

# CONSTITUENTS

Torben Thrane  
[Aarhus School of Business]

## 0. INTRODUCTION

Determination of constituent structure is the foundation of syntactic statements. Analytic methods to determine constituent structure include tests for movability, deletability, coordinability, etc., but introductory textbooks generally warn their readers that such tests are not always reliable. Even so, in scholarly works in the field, the determination of constituency is usually taken for granted and is seldom the subject of special attention. I want to pay special attention to it here, focussing on the classical structuralist distinction between obligatory and optional constituents.

## 1. BACKGROUND AND BASIC ASSUMPTIONS

There are two influential and fairly well-entrenched positions on the study of language, formal and functional. Somewhat roughly, the former takes the view that language is a formal system the proper study of which is independent of any use we make of it. The latter takes the view that language is a tool for social interaction and communication, claiming that the proper study of language must take note of what we use it for.

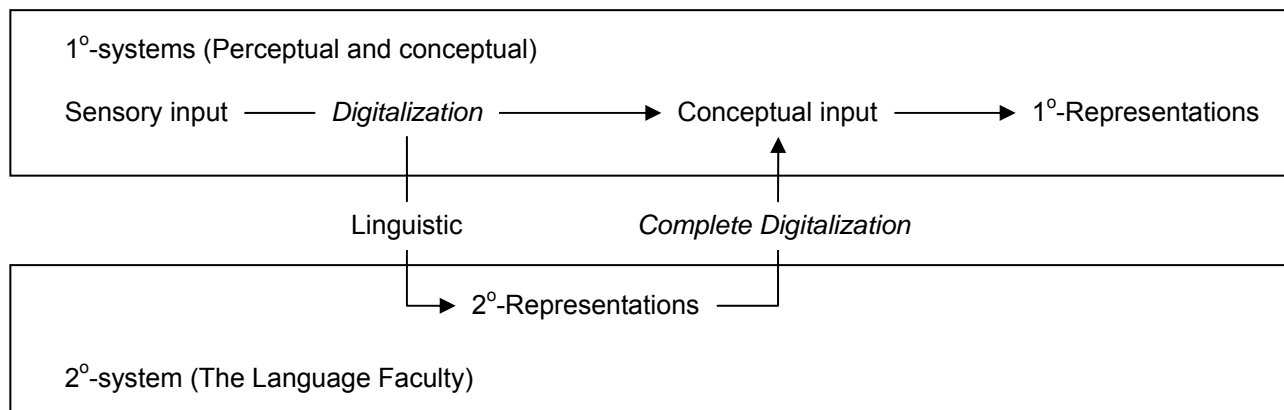
The position I want to take is the middle ground between formalism and functionalism. While accepting that language is a formal system, I turn around the functional approach as characterized above. Instead of what *we* use language *for*, the proper functional question should be: *What does language use us for?* From this position, languages are special kinds of *representational systems*, systems whose function – through evolution or design – is to carry information about something *distinct from itself*. I call this foundational property of representational systems the *Principle of Functional Displacement*. The thesis behind this position – *The Extended Representational Thesis* – has three clauses:

- 1 a. All linguistic facts are mental facts
- b. All mental facts are representational facts
- c. All representational facts are facts about informational functions

The second and third of these form Dretske's (1995) *Representational Thesis*. The reason for my extension is to be able to circumscribe a subset of facts about language as the proper field of linguistics (as opposed to philology, semiotics, and other areas of inquiry into language), for not all facts about language are mental facts.

Two properties make languages special kinds of representational systems. The first is the fact that they have *syntax*. I follow Bickerton (1990) in regarding such systems as *second order* ( $2^{\circ}$ ), as opposed to perceptual and, *pace* Fodor, conceptual systems, which are *first order* ( $1^{\circ}$ ) *systems*.  $2^{\circ}$ -systems generate  $2^{\circ}$ -representations, that is, representations of linguistic structure. In virtue of the Principle of Functional Displacement, the *functional* information they carry is not about *linguistic* structure, but about *situational* structure. Such structures are  $1^{\circ}$ -representations, representations generated by  $1^{\circ}$ -systems of perception and cognition based on information from input classified by the perceptual system as non-linguistic.

