in question - both the pronoun and *John* are in the singular. Second, the referent of *John* and *he* is a third person, other than the interactants, for the first person would be the speaker and the second the addressee. Third, the referent is of the male gender. And fourth, the pronoun and *John* both share the grammatical category of 'nouniness'. It is only because of these



similarities that the interpretation of *he* can be coreferential with *John*. There are also common nouns with similar properties. Halliday and Hasan talk about ‘general nouns’, which are “a small set of nouns having a generalized reference within the major noun classes... such as ‘human noun’, ‘place noun’, ‘fact noun’ and the like” (1976:274). For example, general words such as ‘people’ can be used for any human being, ‘creature’ for any non-human animate referent, ‘business’ and ‘matter’ for any inanimate, abstract entity, etc. These words are very close to pronouns in that, in an anaphoric relation, they match their antecedents in terms of very general semantic features and the grammatical category. Consider the following example, where ‘objects’ is the anaphor (actually cataphoric) :

8. In today’s ceramic market one finds varied, interesting, and beautiful objects(**i**) created by the sensitive fingers of modern artists. Charming figurines(**i**), an age-old idea, have been revived and set in our present-day world. Decorative tiles(**i**) in modern design are executed in color... (Catherine Morris Lester. 1948. *Creative Ceramics*, Peoria: Illinois, The Manual Arts Press, p. 9)

The word *objects* matches the central semantico-syntactic prerequisites of its antecedents, *figurines* and *tiles*, in that, syntactically, they are all count nouns and their referents are concrete and inanimate. In the example below, the anaphor *stuff* too has the necessary semantic and syntactic matching.

9. What shall I do with all this crockery(**i**)? Leave the stuff(**i**) here; someone’ll come and put it away. (Halliday and Hasan, 1976:275)

The word *crockery* is a mass noun and its referent is inanimate and concrete, and the same holds for the word *stuff*. But *crockery* also has a ‘ceramic’ feeling, which is absent from *stuff*, and *figurines* are small and multidimensional and *tiles* are flat, which features are absent from **objects**. The general nouns thus have no specific semantic content of their own, they are slightly anonymous, just as pronouns, and this makes them a perfect match with a wide range of NPs, and frame anaphora as well.

## IV. Constructional Frames

As noted above, there are cases where the anaphor-antecedent

relations need to be specified in the semantic description of a construction, and I believe this to be the case in the examples of Ducrot and Todorov, repeated below as 1'-3'. In no way do I claim to solve all the potential problems with their examples, but I want to show how the global constructional properties may also need to be considered.

1'. And no one knows himself so long as he has not suffered.

2'. A child may cry when he is afraid.

3'. Only Peter said that he would come.

The first two are generic sentences. In (1'), the grammatical construction includes both clauses, where the *so long as* links the two parts together, that is, this sentence forms one syntactic unit, and it has to be considered in its totality. I consider *no one* to be a referential expression even though its referent is an empty set. The 'mini'-construction *no one* in this context evokes a cognitive frame containing those human beings who are potentially capable of knowing themselves and capable of suffering, and the negation excludes all of them. In the semantic description of the global construction then, *no one*, *himself* and *he* must be co-indexed, for they can only be coreferential.

In (2'), the temporal adverb *when* conjoins the two parts into one construction. Platteau (1980) discusses the differences between definite and indefinite generics in the spirit of mental spaces and speaker intentions. He proposes the existence of two kinds of cognitive supersets, which serve as the frame of reference for the interpretation of definite and indefinite determination in general. For indefinite NPs, the superset covers a domain that is not bound to any specific context and where any element can be chosen whereas, for definite determination, the superset is contextually bound, and the referent is not equal to the denotation of the common noun. Thus, *a child* in (2') can be any child in the context-free cognitive superset and the unaccented *he* is coreferential with it. Of course, we can imagine situations where the pronoun is not coreferential with *a child*, but then the sentence would not be generic and the accent pattern would also be likely to be different.

The construction in (3') is less interesting. It is ambiguous in at least two ways ; in one reading, the antecedent is *Peter*, and in the other, it is someone else. In the former case, there were several people who

might have promised to come but Peter was the only one who actually did so. In the latter, potentially several people could have said that he, let's say John, would come but only Peter said so, so that this reading could be followed by, e.g., *but John himself said nothing*. In both cases, the implied presence of other potential speakers has to do with the focusing function of the word *only*. These three examples show that to ascertain a specific, say, generic reading, the anaphoric dependencies must be identified in the constructional semantics.

