Yucatec object meronymy: Algorithmic and metaphorical aspects

This presentation examines the strategies employed by speakers of Yucatec Maya in reference to object parts. Yucatec, like Tseltal Maya (Levinson 1994) and Ayoquesco Zapotec (MacLaury 1989) - and unlike Indo-European languages such as English and Spanish - has a productive strategy for labeling object parts on the basis of their shape and position in the object's axial structure. MacLaury describes meronymic labeling in the Zapotec system as based on a global analogical mapping of the structure of the human body into that of the object. This mapping is orientation-sensitive: the human body is mapped onto the object so that the highest part becomes the metaphorical 'head' and the lowest part the 'buttocks' or 'feet', depending on its shape. The assignment of 'front', 'back', and 'side' terms appears to depend both on the shapes of the parts of the object and on the perspective of the observer. In contrast, the Tseltal system described by Levinson is in first approximation orientation-free. Levinson argues that Tseltal meronym assignment is not metaphorical at all. Rather, it is based on an algorithm that operates directly on the output of visual processing and governs the assignment of body part and object part terms alike. The Yucatec system combines traits of Tseltal and Zapotec meronymy, but is best described as a third type of system. Yucatec meronymy involves a critical distinction between three semi-autonomous subsystems which does not appear to exist in the other two languages: there are subsystems for the labeling of surfaces, volumes, and curvature extremes (edges, corners, tips, etc.). Evidence from a referential communication task involving 'novel' objects culturally unfamiliar to Mayan people and Westerners alike, conducted with five pairs of adult native speakers, shows that only the subsystems for surface and curvature extreme naming are fully productive. Volume naming shares many traits with the algorithm described by Levinson: volume meronyms are assigned independently of the object's canonical or actual orientation, independently of its overall structure except for the determination of the largest volume (a flashlight can be viewed as a 'leg' with a 'head' on one end and an 'asshole' on the other), and non-uniquely (objects can have multiple 'heads' etc.). Yet, strikingly, volume labeling is not only much more restricted with unfamiliar objects compared to surface and 'extreme' labeling, but is also frequently explicitly metaphorical, which surface and extreme labeling never is. Surface labeling, unlike volume and extreme labeling, is orientation-dependent. The assignment of 'top' and 'bottom' surfaces depends on the object's canonical orientation, not on its actual orientation as in Zapotec. The evidence from Yucatec supports the view that global analogical mapping as in Zapotec and assignment based on shape-analytical algorithms as in Tseltal are not incompatible, contrary to Levinson 1994.

The finding that Yucatec has a productive geometric meronymy like Tenejapa Tseltal and Ayoquesco Zapotec supports the hypothesis that such meronymies are an areal feature of Mesoamerican languages. At the same time, Yucatec meronymy has traits not attested in the previously studied systems. In particular, the division into subsystems for volumes, surfaces, and curvature extremes seems to be unique and indicates that there are more than those previously recognized two types of productive geometric meronymies. Levinson's (1994) non-metaphorical analysis of Tseltal meronymy is supported by the finding that the (fully productive) surface terms of Yucatec are not (used as) body part terms (with the exception of *pàach* 'back'). At the same time, however, even though volume labeling in Yucatec has all the signature traits of the algorithm Levinson described for Tseltal, it is not fully productive and frequently involves hedges and similes, suggesting algorithmic mapping is not necessarily non-metaphorical. These findings have important potential implications for the theory of analogical domain mappings in cognition.