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## Some Thoughts on a New Systematization of Interclausal Semantic Relations

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### 1. Introduction

In this paper, I wish to explore some possibilities of systematizing the interclausal semantic relations posited in RRG. While the theory has developed in many significant respects since Foley and Van Valin (1984, hence *FVV*), this area appears to have undergone very little revision (one notable exception being Van Valin and Wilkins 1993). As such, this paper will be necessarily speculative and programmatic, but is hoped to outline some productive directions of inquiry.

- (1) Causative  
 Modality  
 Psych-action  
 Jussive  
 Direct perception complements  
 Indirect discourse complements  
 Temporal adverbial clause  
 Conditionals  
 Simultaneous actions  
 Sequential actions: overlapping  
 Sequential actions: non-overlapping  
 Action-action: unspecified (FVV: 269)

- (2) Causative  
 Aspectual  
 Psych-action  
 Purposive  
 Jussive  
 Direct perception  
 Propositional attitude  
 Cognition  
 Indirect discourse  
 Conditional  
 Simultaneous states of affairs  
 Sequential states of affairs  
 Unspecified temporal order (VVL: 480)

a) The semantic relations are arranged according to the relative "closeness" of meaning.

b) The semantic hierarchy correlates with the structural hierarchy as given in (3), which has remained the same since the original formulation in *FVV*.

- (3) Nuclear cosubordination  
 Nuclear subordination  
 Nuclear coordination  
 Core cosubordination  
 Core subordination  
 Core coordination  
 Clausal cosubordination  
 Clausal subordination  
 Clausal coordination

(4) Core cosubordination  
 I decided to leave.

(5) Core coordination  
 I saw him act like a jerk.

(4') I had to decide to leave.

(5') I had to see him act like a jerk.

(6) Ongaku-o kiki-nagara sigoto-o suru.  
 music-ACC listen-while work-ACC do  
 '(X) works while listening to the music.'

(7) Keehoo-ga nattei-nagara sigoto-o suru.  
 alarm-NOM sound.PROG-while work-ACC do  
 '(X) works while the alarm is sounding.'

(Japanese)

(6') Ongaku-o kiki-nagara sigoto-o sita no?  
 music-ACC listen-while work-ACC do.PAST Q  
 'Did you work while listening to the music.'

(7') Keehoo-ga nattei-nagara sigoto-o sita no.  
 alarm-NOM sound.PROG-while work-ACC do.PAST Q  
 'Did you work while the alarm was sounding.'

(Japanese)

## 2. Problems with Characterizing Interclausal Semantic Relations

### 2.1 RRG Semantic Relations Hierarchy

a) Some important semantic relations are missing, e.g. "Reason" and "Manner". Van Valin (p.c.) suggested the possibility that labels for semantic relations are like those for thematic roles, in the sense that they refer to salient points on a single-dimensional hierarchy.

b) There is a question of how many semantic relations one should posit. A dozen? A hundred, as some natural language processing models have proposed? Or even a thousand, reflecting the subtleties of our cognitive processing?

c) The problem of how to assign a semantic category to a particular structure is also very important.

## 2.2 Other Models of Interclausal Semantic Relations

Importantly, RRG is not the only theory that suffers from the above problems. Typology of clause linkage, especially that of semantic relations, is a rather underdeveloped area, and as far as I can see, no other model of grammar has succeeded in offering more than just a list of incomplete semantic relations (Longacre 1983 and other tagmemics-oriented works, however thoughtful, do not seem to go very far).

Cf. Knott and Sanders (1998), who give a list of previous works including such names as Longacre, Hobbs, Grosz and Sidner, Mann and Thompson. The discourse coherence relations posited in the Rhetorical Structure Theory of Mann and Thompson (1986), for example, include the following.

- (8) solutionhood  
evidence  
justification  
motivation  
reason  
sequence  
enablement  
elaboration                    etc.
- (9) Whenever a language employs both lexical-derivational and grammatical-inflectional means to signal relations between propositions (either clausal or propositional), the former tends to be used for encoding the speaker/writer's intentional act of discourse management, while the latter tends to be used for event-oriented semantic relations.

## 3. A Striking Theoretical Parallel

- (10) a. How many semantic relations should be posited?  
b. How should we assign a semantic relation to a given structure?  
c. Where should we draw a line between semantics and pragmatics?

Now, if you are well-seasoned grammarian, you might be beginning to notice a parallel between this component of linguistic structure and some other, very important component. The answer is obvious: the theory of *thematic roles* since Fillmore (1968).