## V. Pronouns of laziness

The following sentence contains what is called a 'pronoun of laziness' (Geach 1962), which is a case where the use of a pronoun avoids the repetition of a long NP ; the antecedent of a lazy pronoun may but need not be coreferential.

10. The man who gave his paycheck(**i**) to his wife was  
wiser than the man who gave it(**j**) to his mistress.  
(Karttunen 1969)

While the antecedent of *it* is clearly *his paycheck*, the two are not coreferential, for it can not be the same paycheck. The interpretation of *it* is constructionally specified as going back to *his paycheck*, and this antecedent is a paycheck-frame and the anaphora is thus a matter of type- but not token-identity.

The same kind of type-identity is found in the following examples, where the anaphors can be said to be lazy as well, even though the antecedents are not particularly long.

11. A. I'll have a coffee and a donut(**i**).  
B. I'll have the same(**j**).  
12. She's marrying a doctor(**i**) next week - someday I would like to marry one(**j**) too. (Partee 1972:423)  
13. "I almost made a mistake, too," she declared vigorously. "I almost married a little kike who'd been after me for years(**i**). I knew he(**i**) was below me. Everybody kept saying to me: "Lucille, that man's 'way below you!" But if I hadn't met Chester, he(**i**)'d of got me sure." – "Yes, but listen," said Myrtle Wilson, nodding her head up and down," at least you didn't marry him(**i**)." – "I know I didn't." – "Well, I married him(**j**)," said Myrtle, ambiguously. (F. Scott Fitzgerald *The Great Gatsby*, New York: Charles Scribner's Sons,

1925, pp. 34-5.)

14. I glanced into the kitchen and saw that *the windows(i)* were filthy; in the bathroom, on the other hand, *they(j)* were quite clean. (Ch. Lyons 1999:32fn)

15. My mother hates *raccoons(i)* because *they(j)* stole her sweet corn last summer. (Carlson 1977, p. 433)

The examples in (10)-(15) illustrated the case where the antecedent was explicitly a cognitive frame and the anaphor was identical to it only in kind. We may note in passing that in (15), the antecedent has a generic reading, which the pronoun does not have. The principle of laziness thus creates non-prototypical uses of pronouns, the prototypical anaphors.

## VI. Intonation and Antecedent Reversal

Keeping track of the order of occurrence in the discourse of the anaphors and their antecedents is essential for their correct interpretation. Perhaps because speech is linear, it is conventional that the antecedent is the closest plausible expression before the anaphor. But keeping track of this order is even more crucial in the case of multiple anaphors and multiple antecedents. Here, too, the convention is to maintain the order of occurrence in both the anaphors and the antecedents. Thus, in (16), inspired by Lakoff (1971), *he<sub>j</sub>* is coreferential with *John* and *him<sub>j</sub>* with *Sam*, because *John* comes first and so does *he*, and *Sam* comes second, just as *him* does. So, it is John who does both the calling and the insulting, and Sam is the 'callee' and 'insultee'. Both pronouns are deaccented, as expected, and therefore, they are less prominent than the verb.

16. John(i) called Sam(j) a Republican and then he(i) insulted him(j).

But anaphor resolution may also involve violations of this ordering. The default is to preserve the sequencing, as in (16), and in order to have an antecedent reversal, it needs to be signalled explicitly in one way or another. Intonation is one of the means used to do this. In (17), also in the spirit of Lakoff (1971), there is a double phonological focus on the two pronouns and the verb is deaccented :

17. John(i) called Sam(j) a Republican and then HE(j)insulted HIM(i).

Two things happen now. First, the antecedent reversal is accomplished and *HE<sub>j</sub>* is coreferential with *Sam<sub>j</sub>* and *HIM<sub>i</sub>* with *John<sub>i</sub>*. The intonational foci on the two pronouns override the default reading and reverse the order of the antecedents. But the antecedent reversal is more than complete, for, the second thing that happens is that the intonational prominence of the pronouns leaves the verb *insulted* deaccented, and this has the consequence that *insulted* becomes anaphoric to the predicate *calling someone a Republican*. Thus, *calling someone a Republican* is now an insult at one level or another.

The deaccenting of *insulted* makes it contextually dependent and this contextual dependence attributes a new, additional reading to its antecedent. For this to be able to happen, *calling someone a Republican* must potentially contain a flavor of insult, for such a flavor is now forced upon it with the anaphor. This example illustrates how frames can be specific to a socio-cultural environment, as Fillmore points out (1977), for *calling someone a Republican* can be an insult only in certain social subgroupings.

