The case for semi-ordered scales

Stephanie Solt (Leibniz-ZAS)

A very fruitful tradition in semantics analyzes the meaning of lexical items of various categories with reference to abstract degrees on scales. A common assumption in work in this area is that such scales are totally ordered, meaning that for any two distinct degrees d_1 and d_2, either $d_1 > d_2$ or $d_2 > d_1$. But total ordering is not a necessary property of a well-formed scale, an observation that goes back to the foundational work of Cresswell (1977). Furthermore, extensive research on the psychology of perception (Gescheider 2015), preference (Luce 1956) and number cognition (Dehaene 1997) has shown that our most basic abilities to compare quantities and measures are characterized by tolerance or threshold dependence rather than total ordering. Drawing on these insights, I make a case that the degree ontology should be extended to include weaker scale structures, in particular one in which the ordering relation > has the properties of a semi-order. I demonstrate the relevance of such structures for the analysis of linguistic data from the domains of quantification (*most / few problems*), adjectival comparison (*twice as beautiful*) and numerical imprecision (*about 50*), and further discuss the relation between the structure of scales and the verification of sentences that reference them.