

Under the Circumstances (Place, Time, Manner, etc.)

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## Under the Circumstances (Place, Time, Manner, etc.)

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1. The effort to produce (with Paul Kay) a coherent and complete statement of the construction grammar model has brought me back to many of the same issues that troubled me some thirty years ago.<sup>1</sup> One of these has to do with the proper treatment of adverbial elements, especially of the kind sometimes referred to as circumstantials.

The category of expressions showing up in some linguistic traditions under such names as *circumstant*, *circumstantial*, *circumstance*, goes back, terminologically at least, to a distinction made by the French Slavist, generalist, and typologist, and the founder of formalized dependency grammar, Lucien Tesnière, in his posthumously published *Eléments de Syntaxe Structurale* (1959). Tesnière distinguished what he called *actants* and *circonstants*, which I will render in English as *actants* and *circumstantials*. (p. 102) Actants are the parts of a sentence that designate the people and props that are necessarily present in the "little drama" (*petit drame*) that a verb represents; and the circumstantials are those expressions that correspond to stage directions, specifications of the time and place of the action, etc., for such little dramas. Tesnière identifies the circumstantials as those expressions in a sentence that designate "temps, lieu, manière, etc." (p. 103). This phrase "time, place, manner, etc." has been repeated countless times since then, to characterize what might or might not be seen as a natural class of adverbial notions. The "etc." in the phrase covers a great deal, making the search for coherence difficult, but adverbs of time, place and manner (and maybe one or two other types) do indeed seem to have special properties that invite us to think of them together.

The difference between actants and circumstantials is related, in Tesnière's view, to the notion *valence* (p. 238). The valence of a verb was taken to include just the actants, of which there could be at most three, corresponding more or less to subject, direct object, and indirect object (pp. 111-115). Of the actants there could be only three, but of the circumstantials there could be unlimitedly many.

In John Lyons' book *Semantics*, there is a section dealing with this same contrast where we read the following:

"the syntactic distinction between nominals and adverbials correlates, though only imperfectly, with the syntactic distinction between the subject or complements of a verb and its various adjuncts. This latter distinction also correlates, though again imperfectly, with a further distinction that is commonly drawn between the valency-roles or participant-roles, and the circumstantial roles associated with a situation. (. . .) If we are describing an action in English, we may tell our interlocutor not only who did what to whom (or what), but also when, where, how or why he did it. (. . .) These circumstances are normally referred to by means of syntactically optional adverbs or adverbials, whereas valency-roles are associated, in what we may take to be the kernel-sentences of English, with nominals (and, in certain instances, place-referring adverbials) functioning as the subjects or complements of the verb." (Lyons 1977, pp. 496-7)

In this passage Lyons identifies a number of important partially-correlated distinctions: the grammatical category distinction between nominals and adverbials; the grammatical role distinction between subject-&-complements on the one hand and adjuncts on the other; and the distinction between valence roles and circumstantial roles, illustrated as the semantically based difference between the who and the what on the one hand, and the when, where, how and why, on the other hand. And lastly, there is the distinction between the obligatory and the optional companions of given verbs.

We can add three more to this list of oppositions. First, there is a traditional distinction between **direct** and **oblique cases** for the familiar case languages; anciently the *casus rectus* was the nominative case and the term *casus obliquus* covered everything else, but there are also traditions in which nominative and accusative are the direct cases, everything else being classified as oblique. Secondly, there is an idea of the structural **core** or **nucleus** of a clause, comprising subject, direct object, indirect object, and directional complements, everything else constituting the **periphery**. And thirdly, in "frame semantics" it has been useful to have a distinction between adverbial elements that provide **frame-internal** information – information that fills in details of the internal structure of an event or process associated with the meaning of the predicator – as opposed to information about the setting or incidental attending circumstances of that event or process, the **frame-external** information. These latter elements have also been referred to as **extra-thematic**.

If we sense that, in spite of a great deal of non-correspondences, there is in some sense a single underlying distinction here, what we have is clearly a kind of **prototype** concept. In this prototype, or idealization, we find that certain components of sentences designate people and things, get expressed as nominals, show up as subjects and objects, get marked by nominative and accusative case in languages that do things like that, express meanings that fit directly into the semantic frame expressed by the verb, and are obligatory accompaniments to the verbs that govern them. The remainder are those parts of sentences that designate "time, place, manner, etc.", that show up as optional adjuncts, and are expressed obliquely, perhaps with the help of such subordinating and role-marking devices as prepositions and postpositions.

