

# Complex Predicates and the Functional Sequence

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The ‘cartographic’ approach to syntax pursued in recent years by Cinque and others has proven very fruitful (see e.g. Cinque 1999; 2002; Belletti 2004), and can be profitably applied to complex predicate constructions across languages. This leads to an important classification of complex predicate structures in terms of what parts of the functional sequence ( $f_{seq}$ ) the different parts of a predicate spell out.

In broad outline, suppose that there is a universal  $f_{seq}$  consisting of at least the following parts, in strict order:

- (1) Evidentiality > Epistemic Modality > Tense > Deontic Modality > Perfective > Progressive > Initiation > Process > Result

A predicate in a particular language spells out certain values for some combination of some of these features. A complex predicate, on a very broad definition, would be one in which more than one word is involved in spelling out these features. On a narrower definition, only complexes which express features from the lower part of the hierarchy would be considered (e.g. a predicate consisting of a modal plus a main verb would be a complex predicate on the broader definition but not on the narrower one). There is good evidence for a significant boundary somewhere below the modal and temporal information, which warrant the adoption of the narrower definition (see e.g. Svenonius 2004b; 2005).

The existence of this hierarchy makes predictions about what semantic contributions can be made by the different parts of a predicate. For example, it allows complex predicates in which one morpheme lexicalizes or spells out Initiation and Process (in the terms of Ramchand 2005) and another spells out Result (as in the Germanic verb-particle construction, cf. Ramchand and Svenonius 2002). It also allows complex predicates in which one morpheme spells out Process and Result and another spells out Initiation, something which is seen for example in certain causatives and in certain complex predicates in Hindi/Urdu (Ramchand and Svenonius 2005). It also predicts that predicates will not exist in which one morpheme spells out Result and Initiation and another Process.

- (2) a. Initiation+Process > Result (Germanic)  
b. Initiation > Process+Result (Hindi/Urdu)  
c. \*Initiation+Result > Process  
d. \*Process > Initiation+Result

The approach makes additional predictions; for example, only the leftmost element in (2a) and (2b) should combine with Tense or Aspect, given simple minimality. This is generally correct, though I discuss a complication from Russian below. To illustrate, in the Hindi example in (3), the light verb determines whether there is an external argument, which is a fact about the Initiation of the event, while the subordinate predicate determines the end state of the internal argument, a fact about the Result.

- (3) a. Kamraa saaf huaa.  
*room.N clean happen/become.PERF*  
‘The room became clean’  
b. Raam-ne kamraa saaf kiya.  
*Ram-E room.N clean do.PERF*  
‘Ram cleaned the room’

Here, at least Aspect+Initiation > Result are lexicalized (Aspect by a suffix), or more precisely Aspect > Initiation > Result, a pattern predicted by the hierarchical approach (and in head-final order).

Similarly, the English example in (4b) shows a Tense > Initiation+Process > Result hierarchy: the particle may determine whether an internal argument is introduced (and gives Result information, as in (4)), but it is the verb which determines whether there is an external argument (Initiation, (5)).

- (4) a. Socrates talked (\*Phaedrus).  
b. Socrates talked \*(Phaedrus) down.

- (5) a. The muses came/\*invited down.  
 b. Socrates invited/\*came the muses down.

In the English case in (6), the contribution of the particle *up* is to add a notion of completiveness; (6a) is compatible with a small rip, whereas (6b) requires the manuscript to be thoroughly affected.

- (6) a. Phaedrus tore the manuscript.  
 b. Phaedrus tore the manuscript up.

The verbal portion of the predicate is tensed, as usual. If this notion of completiveness were aspectual, then it would be between T and *v* (Initiation), and should bear tense. Thus, such examples are important to assessing the validity of the cartographic approach. I argue for this case that there are independent reasons to say that *up* is essentially Resultative, rather than Aspectual (in a sense to be made precise), so that this case does not challenge the cartographic approach. I examine similar cases from Russian, in which a verbal prefix expresses Result information but is also correlated with Perfectivity. The prefix's effect on argument structure is similar to that of the Germanic particle, as can be seen in (7).

- (7) a. Sobaka ležala (\*odejalo).  
*dog lay blanket*  
 'The dog lay (\*the blanket)'  
 b. Sobaka pro-ležala odejalo.  
*dog about-ly blanket*  
 'The dog wore out the blanket by lying on it' (Russian; Dimitrova-Vulchanova 2002)

To account for the seeming fact that the prefix also contributes perfectivity, I argue (following Ramchand 2004) that the perfective operator binds a variable provided by the prefix; movement of the prefix from a position lower than V enables this without a minimality violation, because the prefix moves as a phrase (Svenonius 2004a).

Drawing on these and other examples, I show to what extent the overall approach provides an adequate cross-linguistic typology of complex predicates. The account ultimately suggests that the difference between morphologically and syntactically complex predicates on the one hand, and simplex predicates on the other, is not a matter of parametrization, but simply of what stored lexical material is available for a single universal  $f_{seq}$  to be mapped onto (cf. Ramchand and Svenonius 2005).

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