Non-standard Coordination and Quantifiers

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The dissertation follows the goal of bridging syntactic typology with formal semantics. Typological variation in NP coordination patterns is taken as a challenge for semantic theory. I add the understudied coordination of unlike NPs (hybrid coordination) to the already complicated typology of conjunction. I propose a compositional semantic analysis for various coordination patterns which allows treating alternative typological variants differently, but using the same semantic components. The proposal relies on dynamic semantics in a game-theoretical manifestation.

One of the challenging and exciting phenomena that linguists deal with is language diversity. Take the case of noun phrase conjunction like *John and Bill* or *every student and most professors*. Some languages use the same word 'and' for combining noun phrases (*John and Bill*), verbs (*John sings and dances*), sentences (*John left and Bill arrived*), and more. Other languages use different conjunctions for different kinds of phrases; for example, Beng (a Mandé language from Côte d'Ivoire) uses one conjunction for nouns and adjectives and others for sentences. Some languages have been reported not to allow conjoining noun phrases at all; to express the meaning of *John and Bill are talking*, one has to phrase the idea differently: *John is talking with Bill*, so that 'with' is used to paraphrase 'and'. In still other languages 'with' is used *as* 'and'; is such a language, the sentence *John and Bill are talking* is expressed literally as *John with Bill are talking*, containing a plural-referring phrase *John with Bill*. Still other languages use a doubling strategy, glossed as *with John with Bill are talking*.

There is another dimension to the syntactic diversity of coordinated noun phrases, presented by the phenomenon of Hybrid Coordination. In the examples above, the referents of coordinated noun phrases had the same role in the situation, or at least symmetric roles. In *John and Bill are talking*, John and Bill are both talkers. But in Russian, it is possible, under certain conditions, to conjoin elements with different roles:

(1) Ljubov′ — èto kogda [kto-to   i   kogo-to]   ljubit.
     love   is   when someone$_{\text{NOM}}$ and someone$_{\text{ACC}}$ loves
     'Love is when someone loves somebody'

In this example, the conjuncts *kto-to* and *kogo-to* have the roles of subject and object of love, and the love relation, as one recognizes, need not be symmetric.

The syntactic diversity of conjunction briefly outlined above poses a challenge to the semantic theory of conjunction. Do all the diverse conjunction patterns mean exactly the same thing? (more precisely: are they all compositionally interpreted in the same way?) Or is syntactic diversity reflected in semantic diversity? In cases when the same conjunction can conjoin sentences and noun phrases, how is it interpreted in these two usages? Is the semantic relation between sentential and nominal conjunction the same in all languages? To put all these questions more generally, how much semantic unity is behind the syntactic diversity?

The first, introductory, chapter of my thesis introduces these theoretical issues and summarizes the results of typological and semantic research on conjunction. The second chapter deals with some of the questions raised by the typology of conjunction. My conclusions are that there is semantic diversity in all relevant respects. The chapter is based on a case study of Q'anjob'al, Mayan language spoken in Guatemala, which employs both a comitative conjunction *yetoq* 'with', and a European-style conjunction *i* 'and', freely applicable to various syntactic categories. Following McNally's analysis of Russian, I argue that *and-* and *with-*coordination have different meanings, even though they are interchangeable in many contexts.

In many languages, *with-*coordination can conjoin only noun phrases but not sentences. But in Q'anjob'al, *yetoq* 'with' can combine sentences and other kinds of phrases. This usage is restricted compared to other words for 'and' (*i*, *k'al*), and replacing *yetoq* with *i* or *k'al* does change the meaning of the compound sentence slightly. I propose to treat the sentential usage of *yetoq* as a metaphorical extension of its basic sum meaning.

The third chapter of the thesis presents a description and a syntactic analysis of Hybrid Coordination, concentrating on Russian but also discussing similar patterns from other other languages, including English, Armenian, Mandarin, and Q'anjob'al. The chapter evaluates alternative syntactic proposals on the topic and develops an explicit syntactic analysis of Russian Hybrid Coordination. The formal syntactic analysis is expressed in type logical grammar, a variety of categorial grammar, but is easily translated into other more conventional notations.

While the second chapter of my thesis argues for semantic diversity across languages and constructions that mirrors syntactic diversity, the final, fourth chapter goes in the opposite direction, establishing an underlying semantic unity of several coordination constructions. The chapter develops a compositional semantic analysis of conjunction which unifies sentence conjunction, standard NP conjunction, and Hybrid Coordination as well. The semantic proposal relies on ideas from logic and computer science and takes a dynamic approach to meaning. For the purposes of the chapter, I choose game dynamics as a model of semantics, following the tradition of game-theoretic semantics. I attribute conjunction the most general meaning of parallel processing; other components of meaning, such as sum formation, can be analyzed as supplied by context.