But that is the prototype: reality, as noted by Lyons, departs from this prototype in numerous ways. The non-correspondence between the expression of circumstantial meanings and optionality can be illustrated with verbs having obligatory place specifications, such as "live" in the sense 'reside' (1); verbs that require time specifications, such as "last" (2); and verbs that require manner specifications, such as "phrase" (3).

- (1) We live in Berlin.
- (2) The meeting lasted two hours.
- (3) He phrased his question clumsily.

Circumstantial meanings can stand in core grammatical relations to their verbs, as in (4), with "yesterday" as direct object; (5), with "three days" as subject, and (6) with "the room", marking the origin of a movement, as direct object.

- (4) I spent yesterday trying to fix the pump.
- (5) Three days elapsed before the package arrived.
- (6) She left the room hastily.

In fact, for each pairing of the distinctions we are considering – grammatical category, grammatical function, semantic role, optionality etc.– we could readily find examples, across a wide variety of languages, that show that they are not inter-definable.

2. My topic is not circumstance concepts in general, but circumstantial adverbs in languages that express such notions phrasally.<sup>2</sup> In the early days of generative grammar, students looking for research topics were wisely advised, "Whatever you do, stay away from adverbs!". The so-called "UCLA Air Force" grammar (Stockwell, Schachter and Partee, 1973), dedicated to collecting all of the most significant results in transformational grammar of the preceding ten years, apologizes for having very little to say about adverbs, for having only one slot for adverbs in their phrase-structure rules, and for pretty much limiting their discussion of adverbs to positive and negative preverbal adverbs like "often", "sometimes", "seldom", "hardly", "never", and the like.

In addition to a vast non-formalist literature on the functions, meanings and distribution of adverbs and adverbials in English<sup>3</sup>, there is now also a considerable body of technical literature on the semantics and grammar of adverbials within the various formal grammar traditions.<sup>4</sup>

A basic sorting of adverbs emerging from all such discussions divides them into classes according to whether they modify verbs, verb-phrases, or sentences: McCawley's parade examples are *completely*, as a verb-modifier, *reluctantly*, as a VP modifier, and *probably*, as a sentence modifier. This appears to be identical to the three-way distinction presented by Bally (1950, pp. 124f) where he presents three types of adverbial modification: *intrinsic*, referring to adverbs which qualify and quantify the meanings of the verbs or adjectives and *extrinsic*, referring to those which provide indications of *place, time, cause, condition, end, means*, etc. To these he opposes a third type, referred to as *modal*, including *certainly, perhaps, and not*.

It would appear that the V-modifiers might correspond to manner adverbs, and the VP-modifiers correspond to the others. The modal adverbs don't belong under the circumstances. There is a special class of adverbs discussed by Adrienne Lehrer (Lehrer 1975) that includes *stupidly, foolishly, cleverly*, etc. With these, the speaker assesses an actor's actions, sometimes as modal or sentential adverbs and sometimes as manner adverbs. Thus, in the intended meaning of sentence (7) what is judged to be stupid is merely the fact that the speaker answered the letter at all; but in sentence (8), the adverb is taken as characterizing a way of behaving, a manner.

- (7) I stupidly answered his letter  
(thus complicating my legal position).
- (8) You behaved stupidly at the party.

My own first concern with types of adverbs came as a reaction to Chomsky's 1965 *Aspects of the Theory of Syntax*, where we find a tentative phrase-structural base for a transformational grammar of English (1965, p. 102), reproduced as Figure 1

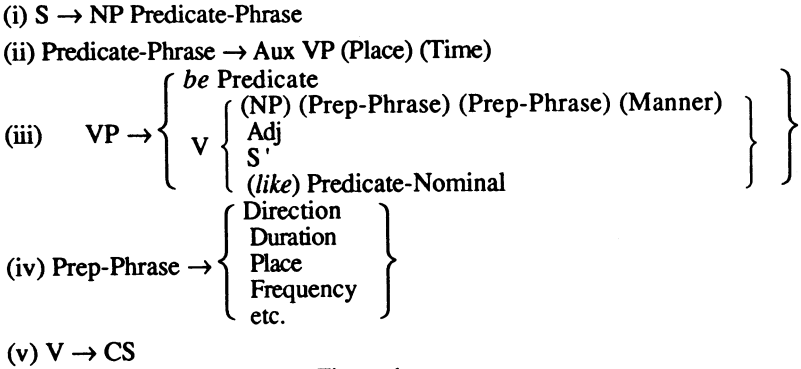


Figure 1

Problems with this particular set of rules with respect to the claims they make about how particular adverbs get introduced were carefully examined in a famous semi-published paper by Lakoff and Ross, around 1967, one of whose titles was "Why you can't do so into the sink."<sup>5</sup> Lakoff and Ross argued that direct objects, indirect objects, and directionals were properly inside the VP, and that everything else had to be handled with a very different mechanism.

