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MEREOLOGICAL CONSTRAINTS ON EXTENDED ARGUMENTS

Rappaport and Levin 2001 describe the English Resultative Construction illustrated in (1) in terms of two event descriptions, one of which is associated with 'freeze', while the other, with being 'solid'. These two descriptions denote one single event. In this paper I show that their view leads to an unnecessary mismatch in the one-to-one relationship between event descriptions and events. Moreover, the conditions under which this supposed mismatch takes place are not specified nor are well-known crosslinguistic variations addressed (i.e. the Spanish sentence (2)).

I argue for an alternative description that claims that the relationship encoded in sentences with 'extended arguments' (EA) is mereological. EA are non-lexically required constituents that nonetheless behave like complements; they encompass Secondary Predicates as in (1) and converbs as in (2) (König 1995). Assuming that events are hierarchical structures of 'integral' parts, I show that sentences with EA denote two events that have a common subpart. In addition, I show that the different subtypes of EA are systematically linked to subtypes of event mereological relations.

My analysis focuses on the Spanish Gerund Construction (SGC) called 'complement' (SGC$_C$), illustrated in (2). SGC$_C$ contains an embedded gerund phrase that behaves like a syntactic complement (e.g., the extraction of the direct object from the gerund phrase in (3) should only be allowed to syntactic constituents). The gerund phrase expresses an event description $\delta(e_G)$ of a running event e_G that *overlaps*- as defined in (4) -an entering event e_M. Specifically, there is an event e_Z, which is a subevent (though non-necessarily proper) of both e_M and e_G, and which excludes the final state s_M of e_M (namely, the 'being-in the office'). In addition, I show that the event relationship in (2) satisfies all the linguistic conditions required by the category 'event overlapping'. E_M and e_G are in the same (causal) path; their corresponding temporal traces overlap; they are in an incremental relationship; they share participants (i.e. boss, path, time (sub)interval) and a relationship (i.e. Motion) that integrates those participants into a whole. Moreover, (2) satisfies an intentional constraint that requires $\delta(e_G)$ to be more informative than $\delta(e_M)$ *in relation to* the subevent e_Z, which they share. 'Enter' defines a boundary for the shared path that is absent in 'run'. Nonetheless, the latter ('run') is more informative insofar as it specifies a property of a relationship –i.e. Manner of Motion- rather than a property of a single component (i.e. the boundaries of the path).

I also show that the resultatives in (1) and (5) involve the mereological relations of 'proper part' and 'event adjacency', respectively. The events share participants; their temporal traces are in both proper-part and adjacent relationships; their events are in the same gapless causal 'path' (one event is a sufficient condition for the other). That is to say, $\delta(s_G)$ (i.e. 'be-solid') describes the final state that is introduced by $\delta(e_M)$ in (1), whereas $\delta(s_G)$ introduces an adjacent final state to $\delta(e_M)$ in (5).

Grammars may express events in different causal paths with the same syntax as overlapping events. I argue that these events are mereologically connected by a 'stage sharing' relation. In (6) the two events are in different causal paths since they do not share a relation associated with an integral part of the events, nor are the events in an incremental relation. E_M and e_G happen to be tangential, however, e_G and e_M do not merely share a participant, but rather share a participant *within the web of relations,* a web determined by each event. For example, the same children are components of the singing and arriving events in relation to the same spatio-temporal circumstance. They were performing both at the same time and in the same place- and they play a consistent role in both events (i.e. they have a 'dynamic' role (Bach 1986) as shown by the fact that individual-state predicates are disallowed (see (7)). 'Stage-sharing' also

characterizes the relationship involved in 'depictive predicates' (See 8). The eating event and the state of being nude both involve the same participant in a dynamic role. 'Stage-sharing' also characterizes the semantics of some instances of serial verb constructions in different languages (see (9)), which –like EA- are not bi-clausal structures.

In conclusion, I show that an analysis of the linguistic properties associated with formally defined notions of mereological categories allows for the capturing of crosslinguistic interface constraints associated with the EA structures. While maintaining a one-to-one relationship between event descriptions and events, this analysis also characterizes the semantic properties that distinguish subtypes of EA structures.

1) The pond froze solid.
2) El jefe entró a su oficina corriendo
   the boss entered to his office running
   'The boss ran into his office'
3) ¿Qué$_j$ llegó a casa cantando tj?
    What arrived to home singing
   What did she come home singing?
4) $\forall x, y \in U_P [x \otimes_P y \leftrightarrow \exists z \in U_P [z \leq_P x \wedge z \leq_P y]$ (from Krifka, 1998)
5) John painted the house white.
6) El niño llegó a casa cantando una canción.
   The child arrived to home singing a song
   'The child came home singing a song'
7) *El estudiante volvió de Europa siendo inteligente.
   The student   came-back from Europe being intelligent
(8) Peter ate lunch nude.
(9) a. temee bil_i_ jav-na   Khalke Mongolian (Bisang 1995:163)
       camel graze-CONV walk-TAM
        'A camel walks grazing'
    b. fu fase isema fi isoe   Barai (Foley and Olson 1985:)
       he sit letter wrongly write
    'He wrongly sat writing a letter'
    d. Uta o utat-te iki-mashi-ta   Japanese (Bisang 1995:161)
       song ACC sing-CONV go-HON-PAT
    'He went along singing'

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