The second property to characterize the language faculty concerns the distinction between digitalization and *complete* digitalization. I'll return to these notions in more detail in section 3 – and see Dretske (1981) for in-depth discussion. A stylized model of the division of labour between 1°- and 2°-systems looks like this:



Such an arrangement of co-operation between different orders of representational systems accounts for various intriguing facts: the fact that the interpretation of linguistic input requires information from two sources, one from the signal itself, one from the situational context; the fact that all interpretation is grounded in a default utterance situation which establishes an abstract system of temporal and spatial co-ordinates; the fact that we can speak about what we see (Macnamara's puzzle), to mention a few.

The box around “2°-Representations” corresponds to the current generative conception of the Language Faculty, and the arrows leading into and out of it – here only shown for the interpretive process – to its two interfaces, phonetic and conceptual. The box is supposed to be the locus of a step-wise series of representations of various aspects of linguistic structure. The aspects of concern here are those dealing with syntactic representation in the widest sense. These, again, I take to be substantially equivalent to the three domains of derivation in generative grammar, CP, IP, and VP. However, given the overall representational approach taken here, I consider them not to be organized in the standard, derivationally motivated, manner of one coherent structure. Specifically, I consider the VP domain as the locus of hierarchical and non-linear argument selection – the focal point of this paper. The CP domain determines Information Structure in the sense of Lambrecht (1994), essentially linearization, topicalization, subject/object choice, and various other matters usually handled by movement, while the IP-domain anchors the output from the CP and VP-domains in a temporal and spatial matrix with a deictic centre established by the utterance itself.

Finally, a note about meaning and compositionality. I consider linguistic meaning to be that property of language in virtue of which it carries information for the construction and manipulation of 1°-representations. Meaning is instructions for cognitive action, call it *semantic constructivism*.

Semantic constructivism is based on four propositions about meaning:

- 2 a. Natural language expressions have *semantic effects* on 1°-representations in virtue of carrying conventional meaning
- b. The semantic effect of a complex expression is a function of the semantic effects of its parts, plus the semantic effects of the structural rules by which it is composed.

- c. The semantic effect that a linguistic item has in virtue of being a carrier of *structural* meaning is *always* the same. This I call the principle of *uniformity of semantic effect*.
- d. The semantic effect that two linguistic items, A and B, have in virtue of carrying *lexical* meaning is *never* the same. This I call the principle of *conceptual discrimination*.

So much by way of introductory background and assumptions. In the next sections I'll discuss what consequences these views have for the traditional notion of constituency.

## 2. THE OPTIONALITY CLAUSE

In connection with a highly critical assessment of the standard generative model, Kornai & Pullum (1989) identifies six clauses which define X-bar theory, one of which is relevant to our discussion of argument structure. It follows from the assumption that all constructions are endocentric – a maximal projection may consist of its head alone. Informally, the optionality clause says that '*non-heads are only optionally present*'. This is a clause that in later developments of GB/PP (Bare Phrase Structure, Derivation by Phase, Minimalism) has been partly concealed by claiming that only 'necessary' structure is projected. A related distinction (since Tesnière's (1959) distinction between 'actant' and 'circonstant') is that between argument and adjunct, further developed in various valency-theoretic approaches (e.g. Allerton, 1982; Schøsler *et al.*, 1995-98), and which in GB/PP forms the basis of the distinction between A- and A'-positions. To all of these it is important to be able to distinguish constituents which from a traditional structuralist viewpoint *must* be present in a sentence from those that *may* be present.

