# Remarks on Arguments vs. Adjuncts

Peter Sells
Stanford University

## Introduction

This is an informal record of the (even more informal) remarks that I made at the Arguments Vs. Adjuncts workshop. The preceding presentations, which I am commenting on, have provided many stimulating ideas for thought and future research, but, as far as I have been able to tell, no one has come up with the ultimate answer to the question of arguments vs. adjuncts, and I include myself in those I am judging. Hence, I will try to talk about the relations between the different approaches to adjuncts that have been given here, and I am afraid that anyone hoping for a blinding flash of insight that makes everything visible and clear will find that I can only provide a very small amount of luminescence.

The responsibility for any errors of interpretation lies with me, and I apologize if I give less discussion to the Construction Grammar approach, which is entirely a function of the relative knowledge that I have of that approach compared to my knowledge of HPSG and LFG. I am grateful to Masayo Iida for help with the Japanese examples given below, and to Lars Hellan for help with Norwegian.

## 1. What Is Largely Agreed Upon

I believe that the presenters in this workshop have largely agreed on several points, laid out in (1) and (2); some of these were explicit in their presentations, other are my inference.

(1) a. The notion of adjunct (vs. argument), as opposed to the notion of a syntactic element in an adjoined position (hereafter: adjoinee).

b. A syntactic adjoinee could correspond to either an argument or an adjunct; conversely it is not necessary for an adjunct to be an adjoinee.

c. So, there is no necessary structural difference between arguments and adjuncts.

The conclusion in (1) is one obvious point of unity of all lexicalist theories, which by their nature are forced to posit non-phrase-structural representations of various aspects of linguistic information.

(2) a. There is no necessary morphological difference between arguments and adjuncts.

b. The same case markers can mark arguments or adjuncts.

c. The same adpositions can mark arguments or adjuncts.

d. No language specifically marks the argument/adjunct distinction, though there may be particular forms (e.g., comitatives) which only ever express adjunct meanings.

The observations here concern not the position but the form of arguments and adjuncts. I believe that (2)d is true, and it may be an interesting observation to have made.

The division between arguments and adjuncts is infamously difficult to draw (and we might ask, what's to be gained from it?), and in other contexts we seem to want to talk about argument-adjuncts and selected adjuncts and so on. There seems to be a cline of observed cases:

(3) a. obligatory participant

b. obligatory participant but only for a particular sense of V

c. optional participant

d. secondary predication on participant

e. eventuality modifier

Adjuncts are typically considered to be non-central to the expression of the verb's eventuality, and/or to be general augments to any verb/clause.

## 2. The View From HPSG

The simplest statement of how HPSG approaches adjuncts is this: adjuncts can show similar behavior to arguments, in many different syntactic respects. This is accounted for this by adding arguments to the relevant valence list (ARG-ST, COMPS, DEPS, etc.). For example, to account for scope possibilities in a Japanese causative as in (4), the structure of the HPSG analysis is as in (5).

(4) gakkoo-de hasir-ase-ta
school-at run-cause-PST

(5) a. Let the adjunct-adding rule apply before or after causativization of the root.

b. First option: *at school* is therefore a dependent of *run*, so when the complex causative verb combines with the adjunct, the adjunct's meaning is unified in at the level of the meaning of *run*.

c. Second option: *at school* is therefore a dependent of *run-cause*, so when the complex causative verb combines with the adjunct, the adjunct's meaning is unified in at the level of the meaning of *cause*.

Other relevant data types for HPSG include those in (6):

(6) a. Argument-like case-marking on adjuncts.

b. Similarity in extraction facts for arguments and adjuncts.

All these parallels are captured by both arguments and adjuncts being on the same list (whichever it should be, let's assume ARG-ST), so that the same principles apply to them. HPSG also suggests an account of the relative scope of adverbials, as represented by increasing obliqueness on the ARG-ST list.

There's a general moral here, in (7)a. Recognizing it leads to the question in (7)b.

(7) a. In some cases at least, adjuncts have to be visible at the same level of syntactic representation as arguments.

b. What is the 'grammatical level' at which this is represented?

HPSG has answered this question by presenting extended ARG-ST lists. Ivan Sag and several other HPSG researchers have worked on this matter quite extensively.

## 3. The View From LFG

Now in LFG, such augmentations of argument-structure (a-str) have not been worked on, as far as I know, in anything like the detail that they have in HPSG. Why? – it seems that this is because LFG has a different way of saying that arguments and adjuncts are encountered in the same domain, namely through the level of representation of f-structure.

For example, for the Japanese causative, we could assume that the causative verb projects a biclausal structure, as schematized in (8) (loosely based for example on Yo Matsumoto's work; apologies for the pseudo-LFG notation):

(8) a. The causative 'rule' puts two verb roots together, the first as an XCOMP subcategorized by the second, as shown in (b); and adjuncts are ambiguous as to where in the f-structure they unify, as in (c).

b.

| | | |
|---|---|---|
| hasir | + | ase |
| XCOMP's PRED = run<SUBJ> | | PRED = cause<SUBJ,OBJ,XCOMP> |
| | | OBJ = (XCOMP SUBJ) |

c. Let *gakkoo-de* be annotated as ADJ or as XCOMP ADJ.

This works as long as the f-structure can be motivated as biclausal. Presumably if the relevant level was determined to be a-str, similar 'uncertain' mappings of the adjunct into the structure could be formulated.