The above example becomes more striking if we change the second verb :

18. John(*i*) called Sam(*j*) a Republican and then he(*i*)  
hit him(*j*).
19. #John(*i*) called Sam(*j*) a Republican and then HE(*j*)  
hit HIM(*i*).

In (18), there are again two events, but in (19), the antecedent reversal makes the sentence, if not ungrammatical, at least pragmatically infelicitous, because *hitting* can not use *calling someone a Republican* as an antecedent. The examples in (16)-(19) show, just as the pronouns of laziness, that anaphora cannot be a simple matter of coreference of two lexical items, but a more global frame may be required.

The following example confirms the fact that, in the case of antecedent reversal, the second verb must be readable as anaphoric with the first ; the underlining is mine.

20. "Flicked you on the raw, didn't she, when she went off and left you for another man? Hurt your vanity! To think she(*i*) could walk out on you(*j*). You salvaged your pride by pretending to the world at large that you(*j*)'d

left her(j) and you married another girl who was in love  
with you just to bolster up that belief. (Christie, Agatha,  
*Towards Zero*, 1944. New York : Pocket Books, p. 211)

In the following example (21), we have two pairs of pronouns, *she / him* and *you / me*. None of these are potentially coreferential, the second pair is actually exophoric, but nevertheless, the second pair must be read with a double focus as well, just as in the examples above, and the verb is deaccented. Without this prosodic pattern, the utterance would be nonsensical. So, the general principle seems to be that the double focusing and deaccenting in these types of sentence marks the presence of an anaphoric verb and some kind of change in the referential status of the pronouns. This change can be an antecedent reversal, but it can also be a change from an anaphoric to an exophoric reading :

21. Unless she(i) happens to associate him(j) with  
something particularly unpleasant. As you(p) must  
me(q). Good God...’ (Ngaio Marsh, *Artists in Crime*.  
Harper Collins Publishers, 1994, p. 271)

Last, I want to emphasize that what is deaccented is not always context-dependent or ‘old information’. Prince (1981:227) discusses the above calling-and-insulting example and attributes anaphoricity to the deaccented *walked in* in the example below :

22. John called Mary a Republican and // then  
SAMwalked in // and they all started fighting.

She states that *walked in* must be ‘old information’ in the universe of discourse because it is deaccented. But she is wrong, for deaccenting does not always mean ‘old information’; we also have to see what the global construction is. The relevant clause in (22) has an intransitive verb and these constructions behave intonationally differently from those with, e.g., transitive verbs.

What the prominence pattern of *SAM walked in* expresses is ‘thetic’ or ‘event focus’, as opposed to ‘predicate focus’ (Ladd 1981; Lambrecht 2000). This sentence has an intransitive verb and is of the same type as those in (23) and (24) below (Schmerling 1973 ; Ladd 1985 ; Lambrecht 2000).

23.                                 Johnson                                 DIED.  
24. JOHNSON died.

(23) illustrates predicate focus and (24) event focus. In (23), *Johnson* is already context-dependent and the verb carries the nuclear accent and introduces the ‘news’, which is that what happened to Johnson is

that he died. In (24), *Johnson* is introduced for the first time to the present discourse model and thus the nucleus falls on it, and the death of Johnson as a whole is the news.

Since intonation is part of the linguistic form in a grammatical construction (Lakoff 1987; Fillmore, Kay & O'Connor 1988), I assume that this type of intransitive sentence has two basic, paradigmatically contrasting intonational patterns (Lambrecht 2000), each corresponding to a different contextual reading. This is what we find in other clause types as well, but in a transitive clause, for example, there is only one basic intonational type and several paradigmatically contrasting contours (Välímää-Blum 1999). Deaccenting is thus not always a matter of context-dependent or old information, but we also have to look at the global constructional properties. Thus, Prince's example illustrates event focus and the verb is not anaphoric.

## Conclusion

The grammar of English, just as the grammar of any language, includes constructions among its basic units, and intonation is one of their formal concomitants. In the minds of the speakers, the various lexico-grammatical units correspond to meaningful cognitive frames, which are schematic memory structures based on prototypes. Anaphora is not always a simple matter of a clear-cut coreferentiality of two expressions, but it may also be based on a complex frame. In frame anaphora, the antecedent is not explicit but is to be inferred from something else that *is* present in the context. Certain antecedent-anaphor relations may even need to be explicitly specified within the constructional semantics. Anaphor resolution may thus involve very complex cognitive constructs, which ultimately correspond to the grammatical structuring of human experience.

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