We propose a model of spatial reference frames that captures conceptual distinctions relevant for linguistic constructions as well as gestures expressing spatial relationships. The model uses simple spatial depictions that represent abstract concepts underlying the communication about space, starting from the seminal account by Levinson (2003). Levinson proposes to differentiate between three basic spatial reference frames: absolute, relative, and intrinsic. We account for these three types by using a uniform spatial schema, consisting of a set of spatial roles (locatum, relatum, and, optionally, vantage), and the relations between them, together with a directional system. The assignment of roles and relations depends on the underlying conceptual reference frame. Both language and gestures draw on these basic elements in systematic ways, as represented in the model. The roles of locatum, relatum, and vantage can be filled by entities taking on the discourse roles of speaker, addressee, and participant (grammatically expressed by first, second, and third person). Each of the roles may remain unspecified in a linguistic description. With gestures, assignment depends on the ways in which the vantage and directional system are conceptually transposed from the current position, or represent actual relationships in the world.

Our model is based on English (cf. Tenbrink, 2011; Tenbrink & Kuhn, 2011) and Yucatec Maya (cf. Le Guen, 2011a, b), but is designed to be essentially language-independent; i.e., it can be straightforwardly extended to cover further concepts that may be used in other languages. It provides a toolbox of basic roles and relations that is suitable for representing abstract relational concepts conveyed by linguistic descriptions as well as gestures. It may thus serve as a framework for comparing lexicogrammatical as well as pragmatic structures of language in the ubiquitous domain of space. Crucially, this is the first endeavour to capture conceptual patterns for spatial relationships as expressed by gestures consistently with those identified for language.