For case marking on adjuncts, the obvious tack is to use constructive case, as in Rachel Nordlinger's work, where properties of some element of the clause say something about the clause (at the level of f-structure).

Unbounded dependencies in LFG can either be expressed by downward functional uncertainty paths or by upward functional uncertainty paths emanating from null items/structure. In either case, arguments and adjuncts are in principle equally visible in the f-structure.

## 4. The View From CG

The CG view seems to be somewhere between the two above. Case assignment needs to refer to argument-taking heads (or is it constructional itself?), while unbounded dependencies could certainly be constructional. That is, for purposes of case marking on adjuncts, it may be that heads need to be selecting for them, as in the HPSG approach, while for unbounded dependencies, these can be defined as constructions overlaying/unifying with pieces of linguistic structure larger than the lexical head, and therefore pieces of structure in which arguments and adjuncts are equally visible.

## 5. Scope

Ivan Sag's presentation included the idea that the relative scope of adjuncts can be marked by order on the ARG-ST list, with the right theory of phrasal construction 'popping off' the adjuncts in the correct linear order. This is a very interesting idea which works nicely for English, and means that scope can be determined at the somewhat abstract level of ARG-ST. It works in English because the relevant adjuncts can be considered as VP-modifiers, and multiple adjuncts can be treated as adjunctions (adjoinees, in the terms from section 1) to multiple VPs. I would like to offer a word of caution to this approach in general; there are some cases of scope which correlate with order where it seems necessary to inspect the actual order of elements in the surface configuration.

Japanese provides one example, where linear order correlates with scope, as shown in (9), but where I know of no theory-neutral evidence that each adjunct is VP-adjoined, such that the examples in (9) could involve nested VPs.

(9) a. mare-ni tabitabi kuruma-o aratta
rarely frequently car-ACC washed
"The episodes of frequent car-washing were rare."

b. tabitabi mare-ni kuruma-o aratta
frequently rarely car-ACC washed
"The episodes of rare car-washing were frequent."

Norwegian provides another example. Abstracting away from V2, the Mainland Scandivian languages have a phrase structure rather like that of English, but crucially clause-internal adverbs cannot be VP-adjoined. The examples in (10) are all varieties of 'John had often washed the car seldom'—*bilen* is 'the car'.

(10) a. Jon hadde ofte vasket bilen sjelden

b. Jon hadde sjelden vasket bilen ofte

c. Jon hadde ofte sjelden vasket bilen

d. Jon hadde sjelden ofte vasket bilen

While not all of these are equally acceptable, the key scope fact is that the linearly first adverb has scope over the second. Hence (d) means that the episodes of Jon [often washing the car] have been seldom in their occurrence. This is similar to the facts that Ivan presented for English, but the analysis in terms of VP-adjunction cannot carry over. The reason is that any and all of these medial adverbs in Norwegian can be stranded without a following verb, as in (11).

(11) Jon skriver ofte.
Jon writes often

This fact about Norwegian is in sharp contrast to English, where the ungrammaticality of *... *but Max has never [...]* has been taken as strong evidence that English medial adverbs have to have an (overt) VP to adjoin to.

Hence, it seems likely that at least some cases of adverb scope will have to refer to linear order, or perhaps a notion of 'radiality' with respect to the verb (the further 'out' you are, the wider your scope).

## 6. Adding Adjuncts

Paul Kay's presentation in the CG approach discussed added path adjuncts vs. added setting adjuncts; the former appear closer to the verb (and its complements) in English, but should these be dealt with at V level, or dealt with at VP level? Either way seems to be available to CG. (Cf. Jackendoff 1990, 270ff., where (some) adjuncts are considered to be schematic VPs that unify with VPs headed with contentful Vs.)

In LFG, path adjuncts are likely to be XCOMPs, controlled by the relevant argument, where setting adjuncts are not. This might be enough to show the greater 'centrality' of the path adjuncts.

My expectation is that languages without much phrase structural hierarchy will show that path adjuncts are closer to V (or the controlling arguments) than are setting adjuncts.

Again the question here is whether we should be trying to express the intuition that path adjuncts are 'closer in' by some representation of that closeness, or just by a stronger involvement in the semantic part(s) of the representation.

## 7. Other Issues

Here are a couple of other issues that popped into my mind in responding to the previous papers.

Do the questions we have come to ask about adjuncts give us any insight on the question of whether adjuncts should be integrated by constructions or by lexical rules? I have not found any obvious critical data that comes from adjuncts; evidence is presumably more likely to come from specific languages, but we might get different evidence from different languages, leaving the issue as open as before.

We might also consider other reasons for explicitly relating adjuncts to extended valence, and such reasons would come from semantic considerations. For example, in LFG, the representation of adjuncts in f-structure is usually taken to be a set value of the attribute ADJ {X, Y, Z}, but this does not show how the semantics of X, Y, and Z are integrated into the semantics of the verb's eventuality and its participants. If some adjuncts were also related directly to the verb's meaning via argument structure, for example, this might give us a better way to represent how X, Y, and Z should be integrated semantically.

In fact, Jane Simpson discussed how complex predication can arise in a variety of ways, including via the contribution of adjuncts. Specifically for LFG, we need to ask the question of whether argument structure needs to have a representation for adjuncts, or will their representation in semantic-structure suffice? Jane suggested enriching argument structure to include conceptual information, and to allow some adjuncts into argument structure in order for them to be properly represented as co-predicators. Again the motivation for this is to get predication structures and semantic information right.

## Conclusion

[Exercise for the reader.]