The structuralist procedure to determine whether a constituent is obligatory or optional is mechanical and apparently very simple:

- 3 *The constituent C is obligatory in construction S iff the residue R after deleting C from S either (i) does not have the same distribution as S, or (ii) is not a construction at all (i.e. is 'ungrammatical' or 'incomplete').*

Associated with this method is a – usually hidden – assumption that  $R = S - C$  in terms of linear order; removal of C leaves a 'gap' in S. But although it is simple, the procedure is not backed by uniform motivations. Consider the sentences in

- 4
- a. **John** smashed **the dresser**
  - b. The party lasted **all night**
  - c. John turned the radio **on**
  - d. They danced **all night**
  - e. John said **that they danced all night**

All of these are finite clauses, S, so according to the mechanics of the deletion procedure, if R, the residue after deleting C from S, is a finite clause, C is optional, otherwise obligatory. Following the procedure we get the distribution of obligatory and optional constituents shown in (5) – disregarding the lexical verb, which is constitutive for clauses:

- 5 *Obligatory*
- a. [John], because  $R = [*smashed\ the\ dresser]$  is not a grammatically complete clause
  - b. [all night], because  $R = [*the\ party\ lasted]$  is not a grammatically complete clause
  - c. [that they danced all night], because  $R = [*John\ said]$  is grammatically incomplete

### Optional

- d. [the dresser], because R = [John smashed] is itself a clause
- e. [on], because R = [John turned the radio] is itself a clause
- f. [all night], because R = [they danced] is itself a clause

Back-up motivations, however, would be that [John] is obligatory because it functions as subject and all finite clauses need one; that [all night] in (4b) is obligatory because it carries the thematic role of DURATION and [last] selects a complement carrying a temporal thematic role; and [that they danced all night] is obligatory because it is of category CP and [say] selects a complement in the form of a CP. So it is not the constituents *as such* which are obligatory, but rather the constituents as carriers of particular syntactic and semantic functions, or as members of particular categories.

Turning to the constituents classified as optional in (5), they divide with (d,e) on one side, (f) on the other, but for semantic rather than mechanical reasons. Whereas the S of (4d) entails the R of (5f), the same doesn't hold of the pair S and R in (4a) and (5d), nor of the one in (4c) and (5e). Such facts do not usually lead to revision of the mechanical procedure, but rather to explanations in semantic or taxonomic terms, hinging on the interface between homonymy and polysemy for the former pair, on the interface between lexical morphology and syntax for the latter. But to claim that there are three homonymous lexical verbs [smash], or that [smash] is either transitive, unaccusative<sup>1</sup> or unergative, is to beg the question. Interpretation is fast and on-line and likely to be guided by the syntactic *potential* of lexical items, not by scholarly classification. Much the same goes for the pair of S in (4c) and R in (5e). Claiming that we have two lexical items [turn] and [turn on] may be the right procedure for lexicographical classification. But for interpretation, the presence vs. absence of [on] makes a world of difference, a difference I attribute to syntax rather than lexis.

Given these reservations towards the classical procedure, I'll suggest a new one that takes traditionally semantic factors into account. But before that I need to be more explicit about the notions of (complete) digitalization, situation and 1<sup>o</sup>-representation briefly introduced in section 1.

### 3. SITUATIONS

In much work on verbal syntax and semantics, the term 'situation' is used as the superordinate for 'state', 'event', 'process', 'act', 'action' and perhaps other terms denoting particular perceived types of organization for a subset of non-linguistic entities. According to this usage, situations are complex non-linguistic states of affairs that we can use language to talk about. However, the very subsummation of a section of visually perceived reality under the term 'situation' presupposes considerable cognitive effort – the distinction between figure and ground, inclusion and exclusion of entities and properties, identification of part-whole relationships, recognition of particular types of relationships between entities, recognition that precisely *this* relationship is constitutive for *this* section of reality as a situation, etc. etc. – all of it the result of a high degree of digitalization of visually perceived information, where *digitalization* in essence means 'throwing non-functional information away' (Dretske 1981:ch. 6). The point is that the very concept of situation presupposes representation – of the first order. From the point of view of the speaker, a sentence is a verbal description – not directly of a real-world state of affairs, but of his *1<sup>o</sup>-representation* of a state of