In Chomsky's case it was the notion of subcategorization that put certain kinds of adverbs inside the VP. Adverbs of different types were introduced in different positions – inside and outside the VP node – depending on whether or not they participated in strict subcategorization. By examining the phenomenon of VP-replacement by "do-so", Lakoff and Ross came up with a completely different basis for making such a decision. In the case of manner adverbs in particular, it was from Chomsky's wish to show that certain English verbs were incapable of occurring with manner adverbs that this class of adverbs had to be introduced as structural sisters to the verb; but from the fact that manner adverbs may be external to "do-so" substitution ("and I did so deliberately"), Lakoff and Ross had to provide a means by which they could be external to a VP constituent (at some level).

My own concern with this set of rules was a bit different. I was puzzled by the role, in the formalism, of labels like Place, Time, Manner, Frequency, and the like. An important principle of Chomskyan linguistics from the start was that the grammatical functions of sentence components are secondary, derivative of configurational properties. According to this principle, there is no need to include in the theory of grammar, as theoretical primitives, such notions as **subject** or **object**, since the subject of a sentence is simply that single NP which is an immediate constituent of the sentence, and the direct object is that single NP which is an immediate constituent of the VP. The use of the non-categorical node labels we see in Figure 1 was a recognition, it appeared, that it isn't possible to create enough structural configurations to define all of the structural relations that are needed.

The practice of using semantically motivated labels in rewritings of the category Prep-Phrase brought with it a number of problems. First, it is not the node labeled "Prep-Phrase" which immediately dominates a phrase headed by a preposition, but one of these semantic-function labels; and those prepositional phrases that occurred outside of the immediate environment of the verb (i.e., those

introduced by rule (ii)) would not be dominated by a "Prep-Phrase" node at all. One could rewrite the grammatical category Prep-Phrase as any of several distinct semantically motivated labels, and then allow each of these to be further expanded as a preposition followed by a nominal. Thus, the category symbol Prep-Phrase could be rewritten as Directional, and that in turn could be rewritten as Preposition plus NP, yielding ultimately such expressions as "through its nostrils" or "into the ashtray".

The text surrounding and justifying these rules introduces the role of the **complex symbol** (the CS of rule (v)) and the notion of **strict subcategorization**, relating a verb (or any lexical head) to its partners within a verb phrase. An intransitive verb was simply a verb that could get along all by itself inside its VP; a transitive verb needed the company of a NP; and so on. Since some circumstantial notions do, and some do not, participate in verb subcategorization, this made it necessary to provide two positions for circumstantial adverbs: (i) those which participated in the subcategorization of a verb, the verb's **complements**, and (ii) those which served as **adjuncts** outside of the system of strict subcategorization. If you have doubts about whether some element of a particular sentence is a complement or an adjunct, you simply ask yourself whether it does or doesn't participate in the subcategorization of the verb it's somehow associated with. The reason we find the label Place twice in the formulas, once inside and once outside the VP, is because it is an obligatory associate of some verbs (e.g., *live* as in "Joe lived in London") but is merely an optionally licensed adjunct with others (e.g., *die* as in "Joe died in Paris").

Such talk gives the impression that the notion of subcategorization is itself uncontested. I will raise some questions about that later on.

3. Discussions of the various dependents and companions of verbs involve grammatical functions, structural configurations, morphosyntactic marking, and semantic roles. Linguists have disagreed about which of these sorts of notions should be taken as the starting point for making meaningful generalizations about the structure of sentences in languages. I played around in those days with the idea that the semantic roles should give us the place to start. What we needed to do, I thought, was to understand verbs according to the semantic roles that could be, or had to be, expressed around them, and that we should see an important part of the workings of a grammar as providing the means for giving expression to those entities.

