Causality Hierarchy and the Problem of Internalization
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Abstract

In recent years, a huge volume of literature has been devoted to the issues of linearization and externalization with respect to the mapping mechanism from syntax proper to the PF interface (cf. Kayne 1994; Chomsky 2007; a.o.), as well as a more explicit and comprehensive account of the relationship between a highly universal hierarchical arrangement and equally diverse word orders (cf. Rizzi 1997; Cinque 1999; a.o.). On the other hand, one may wonder where this universal hierarchy comes from, and how the interpretive domains can be syntacticized to its full potential (cf. Cinque & Rizzi 2010). The issue is also closely related to our understanding of how certain surface regularities such as temporal sequences and iconicity are "internalized" into human language faculty. In other words, we need to investigate if a linear order can be "reverse-engineered" back to an anti-symmetric dependency. We therefore have a problem of "internalization" to tackle, i.e., how our conception/perception of this world is encoded into syntactic cartography, presumably through a system of grammatical connectives in relation to our logical thinking. This has been achieved despite linguistic variations resulting from language changes and language contacts.

In this paper, I would like to focus on a very small part of this endeavor, namely, the causal expressions embedded along the clausal spine. One way to think of the issue is to build a loosely organized syntactic hierarchy based upon the "height of interpretation", a term borrowed from Hacquard (2006). As Ramchand and Svenonius (2014) shows, the traditional C-T-V split of a sentence structure may well reflect the ontological arrangement of proposition-situation-event (see also Platzack 2000; Wiltschko 2014). On the other hand, the cause-process-result hierarchy encoded by the first phase syntax in Ramchand's (2008) sense is often extended beyond the vP periphery, manifesting itself up to the CP domain in Chinese, presumably due to its robust analyticity (cf. Huang 2015, Tsai 2015). Along this line, a coarse-grained hierarchy of *zenme(yang)* 'how(manner)' can be sketched below (>: c-command, scope over; see Tsai 2008):

disapproval *how* > causal *how* > instrumental *how* > resultative *how*

Another crucial task is to explore how the following three types of (perception-driven) causal relations can be accommodated in our model of internalization (cf. Shen 1985; Reinhart 2003):

I.   X **Causes** Y if X is the sufficient condition (or biconditional) to Y.
II.   X **Enables** Y if X is an external event which is a necessary condition to Y.
III. X **Motivates** Y if X is the mental state which is a necessary condition to Y.

It seems that there are many facets of this internalization process of encoding causality in both conceptual and perceptual terms. It may not be part of UG, but surely lays grounds for semantic composition and pragmatic reasoning by setting up the backbones for sentence-building.

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