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<sup>1</sup> The unaccusative version of [smash] is perhaps better appreciated with a subject NP marked as [-HUMAN]. *The dresser smashed* should make it clear. Otherwise I take it that other intransitive (unergative) uses of [smash] help create 1<sup>o</sup>-representations of situations involving representations of (tennis) raquets.

affairs. Whether it actually *is* a description of a state of affairs depends on his veracity.<sup>2</sup> From the point of view of the listener, a sentence is a source of information for the construction of a representation which *may be* a description of a state of affairs. Whether it is or not is irrelevant to linguistics. What *does* matter to linguistics, however, is that a speaker's verbal description of a state of affairs is a *further* digitalization of the information that to the speaker *constitutes* the situation in the first place. It is this inescapable 'double digitalization' which defines the language faculty as a *completely* digitalized representational system and which as far as I know has no place in other situation-theoretic approaches.

Austin (1950) made a distinction between *historic* situations and situation *types* – a distinction met with considerable skepticism by Strawson (1965). Historic situations are anchored in time and space and cannot therefore be repeated. Situation types are abstractions across historic situations. The reason for Strawson's skepticism was essentially that it is difficult to determine which constitutive elements in historic situations this abstraction is supposed to target. At some level of abstraction, having dinner at 7 o'clock is 'the same' as playing tennis at 5 o'clock – both are states of affairs involving activity, participants, places, times, etc.

Barwise & Perry (1983:53) first introduce 'situation-types [which] enable us to represent the way things stand in a situation, abstracting away from the where and when' only to concede that '[t]hey could be dispensed with entirely which would allow us to reserve "situation-type" for what we call in this book event-type' (1983:55).

Despite such problems and terminological uncertainties, Austin's distinction seems useful, indeed inescapable, in a constructivist framework, provided it is applied, not to situations as states of affairs, but to situations *as I<sup>o</sup>-representations*. At least this is how I intend to use it as the basis for establishing a typology according to which it is *constituents* – and not constituents as members of categories or carriers of syntactic and semantic functions – that are obligatory or optional.

#### 4. A TYPOLOGY OF CONSTITUENTS

Current Minimalist theory recognizes the idea of a *numeration* as a starting point for derivation. A numeration is a finite set of lexical items and grammatical formatives which – subject to a succession of syntactic operations – at best yields a derivation which is 'fully interpretable' at both the phonetic and the conceptual interface. As the various operations that apply to the members of the numeration presuppose access to their phonological, grammatical, and semantic properties, I assume they should be listed as complex symbols of features in an explicit notation scheme; but this is of no importance here since our concern is to determine constituent structure. A numeration as here understood, then, is simply a finite list of lexical items in grammatical and orthographical form.

As suggested above, the interpretative problem of identifying constituents must be solved on-line, on the basis of elements identified in the *entire* input-string (cf. the challenge posed to serial parsers by so-called 'garden path' sentences). The identification of the lexical head of VP is an important step in this process as it constitutes the pivot around which the constituents we aim to characterize revolve. I'll introduce the terms *domain* and *residue* relative to lexical verbs, *v*, contained in numeration Num. An unordered set,  $\{c_1, c_2, \dots, c_n\}$ , forms the domain of *v* ( $D_v$ ) iff, for each  $c_i$ ,  $c_i$  is

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<sup>2</sup> 'Veracity' is a fairly complex notion the determination of which often leads to philosophical relativism. That discussion falls well outside the scope of this paper. I rely on the common sense intuition that there is a demonstrable distinction between *lying* and *speaking the truth*, which in turn is grounded in the Aristotelian explanation of truth and falsehood: 'To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, or of what is not that it is not, is true.'