For Chomsky's rules it appeared that we needed semantic labels for everything surrounding a V or a VP except subjects and objects. Since verbs even had to be subcategorized according to their compatibility with particular semantically-typed complements – in particular, place, time, and manner – it was obvious that at some level at least it was necessary to regulate the operation of a grammar by referring to such notional categories. Since, furthermore, everybody knew that subjects and objects could have interestingly different kinds of relations to their verbs as well – some sentences expressed what some actor did, some expressed what some undergoer underwent, or what some experiencer experienced, while others expressed simple states or happenings – I came to the conclusion that it might be possible to construct a grammar in which we started out with semantic-role specifications of all of the arguments of valence-bearing words, not just the adverbial constituents, and then looked for rules that determined how one built up the kinds of structures that had subjects and objects. This, some of you will know, and a few of you will remember, was the origin of **case grammar**, so-called. A

central idea of case grammar was that there was a separate mechanisms for providing syntactic realization for semantic role notions.<sup>6</sup>

Superficially<sup>7</sup>, the differences separating Chomsky 1965 from the emerging **generative semantics** model and the case grammar model can be summarized as follows. The generative semanticists limited themselves to primitive phrase-structural configurations, expressing a wide range of argument relations with abstract predicates like *DO*, *BECOME*, *CAUSE*, etc., and less abstract predicates like *IN*, *UNDER*, *DURING*, etc. They had no need to give semantically-motivated labels to nodes in a constituent-structure representation since all such relations were provided lexically, in deep structure.<sup>8</sup>

Case grammar used a large inventory of role names for the semantic roles, dealing with the primary grammatical functions in terms of a level-to-level mapping that arranged for the selection and structuring of subjects and objects. The "cases". in the form of a partially-ordered list, and the ways in which given clusters of them were tied to specific predicators, took the place of selection restrictions, strict subcategorization, as well as devices for licensing of potential circumstantial elements. An undeveloped structural distinction between sentence parts called **proposition** and **modality** were available for one level of scope asymmetry, but in general little thought was given to such problems.

But the Aspects model used a mixed notation, with grammatical-category names for some sentence constituents and semantically motivated labels for others, as seen in the rules copied in Figure 1.

As we have seen, the Aspects grammar introduced adverbs at two different levels; the generative semantics model made it necessary to introduce adverbs one at a time, so to speak, since each one needed a sentence-level constituent as its only argument, in the case of Place and Time adverbials, or as one of its arguments, in the case of Manner adverbials; and the case grammar model distinguished the case inventory, which provided a list of possible semantic role names, from the case frames of individual verbs, thus separating the necessary from the optional complements of the verb. (It was assumed that incompatibilities could be ruled out by semantic considerations.) An embarrassment for generative semantics was that multiple adverbs in a single sentence had to be located in a way that showed asymmetric scope relationships, whether these were semantically justified or not.<sup>9</sup> An embarrassment for case grammar was that there was no obvious structural way to show scope relations between sentence elements when the semantics of the sentence required such relations.

4. Another embarrassment for case grammar was the inability of its practitioners to answer the question of how many such semantically-motivated sentence elements there were, how their differences could be justified, and so on. In considering circumstantials in particular, from a cross-linguistic point of view, there are various questions we need to ask. One is whether it makes sense to look for a universal language-independent set of circumstantial notions. It would be convenient if we could, because that would justify and make respectable certain ways of comparing the expression of circumstantial notions across languages. In Foley's study of the case systems of Papuan languages (New Guinea) he begins by identifying a particular set of notions and then lays out the ways in which these notions are reflected in case-marking differences among these languages (Foley 1986, pp.96-99). Foley recognizes the notions **instrumental**, **cause**, **location**, **ablative**, and **allative**, and sorts the languages in the Papuan group according to

the ways in which these notions are encoded: one language encodes all of them with a single case ending, one provides separate case endings for each one, and the others group them morphologically in various combinations. The result of such a survey offers nontrivial suggestions for understanding the nature of certain kinds of linguistic change among these languages.

In creating our list of universal circumstantial categories, we can probably assume that whenever we find one language displaying a particular distinction, we can consider the notions thus distinguished as belonging to our collection. Thus we will wish to make a distinction between frame-internal location and event-setting location from the fact that Korean uses different case postpositions for marking them: the distinction between the location expressions for cooking a chicken in a pot and cooking a chicken on the patio.<sup>10</sup>

On the principle that whenever types of sentence constituents are distinct from each other, you get at most one instance of each type per clause, we might conclude that when we find more than one type in a given sentence, the two should be separate entries in our list rather than being variants of the same type. Thus, with respect to time, we need to distinguish temporal extent from temporal location, as seen in (9).

- (9) I worked [for three hours] [yesterday].

