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Coordinating and Sharing Gesture Space in Collaborative Reasoning

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McNeill (1992) describes co-speech gestures as occurring in a space that "can be visualized as a shallow disk in front of the speaker, the bottom half flattened when the speaker is seated," in which "the fore-aft dimension is short[en]ed" (p. 86). McNeill finds that iconic (representational) gestures fill the center space in front of the speaker's chest, while metaphorics (serving meta-discourse or pragmatic functions) occur lower in space, and deictics (indexical or pointing gestures) extend into the periphery (p. 88). Kendon (2004) notes that gestures incorporating deixis are "spatially inflected" in the direction of their referents (p. 311), which may include other interlocuters, objects or locations in the surrounding space, or objects or locations in a virtual or narrative space (Haviland 2000)—the latter emphasizing the relation between gesture space and mental spaces conceptualized by the speaker and other discourse participants (Sweetser 2007).

The present study examines the use of gesture space in collaborative reasoning. Participants (3 to 5 college students per group) sought to explain the causes of seasonal climate changes, phases of the moon, and variations in tides. Participants were observed to use representational and deictic gestures to introduce facets (remembered bits of knowledge), to coordinate their ideas with others, to fit facets together into a model, to test the model's predictions, and to seek agreement from groupmates. Speakers used their own gesture space to introduce facets and to mirror others' gestures as a way of testing ideas or signaling agreement. More collaborative groups (those less dominated by individuals or extended turns-at-talk) blended gesture space to form a shared space for model-building and testing, with occasional retractions to depict or probe an idea. Among other things, the study demonstrates the fluidity of gesture space and its relation to speaker alignment and mutual construction of meaning.

Selected References

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