generated over elements of  $\text{Num} - v$  and  $\text{Num} - v$  is *exhausted* by the generation of  $D$ . Notice that  $c_i$  need not be a *sentence* constituent from the outset.  $V$ 's *residue*  $R_v^i = D_v - c_i$ , i.e.  $D_v$  from which  $c_i$  has been deleted. We may then regard a clause as a construction over an unordered set  $v + D_v$ ,  $\{v, c_1, c_2, \dots, c_n\}$  and systematically inquire whether  $v + R_v^i$  leads to the construction of other clauses, or if other  $D$ 's are constructible from  $\text{Num} - v$ .<sup>3</sup>

By way of illustration, the numeration [a button by John of on radio that the touch turned] generates a number of domains for  $v$ ,  $D_{\text{turned}}$ , among them

- 6 a. [John] [that radio] [on] [by the touch of a button]  
 b. [John] [on the button] [by a touch of that radio]

From (6a) we may construct a number of clauses, e.g.

- 7 a. John turned that radio on by the touch of a button  
 b. On that radio John turned by the touch of a button

Various residues of (6a) will yield clauses like

- 8 a. John turned that radio by the touch of a button ~~on~~  
 b. That radio turned on by the touch of a button ~~John~~  
 c. That radio turned on ~~by the touch of a button~~ John  
 d. That radio turned ~~on by the touch of a button~~ John  
 e. John turned ~~that radio on by the touch of a button~~  
 f. That radio turned John on ~~by the touch of a button~~

Looking for entailments among the clauses in (7) and (8) we record the following cases and no others (' $\models$ ' is the entailment symbol):

- 9 a. (7a)  $\models$  (8b)  $\models$  (8c)  
 b. (7b)  $\models$  (8e)

Entailment is transitive, reflexive and non-symmetric (as distinct from *asymmetric*). This means that although the chain of entailment shown in (9a) holds by logical necessity, the 'reverse' order does not:

- 10 \*(8c)  $\models$  (8b)  $\models$  (7a)

But what is important from a constructivist point of view is that it *may*. Indeed, this is the relational chain we are interested in. Yet this is not a semantic relation if by that we understand a relation of sense. It is rather a relation between information-carrying structures, of the kind described by Dretske (1981:70ff) under the name *nesting* (of information), defined thus:

The information that  $t$  is  $G$  is nested in  $s$ 's being  $F = s$ 's being  $F$  carries the information that  $t$  is  $G$  (Dretske, 1981:71)

<sup>3</sup> This procedure is inspired by Gunnar Bech's (1955/57) 'division' of German non-finite VPs by various auxiliaries – without pressing the analogy too far.

Among other things, Dretske uses the notion of nesting to further distinguish information from meaning. As he explains:

Assuming it to be a law of nature that water expands upon freezing, no signal can carry the information that some body of water is freezing without carrying the information that this body of water is expanding. But the statement, “This body of water is freezing” can *mean* that this body of water is freezing without *meaning* that this body of water is expanding. (Dretske, 1981:72f – italics in original).

Applying this important, but generally overlooked, distinction to the data at hand, I’m not saying that (8c) means, or has the same meaning as, (8b) or (7a), nor that (8b) means, or has the same meaning as, (7a). What I do want to say, however, is that a situation (a 1<sup>o</sup>-representation) constructed on the basis of the *information* carried by (8c) will *nest* – that is, carry *information* about – situations in which it is specified *how* the radio turned on (e.g. (8b)), and – given what we know about radios – will nest situations in which it is specified *who* did the turning on (e.g. (7a)). I’ll use ‘ $\in$ ’ as the *nesting* symbol, i.e. the ‘converse’ of the entailment symbol, so  $(a \models b) \equiv (\sigma(b) \in \sigma(a))$ , where ‘ $\sigma(x)$ ’ should be read as ‘the situation (1<sup>o</sup>-representation) constructed from x’. One may think of the nesting relation as the relation that is to clauses what hyponymy is to lexemes: the more ‘inclusive’ relatum is a superordinate, the more specific ones its hyponyms.<sup>4</sup>

Now look at the pair constituted by (7a) and (8a), repeated here as (11):