Such considerations lead to the discrimination of a wide range of adverbial notions connected with space (simple location, origin, destination or path of movement, distribution, distance, etc.) and time (extent, location, starting point, ending point, frequency, etc.).

If we can demonstrate a clear ambiguity in the interpretation of some circumstantial expression, we conclude that we are dealing with two separate notions, and we might expect them to be realized in distinct ways in some languages. A rule of thumb for understanding the circumstantial concept of Manner is that it is something which answers the question "How?". But actually the word "how" incorporates Means as well as Manner. I like to illustrate the difference between means and manner by referring to a question/answer joke form that was current ten or fifteen years ago, in which the question was something like (10a) and the answer was always (10b).

- (10a) How should you lift a python out of a trashbin?  
 (10b) Very carefully.

The joke turns on hearing the question as asking about the *means* by which one can accomplish this task, and hearing the answer as saying something about the *manner* in which this action should be carried out.

I am convinced that at some level we do indeed need to make all the distinctions that have been discussed, and many more. These distinctions are needed because they figure separately in giving semantic descriptions of verb meanings, because there are frequently clear ordering relations that hold among them, and because they enter into incompatibility relations with each other that are going to require formulation in terms of failed unification.

5. I suggested a while ago that the notion of strict subcategorization is in need of some clarification. Here is an example of a potential problem. Some verbs that

speak of something moving, or being moved, into a place, can be modified by adverbs that give information about the amount of time the thing remains (or is to remain) in that place. Notice the effect of the temporal adverbs in sentences (11) and (12):

- (11) She went to Estonia for a year.
- (12) We put the wine in the freezer for 30 minutes.

The phrases "for a year" in (11) and "for 30 minutes" in (12) do not give information about the time of the going or the putting, but about the time of remaining at the destination of the going and the putting. What shall we say about these examples? Shall we say that *go* and *put* (and countless other verbs of simple and caused translational motion) have different senses according to whether or not they welcome a time-extent phrase? Or shall we say that there is a grammar-independent interpretation principle that derives, say, a 'storage' meaning of *put* from a context in which it is modified by a temporal extent adverbial? Is such a permanent or contexted extended sense to be seen as resulting from a kind of event-metonymy, whereby going somewhere is a part of an act of going there to stay, putting something somewhere is a part of an act of keeping it there for a period of time? How does our initial understanding of strict subcategorization help us make these decisions?

With respect to event metonymy, we could consider the (perhaps clearer) case of the verb *write*. Compare sentences (13) and (14).

- (13) I've written the final chapter.
- (14) I've written a letter to the chancellor.<sup>11</sup>

Writing involves producing written text of some sort, in both of these examples, but in (14) we find a directional adverbial, "to the chancellor". What business does a directional adverbial have modifying a verb that means 'to write'? Is this an optional adjunct, or do we have here a separate entry for *write* that is specialized for letter-writing. The reason this case is clearer, I think is that we can call on a sort of "ambiguity test" to resolve the question. Ordinarily one doesn't simultaneously affirm and negate the same verb in the same sense, but it is easy to imagine a harried dissertation-writer who has been reprimanded for neglecting the family back home producing a sentence like (15).

- (15) I don't write because I'm too busy writing.

In many cases we can find clear differences of syntactic behavior and semantic scope evidencing clearly different functions for the same adverbial phrase. Consider the following sentences:

- (16) They sent people to Siberia for twenty years.
- (17) For how many years did they send people to Siberia?
- (18) For twenty years they sent people to Siberia.
- (19) How many years did they send people to Siberia for?

We can imagine sending someone to Siberia as a form of punishment, the length of the banishment corresponding to the severity of the crime. Sentence (16)

is ambiguous in being able to express either that the punishments in the case being reported involved twenty-year sentences, or that the practice of exiling people to Siberia continued for a twenty-year period. In one of these cases the temporal expression is frame-internal; in the other case it is frame-external. We might wish to say that in the former interpretation, "for twenty years" is a complement (belonging to a class of expressions that might include "for life"), and that in the latter interpretation it is an adjunct. There are certain (imperfect) distributional traits that parallel the difference in status between complement and adjunct.

Sentence (17) is also ambiguous, corresponding to the fact that sentence-initial position for full phrases is available for both complements and adjuncts if the phrases are interrogative.