## 4. Toward a Re-engineering of Interclausal Semantic Relations

### 4.1 Introducing a Feature System

One way to systematize an unstructured set of semantic categories is to introduce decomposition. Then can we do the same for interclausal semantic relations? The answer is yes. For example, we can introduce a feature like [+/- control], which may draw a line between "Jussive" and "Direct perception". Also, a feature like [+/- temporal overlap] would be useful to systematize the lower part of the hierarchy.

## 4.2 Introducing a Schema-Based Decomposition

The direction I wish to pursue is also based on decomposition of semantic relations, but is beyond an unstructured set of features. Let us remember the RRG solution to the definition of thematic roles. How did it manage to solve the problems in (10)? It introduced a theory of lexical decomposition of predicates based on the typology of event structure. Each thematic role is defined in terms of the position it occupies in the decomposed representation of lexical semantics of the predicate, known as logical structure. It is a kind of decomposition but should be called a schema-based one.

*My proposal, then, is that this schema-based decompositional approach can also be adopted for the characterization of interclausal semantic relations.*

I define "primitive event" as either a state or an activity. The first stage of elaboration consists of: aspectual contouring (e.g. inchoative) and addition of causal structure.

- (11) The glass broke.  
 (12) He broke the glass.
- (13) talakcahu-y 'become closed' > ma:lakcahu-y 'cause to close' (Tepehua)  
 (14) shimaru 'become closed' > shimeru 'cause to close' (Japanese)

Cf. Hasegawa (1996) on "operator constructions"

- (15) Wo xiang chu le yi-ge jianghua.  
 1sg think exit/out PERF one-CLF plan  
 'I've come up with a plan' (lit. 'I've thought out a plan') (Chinese)
- (16) Keekaku-o kangae-dashita.  
 plan-ACC think.GER-put.out.PAST  
 '(I)'ve come up with a plan' (lit. 'I've thought out a plan') (Japanese)
- (17) The first category of interclausal semantic relations: atomic predicates (states or activities) plus their elaboration by addition of aspectual, causative, or directional operators. => *nuclear juncture*

The second stage of elaboration mainly does the job of encoding supporting event (as opposed to core schema, cf. Talmy 1991, 2000).

- (18) I ran to the station. [=I went to the station by running]  
 (19) Eki-e hasitte itta.  
 station-to run.PTC go.PAST (Japanese)

- (20) I blew out the candle. [=I extinguished the candle by blowing]
- (21) Roosoku-o fuki-kesita.  
candle-ACC blow.GER-extinguish.PAST (Japanese)
- (22) I went out to buy a drink.
- (23) Nomimono-o kai-ni deta.  
drink-ACC buy.GER-DAT go.out.PAST (Japanese)
- (24) O-----O-----O 'I went out to buy a drink'  
I I drink
- (25) O-----O-----O 'I asked him to buy a drink'  
I him drink
- (26) The second category of interclausal semantic relations: units of first stage elaboration linked together beyond logical structure representation (e.g. CAUSE operator), but with obligatory participant sharing. => *core juncture*
- (27) The third category of interclausal semantic relations: units of second stage elaboration linked together each having autonomy, characterized by non-obligatoriness of participant sharing and availability of separate perspectives (i.e. anchoring points). => *clausal juncture*

#### 4.3 Additional Features

The above systematization is, I believe, better than nothing, but is admittedly rather crude. Here are some additional features to make it more workable.

- (28) [+/- control] -- to distinguish between Purpose/Jussive and Direct perception
- (29) [+action coherence] [+temporal proximity]  
I went into the room and searched for her trace.  
[-action coherence] [+temporal proximity]  
I went into the room and there was a time-bomb ticking.  
[-action coherence] [-temporal proximity]  
I went into the room though there was no reason to do so.

Complementation could (should?) be treated in terms of the arrangement of anchoring points. In a closely integrated complementation relation (i.e. Direct perception), the dependent/embedded event-unit assumes no independent anchoring point. Also, the arrangement of anchoring points can be used to characterize various linkage types that belong to (29), e.g. conditionals, causals, concessives, etc. with different possibilities of interpretations, as indicated by operator distribution (cf. Watanabe 2001).

## 5. Summing Up

The RRG approach to schema-based decomposition to thematic roles is profitably applicable to interclausal semantic relations. Whether there is any inherent, deeper connection between the two domains or it is just a methodological convenience does not matter for now (I would bet on the former, cf. Ohori 1995 on the case-marker/linkage-marker parallel). Further, by going beyond a mere list of relations and an unstructured feature system, the form-meaning correspondence, the central tenet of functional grammar, will be analyzed more systematically.

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