- 11 a. John turned that radio on by the touch of a button  
b. John turned that radio by the touch of a button ~~on~~

Neither entails the other, hence the situation constructed by neither nests the other. In fact, they carry information for the construction of two distinct *types* of situation. But just how much of the original domain, [a button by John of on radio that the touch turned], is necessary and sufficient for these two situation types to be constructed? It seems that just the two R<sub>v</sub>’s resulting in (8c) and (d), repeated here as (12) are needed:

- 12 a. That radio turned on ~~by the touch of a button~~ John  
b. That radio turned ~~on by the touch of a button~~ John

In particular, it is the case that the presence vs. absence of [on] is crucial. Now this puts a new complexion on the optional/obligatory distinction between constituents, and I shall mark this shift terminologically by henceforth speaking about *necessary* and *unnecessary*, rather than obligatory and optional constituents. A constituent is *necessary* if it is instrumental in the creation of a particular situation type. Necessity in this sense widely correlates with ‘obligatory presence’, but is not isomorphic with it. One of the paradoxes of linguistics is that the more ‘obligatory’ (i.e. predictable) a *particular* item is, the greater the chance it is omitted. This is a corollary of the structuralist semantic dogma that ‘meaning implies choice’. Witness e.g. the dropping of *of* in (American) expressions of measure: *A couple dollars*.

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<sup>4</sup> A more careful formulation would be ‘...is to the situations created by clauses...’. As with hyponymy proper, however, it is not easy to consistently distinguish between lexical items and the *denotata* of lexical items. Whenever hyponymy is explained or defined in terms of ‘inclusiveness’ this laxity prevails.

Neither [John] – the subject of (11) – nor the (traditional) adjunct [by the touch of a button] is necessary for the preservation of situation type. What is necessary is a constituent that may do service as subject – for that is required by the syntactic rules for English finite *clauses*. At the level of constituent selection by the lexical *verb*, however, that constituent is [that radio]. It cannot be [on]. Even in strongly marked cases like

- 13 a. On turned that damned radio  
 b. On (and on) that radio turned

[on] doesn't acquire subject status by being fronted. So [on] is a kind of constituent that does not have *argumental potential* to function as subject (or object). The same goes for [by the touch of a button]. What this leaves us with is a fourway classification, based on two binary features, [ $\pm$ ARGUMENTAL] and [ $\pm$ NECESSARY], yielding the following picture:

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	+ARGUMENTAL	-ARGUMENTAL
+NECESSARY	Complement	Parasite
-NECESSARY	Argument	Satellite

According to this classification, the constituents of (7) pattern like this:

- 15 a. *Complements*: [that radio]  
 b. *Arguments*: [John]  
 c. *Parasites*: [on]  
 d. *Satellites*: [by the touch of button]

The terminology is fairly standard. 'Complement' carries its usual sense in syntactic theory of indicating a constituent which is functionally needed to 'complete' a lexical verb, 'argument' is understood to mean 'syntactic argument', and 'satellite' is used in the current sense in Dik's (1989) theory of functional grammar. But 'parasite', so far as I know, is not a common term, because it is not linked to a common concept in grammar. I think it should be. I think it would subsume such disparate cases as predicative complements (*he is a **butcher***), reflexive and reciprocal 'objects' (*he shot **himself*** ; *they embraced **each other***), 'objects' of measurement (*he weighs **two hundred pounds***), 'adverbial complements' – a *contradictio in ipsis terminis* – (*he put the book **on the shelf***), pseudo-passives (*the book sells **well***), etc., in addition to the many cases of 'particle verbs'. In short, *any type of non-argumental constituent that carries information needed to distinguish between situation types* is a parasite.

Having established this typology of constituents, I now turn to the question of how they are structurally organized.