Sentences (18) and (19), however, are not ambiguous (according to the majority of my informants), and each invites a different interpretation. Sentence (18) is an instance of a topicalized adjunct and hence refers to the length of time during which the practice of sending people to Siberia continued; sentence (19) is an instance of "WH-Extraction", has only the interpretation that the speaker is asking about the terms of the exile, and fits the (imperfect) generalization that while extraction from complements is possible, extraction from adjuncts is not.

Now these observations seem to support these principles, but our question is whether we need to speak of the difference in terms of those principles. After all, sentence (20) and (21) are both acceptable, and considering what was noted earlier about their two verbs, one of them looks like extraction from a complement and other extraction from an adjunct.

- (20)        What town did he live in?  
 (21)        What town did he die in?

In any case, the simple question of whether a time-span phrase is "optional" for a verb like *send* involves us quickly in a complex net of reasoning. A brute-force way of dealing with such phenomena in my own work just now is to assign the grammatical function *oblique* to the frame-internal circumstantials and *adjunct* to the frame-setting circumstantials and to expect the syntactic consequences to be sensitive to such a distinction, rather than a distinction in structural form.

6. In the Construction Grammar model<sup>12</sup> we have made certain assumptions about the proper way to treat certain classes of adverbs. We assign to each verb (or verb sense) in a language a **valence description**, offered as a set of the argument types that are most tightly associated with the verb's meaning. This set is projected into a similar bit of information structure tied to the verb-phrase, and ultimately to a clause as a whole, which covers all of the licensed elements of the clause, including those required by the head verb, but also including other optional, adverbial elements which are introduced as arguments to the valence set that comes pre-packaged with the verb. Since some adverbs appear to modify parts of the structures of semantically complex verbs, anyway, we don't have to assume from the start that the compositional properties of expressions with multiple scopal adverbs have to be accounted for in purely structural terms.

We are in general proposing an essentially flat structure for a verb and almost all of the (non-subject) phrases that can go with it, and that means that we have to do some serious worrying about the arguments others have given in favor of highly structured configurations for adverbs, configurations in which at some

level each adverb takes an entire verb-phrase, or perhaps an entire clause, as one of its arguments. This includes both the "higher predicate" analyses of the generative semanticists, and the unlimitedly nested V-bars of certain other systems.

Those who propose complex structures for positioning adverbs have two kinds of motivations. One of these is to be able to account for certain facts of syntactic mobility: for example, if certain kinds of adverbial phrases are seen as positioned outside of the VP, that makes it easy to understand why they can appear in front of the VP as well as sentence-finally. They have the same structural relation to the rest of the VP in either case. A second motive is to provide for compositional means of interpreting sentences containing more than one adverb, especially for cases in which the two adverbs can have different semantic relations to each other in terms of scope. It's my impression that some such arguments are valid and others are not.

Much of the evidence in arguments about scope is evidence about constituent order, or with the positions in which adverbs can be inserted into a sentence. In considering questions of constituent order, there appear to be certain arbitrary ordering principles, such as the kind which dictates a general preference in English for place indications to precede time indications. Compare (22a) with (22b).

- (22a) She worked in the office this morning.  
(22b) ?She worked this morning in the office.

The difference here appears to be one of preference rather than grammaticality.

Some problems of the positioning of adverbs appear to be specific to certain words or certain phrase types. In reading through various accounts of adverb positions recently, I was struck by the frequency with which words meaning 'yesterday' figure in such discussions for French, German and English.

In comparing such sentences as (23)-(26),

- (23) John soon will leave for Detroit.  
(24) \*John tomorrow will leave for Detroit.  
(25) John recently left for Detroit.  
(26) \*John yesterday left for Detroit.

McCawley (1983, p. 280) observes an apparently arbitrary positional requirement on the words "tomorrow" and "yesterday". McCawley relates this to a principle according to which PPs do not occur in front of verbs in English (Jackendoff 1977, p. 73). He proposes to fit these facts into that same generalization by declaring "tomorrow" and "yesterday" to be honorary PPs. I think this may not be the best explanation. We noticed that (22b) seemed to be merely dispreferred over (22a); but if the time adverb were "yesterday" our rejection would be stronger, I believe. Notice (27).

- (27) \*She worked yesterday in the office.

There are no constraints on placing preposition phrases *after* a verb.

Charles Bally (1950, p. 74) finds pragmatic reasons for ordering sentence elements in French based on the special communicational effect of putting something in the accent-bearing sentence-final position. To illustrate this point, he compares (28) with (29).

- (28) Je suis allé à Paris *par avion*.  
 (29) Je suis allé par avion à Paris.

