

Partial and full colexification in the perception domain

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Research on colexification suggests various factors influence the mapping between words and meanings across languages (e.g., Xu et al. 2020, Brochhagen & Boleda 2022). Focusing on the semantic domain of perception, we report new work that extends the empirical focus to partial colexification, in which two senses are associated via partial identity of forms (e.g., compounding or derivation). Our departure point is Viberg (1984), who proposed semantic extensions of perception verbs are universally constrained by a biologically motivated sense modality hierarchy, with vision at the top, followed by hearing, and then touch, taste, and smell. Viberg found that while perception verbs extended their meanings via partial colexification to denote sense modalities beneath them on the hierarchy (e.g., HEAR + ODOUR → SMELL), the reverse direction of extension was unattested. While this unidirectional claim has been described as a universal of semantic change (e.g., Evans & Wilkins 2000, Riemer 2010), it has yet to be tested quantitatively.

Drawing on a balanced sample of perception verb lexicons in 100 languages, we examined whether there are cross-linguistic regularities in the partial colexification of sensory meanings. First, addressing the unidirectionality claim, we confirm a robust typological tendency for sensory meanings higher on the proposed hierarchy to extend to those beneath them. Rather than ascribe this to a biologically grounded sense modality hierarchy however, we suggest it is better understood in terms of frequency asymmetries and the general cross-linguistic tendency for sources of semantic extensions to be more frequent than their targets (Harmon & Kapatsinski 2017, Haspelmath 2006, Winter & Srinivasan 2022).

We then turn to the cross-modal semantic associations represented in the set of partial colexifications and ask whether these pattern similarly to those arising from full colexification. Strikingly, while HEAR-FEEL is the cross-modal pair most frequently colexified across languages and geographical areas, we find these meanings are almost never linked via partial colexification. This suggests that, for this domain, partial and full colexification are motivated by different underlying factors. While full colexification can be understood to be driven by conceptual resemblance between meanings (Xu et al. 2020), we suggest partial colexification is the grammaticalized outcome of the communicative need to distinguish between interpretations of polysemous perception verbs. In the case of polysemies involving SMELL or TASTE, compounded sensory nouns are typically recruited for this; for polysemous HEAR-FEEL verbs, languages tend to rely on clausal strategies to differentiate between sensory interpretations. This observation lends cross-linguistic support to the idea that sense modality information tends to be encoded differentially across lexical categories (Strik Lievers & Winter 2018). More generally, our study highlights the need to consider both conceptual and communicative factors in the mapping between words and meanings.

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