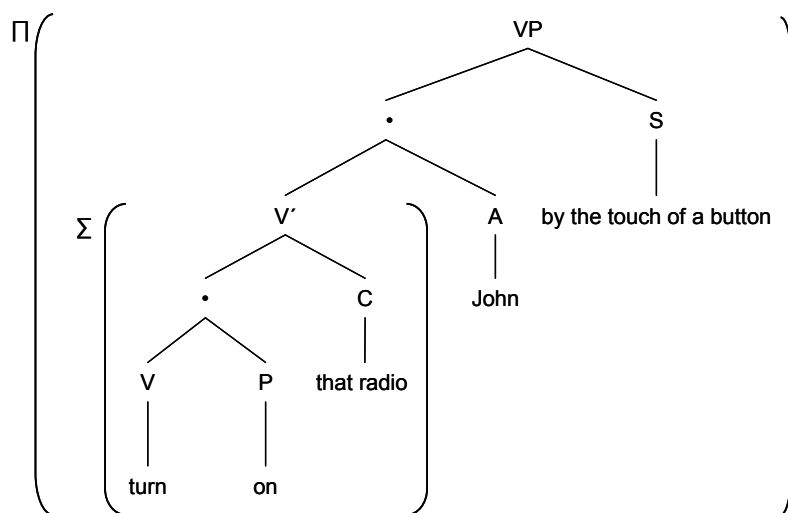
## 5. ARGUMENT STRUCTURE

The generative domain of argument structure is VP – and so it is here. In contrast to the organization of the generative domain, VP here *only* carries information about hierarchical organization, not linear order of constituents. There is nothing to correspond to movement in generative theory. The linear organization of hierarchical input is the province of the domain called here 'Information

Structure', corresponding to the generative domain of CP. For reasons of space I will have nothing to say on this issue here.

For the internal organization of VP, I assume an X-bar theoretic structure with both VP and V' as recursive. These two levels define two semantic types such that V' is of type  $\Sigma = \textit{situation type}$ , and VP of type  $\Pi = \textit{proposition}$ . V' dominates the [+NECESSARY] constituent types, C(omplement) and P(arasite), which are both selected by V, while VP dominates the [-NECESSARY] ones, A(rgument) and S(atellite), both selected by V', where the notion of 'selection' is recast in terms of necessity, rather than (standard) obligatoriness. The picture looks like this:

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A third semantic type  $\sigma = \textit{historic situation}$  was introduced in section 4 in connection with the explanation of nesting, but without further comment. This is the type of the output from the component dealing with Modalization Structure (functionally equivalent to generative IP), where propositions are anchored in a temporal-modal matrix and thus can be assigned a truth-value. In other words, (declarative) sentences as normally understood are of type  $\sigma$ , corresponding to type  $\langle t \rangle$  of two-valued theories of semantic types. The second member of such theories,  $\langle e \rangle$ , is also recognized here, of course, but constrained to first-order nominals (in Lyons' (1977) sense). Second and third-order nominals will be of types  $\Sigma$  and  $\sigma$  respectively.

## 6. EMPIRICAL CONSEQUENCES

The empirical motivation behind this fairly radical break with received linguistic dogma is to be able to come up with an account of the mechanisms *behind* our ability to talk about things in the world. For reasons already outlined in section 1, I do not believe that functional linguistics as generally understood poses the right functional question. Nor do I think that the formal semantic paradigm as developed since Tarski and Montague is on the right track in assuming a more or less direct, 'realist', relationship between language on the one hand, 'the world' (or a model of it) on the other. Something 'in between' is required.<sup>5</sup> This 'something' necessarily has to be of a cognitive nature – there is no other serious candidate.