In (28) going to Paris is taken for granted and information about the means of travel is being introduced; in (29) the means of transportation is taken for granted and it's the destination that's being emphasized. But then Bally adds that there appears to be a constraint against positioning certain words in accented position, however much you might want to. This is true, for example, of *hier*, 'yesterday':

- (30) \*Je suis allé à Paris *hier*.

In this case, a decision to classify *hier* as a preposition phrase won't help us: preposition phrases are not blocked in clause-final position.

The Helbig/Buscha grammar of German has a large section on how the negating adverb *nicht* gets positioned in a German sentence relative to various other parts of a VP (1980, pp. 459-467). We learn, for example, that if a temporal adverb is expressed as a preposition phrase, either order is possible.

- (31) Er besucht mich am Abend nicht.  
 (32) Er besucht mich nicht am Abend.

In the case of *gestern*, "yesterday", however, *nicht* precedes: we get (33) but not (34). Here, too, classifying the trouble-maker a preposition phrase won't help.

- (33) Er besuchte uns gestern nicht.  
 (34) \*Er besuchte uns nicht gestern.

If we were merely concerned with the positioning of circumstantials, one at a time, within other structures, we would have to recognize both that there are certain generalizations that each language offers, but also that there appear to be numerous arbitrary constraints. But more serious questions arise when we see what happens when we try to put two or more circumstantials in the same sentence and the interpretation varies depending on which comes first.

Semantic scope differences are sometimes claimed to accompany different orderings for adverbs, but to understand the significance of these discussions we have to be clear about the difference between (i) the logical structure of the sentence and (ii) matters of accent and emphasis of the sort suggested a moment ago for French. McCawley sees the following two sentences as justifying stacked or nested structures for English, structures in which the final adverb modifies the entire remainder of the sentence:

- (35) I can do it on a typewriter in 10 minutes.  
 (36) I can do it in ten minutes on a typewriter.

The first version is supposed to suggest that as far as doing it on a typewriter is concerned, all I need is ten minutes; the other is supposed to suggest that as far as doing it in ten minutes is concerned, I'd need a typewriter. But are these differences truly scopal? Clearly both sentences end up claiming that I can do this work within a ten-minute period using a typewriter. We could easily justify a claim about the pragmatics of English sentences that the end of a sentence can serve as

focus position whenever the speaker says something for which the remainder of the sentence alludes to some **context proposition**.<sup>13</sup>

But the same function can be satisfied by other means, not involving order, as well. Thus, an appropriate answer to question (37a) could be (37b), and an appropriate answer to (38a) could be (38b).

(37a) How long will it take if you do it on a typewriter?

(37b) I can do it in TEN MINutes on a TYPEwriter.

(38a) Could you do it in ten minutes?

(38b) I could do it on a TYPEwriter in ten minutes.

What these observations are taken to mean is that here we are not strictly dealing with questions of adverb scope, but of relating, pragmatically, a present utterance to a spoken or understood context proposition. There happen to be these two ways of identifying focused information in English: in sentence-final position, as with McCawley's examples, or internally, with heavy accent, as with my examples.

Some linguists speak of an intuitive notion of relative scope of modification. Zellig Harris issues the principle: "When a verb has two or more adverbs ... on it, each modifies the verb as already modified by the nearer adverbs." (Z. Harris 1982, p. 308) He uses the example shown in (39a), noting that the order can be reversed if interrupted by a comma, as in (39b).

(39a) He spoke quietly later.

(39b) He spoke later, very quietly.

In both cases, of course, his speaking, which took place later than some contextually given reference time, was in a low voice. But voice volume is clearly frame-internal for speaking, and temporal location is frame-external, and it is common to have frame-internal elements follow more closely on the verb than frame-external elements. A similar point can be made regarding preverbal and postverbal adverbs, for which Harris offers the examples (40a) and (40b). (p. 310)

(40a) He frequently drives slowly.

(40b) \*He slowly drives frequently.

I am not convinced that the difference between frame internal and frame external elements should be thought of in terms of logical scope. In a sentence like (41), it is not even clear that the more distant element is less integrated into the "talking" frame.

(41) He spoke quietly about his childhood.

The Avery Andrews examples (1983), designed to justify the need for "nested VPs", are more convincing.

(42a) John knocked on the door twice intentionally.

(42b) John knocked on the door intentionally twice.

For these sentences too we could still say that there were in fact two intentional door-knocking events, but that would miss out on an important interpretational difference. The first tells us that John had the intention to perform two door-knocking acts; in the second case, the meaning is that two of the possibly numerous door-knocking events that John took part in were deliberate.

