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How to disagree on a church window's shape gesturally. Typology-based explanations for meta-communicative acts in MM dialogue

The relation of gesture to dialogue structure has so far not been a prominent topic in gesture research, an exception being the research of Bavelas et al. The classical typology into gesture categories like iconic, indexical and so on fares quite well, at least if we consider single contributions, turns or propositions. If, however, we inspect first, second and third turn positions in dialogue, say, from a Sacks-Schegloff-Jefferson perspective, we better move from a categorial view on gesture to a more functional one. This is the methodology I want to suggest in this talk which has four sections: to illustrate the gesture-dialogue relation, I first discuss an example (translated into English) from the Bielefeld Speech-And-Gesture-Alignment corpus (SAGA), where a Router reports his car ride through a virtual town to a Follower. Somewhere in the dialogue, the Follower recapitulates the Router's description of a particular church:

Follower: The windows of the church with the round roof, they were typical church windows, too. Well, square, round. (two-handed drawing gesture starting with bottom of church window and proceeding to top).

Router: Exactly, it had mainly windows towards the bottom. These were simply these church windows. Simply, straight at the bottom and kind of pointed at the top. (two-handed drawing gesture for gothic church window).

The Follower's ellipsis starting with *Well* can only be understood if interfaced with her gesture. The gesture specifies where exactly squareness and roundness reside. Hence, it provides complementary information. The Router's use of gesture is perfectly aligned with his speech. His speech AND gesture also contain a repair, kind of pointed substitutes for round. Why is the Router's gesture essentially similar to the Follower's? Why will his repair work? This may be due to a convention for signing church-windows or due to an act of ad-hoc alignment. Both versions lead to the problem that specific gesture shapes co-occurring with speech can be equipped with specific meaning. Issues like these will lead us to conventionalisation, gesture typology and partial ontology.

Secondly, I briefly explain the typology model for the SAGA corpus, roughly a multiple inheritance hierarchy and an associated partial ontology specifying the semantics of gesture constituents and gestural wholes. The multiple inheritance hierarchy contains entities based on gesture morphology. These are single features like hand-shape, wrist-movement and others, then objects of various dimensions ranking from 0 to three and, finally, composites of objects of same or different dimensions. For example, idealizing somewhat, the church-window gesture consists of an "open" cuboid and a triangular prism grafted onto it.

In the last section it is shown how the information coming from the gesture typology interfaces with verbal meaning. It interfaces with the propositional information contained in the contributions of the dialogue passage and the dialogue structure, especially the meta-communicative grounding action. The repair gesture leads to down-dating the information of the Follower and to achieve grounding, i.e. mutual belief among Follower and Router about the church window's shape.

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