

## Some reflections on scalar strength

Laurence Horn, Yale University

In his account of scalar competition, Matsumoto (1995) observes a distinction between scales characterized by “quantity on the horizontal axis” (e.g. <*some, many, most, all*>, <*possible, likely, certain*>, <*warm, hot, boiling*>) and by “quantity on the vertical axis” (e.g. <*animal, mammal, dog, spaniel*>, <*Europe, Germany, Brandenburg, Potsdam*>, <*furniture, chair, armchair*>. Horizontal quantity is the more familiar from research on implicature within experimental pragmatics: a stronger value S unilaterally entails a weaker one W in that S is like W only more so in degree of intensity along the relevant scale or measure; cf. van Tiel et al. (2016) for elaboration. Vertical quantity, on the other hand, involves degrees of “specificity of information” or “detailedness of description”. Drilling down on this latter notion reveals a particularly robust subset of cases based on PRIVATIVE DYADS, vertical scalar oppositions in which a more informative, specific element S differs from a less informative, general element W in that S is marked for a feature/property for which W is unmarked (Horn & Abbott 2012):

<*rectangle, square*> [+equilaterality]  
<*finger, thumb*> [+opposability]  
<*vegetarian, vegan*> [+avoidance of non-meat animal product]  
<*a, the*> [+uniqueness]  
<*go, come*>, <*that, this*>, <*there, here*> [+speaker-orientation]

Work by Deo (2015a,b), Sánchez Alonso (2018), and others shows how privative dyads, along with the division of pragmatic labor (Horn 1984) describing the interaction of their members, play a key role in the evolution of diachronic shifts, as in the competition and between the <IMPERFECTIVE, PROGRESSIVE> readings available for aspectual markers in Indo-Aryan and elsewhere and between the distribution of the copulas <*ser, estar*> in varieties of Spanish.

Matsumoto characterizes the horizontal dimension as “the amount (strength) of information on physically or socially defined scales such as quantity, temperature, age, height, military rank, etc.” But rank orders—whether military, academic, or poker hands, e.g.

< *sophomore|junior|senior* >, < *colonel|general* >, < *engaged|married* >, < *sick|dead* >,  
< *assistant professor|associate professor|full professor* >, < ..., *flush|full house|4 of a kind*,... >

—differ from true (horizontal or vertical) scales in not being defined by unilateral entailment.

*Robin is an assistant professor* and *Robin is a full professor* are equally informative, and similarly for *Maria has a flush* vs. *Maria has a full house*, since the members of each opposition are mutually inconsistent. But while *associate professor* is not an INFORMATIVELY stronger value than *assistant professor* on the academic scale, it is RHETORICALLY (or assertorically) stronger, as seen from the perspective of argumentation theory (Anscombe & Ducrot 1983). Unlike R-based implicature, scalar upper-bounding implicature has a non-monotonic effect with respect to the question under discussion; it increases the informative but not rhetorical strength of a given assertion (*Some but not all men snore*), just as an attenuating NPI (Israel 1996) increases the informative but not rhetorical strength of a negative utterance (*I haven't been to Potsdam in years*). Distinguishing the notions of informative and rhetorical strength facilitates a sharper understanding of the reflexes of Q-based (e.g. scalar) and R-based (non-scalar) implicature and provides further evidence for the theoretical significance of the distinction between them.