My interpretation of these observations is that we are not merely dealing with a general problem of adverb ordering, or even with any requirement that adverbs in general need to be introduced as modifiers of (potentially nested) V-bars, but rather, that in some cases we have a special construction. It is my impression that the adverb orderings we see in the (42) examples are not merely instances of the left-to-right ordering of elements in a flat structure, but are instead evidence of a special construction allowing further adverbial information to be added at the end of a VP, supported by my feeling (I hope there is more to it than that) that in both cases "comma intonation" is natural between the two adverbs. (Somewhat in the manner of (39b).)

The "special construction" I have just suggested might have exactly the same form as the kind of V-bar modification Andrews has in mind; but the difference is that in the Andrews view, all instances of adverbial modification require such a device; in my view, there are sister-ordering possibilities within a VP for the ordinary cases.

7. I do not find in the behavior of circumstantial adverbs convincing reasons for abandoning a theory in which their appearance in a VP is essentially "flat". For such a theory we need valence sets for verbs, reflecting the core elements of the verbs' frames, and we need mechanisms for augmenting valence sets "in the lexicon" for a large number of regular and perhaps a small number of grammaticized irregular cases, sometimes incorporating circumstantial information as complements.

We need mechanisms for projecting the valence set of a verb into the complement set of a VP, and we need context-sensitive ways of allowing any of a large number of circumstantial adjuncts to be added to sentences. Circumstantial adverbs that directly fit the semantic frame evoked by a verb (the "obliques") will in general precede those that are frame-external (the "adjuncts").

And we need, I think, at least one construction which provides a place for an adverb as a left sister of a VP which will have scope over all of the adverbs in that VP, and possibly one construction which does the same at the end of a VP.

Some ordering principles will recognize the difference between complements and adjuncts, and some will relate to features of discourse.

It seems to me, now at least, that the features that Arnold Zwicky (in his contribution to this volume) has outlined for a properly defined construction grammar are compatible with a theory that allows relatively flat structures for adverbs, at least for the circumstantials.<sup>14</sup>

#### Notes:

1 Given the occasion at which this paper was read, I hope I can be forgiven for its personal and old-man's-reminiscences tone.

2 There is a class of head-marking languages that express notions of manner, location, destination, etc., morphologically, inside the verb-sentence. On the nature of one such language, and on the typology of means of expressing circumstantial notions, see Talmy 1972, 1985.

3 Representative studies of adverbs (single-word adverbials) are Jacobson (1964) and Greenbaum (1969); perhaps the most complete description of the semantic varieties of adverbials is found in chapter 8, "The semantics and grammar of adverbials", of Quirk et al., (1985) pp. 475-653.

4 Representative studies are Lakoff and Ross (1976), McCawley (1983, 1991), McConnell-Ginet (1982), Thomason and Stalnaker (1982).

5 The paper is reprinted under that title in McCawley (1976). It was printed in Report NSF-17 of the Aiken Computation Laboratory of Harvard University, under its polite title "A criterion for verb phrase constituency".

6 See, e.g., Fillmore (1968, 1969, 1971). Related notions, unknown to me at the time, appear in Gruber (1965). Some scholars believe that current work in theta theory and associated principles of linking show an influence from case grammar.

7 The hedge "superficially" is in recognition of the fact that while the generative semanticists used (at first, anyway) phrase-structural representations of familiar sorts, their motivation was, of course, to start out with what they believed represented the semantic structure of a sentence.

8 Most of the generative semantics work that I paid attention to, when it was all happening, was unpublished. Rather than try to identify the major publications, I refer the reader to the discussions and references in McCawley (1976) and R. Harris (1993).

9 That is, if a sentence had adverbs specifying both spatial and temporal locations, one of them would have to have the other in its scope.

10 Personal communication, Jeong-Woon Park.

11 The structure I have in mind is equivalent to what one would find in "I've written one to the chancellor". In other words, I do not intend "a letter to the chancellor" to be read as a single constituent.

12 Information about the model will eventually become available in Fillmore and Kay (forthcoming) and Kay and Fillmore (forthcoming).

13 On **context proposition** see Fillmore, Kay and O'Connor (1988).

14 There is no doubt that the semantics of grammar will need to provide clear logical scope asymmetries for interactions between negation, quantifiers, and circumstantials. I do not have a ready-made proposal for how such matters are to be handled in a monotonic non-derivational theory.

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