<sup>5</sup> This 'something' has taken on various shapes in the course of theoretical development. From Peirce's 'Interpretant' and Frege's 'Third Realm', to Ogden & Richards' 'Thought, or Interpretation', to Jackendoff's 'Conceptual Structures', to Hans Kamp's 'Discourse Representation Tables', to Johnson-Laird's 'Mental Models', to Heim's 'Files', to

More pragmatically in connection with the topic at hand, determination of constituent structure independently of, and prior to, assignments of syntactic and thematic functions and to syntactic categories, seems to be called for if we want to be able to *predict* the syntactic potential of lexical items, in this case verbs. Asked to exemplify intransitive verbs in English, many linguists would pick verbs like *sneeze*, *dance*, *laugh*, and *run*, only to be confronted with ‘authentic’ examples like

- 17 a. he sneezed the napkin off the table  $\Rightarrow \sigma(17a)$   
 b. they danced the night away  $\Rightarrow \sigma(17b)$   
 c. he laughed his head off  $\Rightarrow \sigma(17c)$   
 d. he ran the horse round the corral  $\Rightarrow \sigma(17d)$

– all of them apparently construed with an object and hence transitive. Now, supposing that no ‘authentic’ example is presented from which the (traditional) adverbial phrase is omitted, a remedial explanation might be that intransitive verbs sometimes allow an object + an ‘adverbial complement’, thus patterning with ‘complex transitive’ verbs like *put* and *place*. Other explanations might be given in different terms, for example to the effect that some intransitive verbs allow complementation by a ‘small clause’ – thus jeopardizing the basic definition of ‘clause’. So, what good is the classification as ‘intransitive’ in the first place?

Applying the stepwise deletion procedure advocated above to (17) gives us (18) through (20):

- 18 a. \*the napkin sneezed off the table ~~he~~  
 b. the night danced away ~~they~~  
 c. \*his head laughed off ~~he~~  
 d. the horse ran round the corral ~~he~~  $\sigma(18d) \in \sigma(17d)$
- 19 a. \*he sneezed ~~the napkin~~ off the table  
 b. they danced ~~the night~~ away  
 c. \*he laughed ~~his head~~ off  
 d. he ran ~~the horse~~ round the corral
- 20 a. \*he sneezed the napkin ~~off the table~~  
 b. \*they danced the night ~~away~~  
 c. \*he laughed his head ~~off~~  
 d. he ran the horse ~~round the corral~~  $\sigma(20d) \in \sigma(17d)$

These patterns of acceptability and nesting relationships sanction the argument structures for (17) given in (21):

- 21 a. [C he] [C the napkin] [P off the table]  
 b. [C they] [C the night] [P away]  
 c. [C he] [C his head] [P off]  
 d. [A he] [C the horse] [S round the corral]

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Fauconnier’s ‘Mental Spaces’ and Dinsmore’s ‘Partitioned Representations’, to mention just a few obvious steps; not all of them conceptual, to be sure, but nevertheless ‘something’ thought to be needed in the process of interpretation, and not just something that sweeps the interesting parts under the carpet, like Montague’s ‘translation function’ that returns ‘disambiguated formulas’ from natural language expressions.

Instead of simply classifying these verbs as ‘intransitive’ with haphazard instances of ‘reclassification’ we can now give a *predictive* characterization in terms of ‘structure postulates’: if *v* licences domain *D*, *v* will licence domain *E*, where *E* is an *extension* of *D*. Given the verb *sneeze* (and others like it, like *blow, dance, laugh, puff, pull, push, throw*) that licences  $D = \{C\}$ , we predict that they will all licence  $E = \{C,C,P\}$ . What *constraints* may apply to the realization of each of these constituents will then be decided by each verb’s lexically determined assignments of syntactic functions, thematic roles including the animateness hierarchy, and syntactic categories. There is nothing wrong in terms of constituency, syntactic and semantic functions, nor categorial assignments with a sentence like *The napkin blew the horse off the planet* – nor with the *I<sup>0</sup>-representation* it creates. What will fail is the correlation of this *I<sup>0</sup>-representation* with an actual state of affairs. And that’s not the province of linguistics.

#### 7. ENDNOTE

This is an admittedly rough ride through the wilderness that has been allowed to sprout throughout the no-man’s-land between the trenches of formal and functional linguistics. Here only a tenuous path has been cut, but I hope in the not too distant future to be able to clear a larger area to improve the view. But this is already 5000 words.

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