
Tracing heads: Kinematic and linguistic patterns of non-manual signals in spoken and signed interaction.

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Non-manual signals such as head movements are crucial components of both spoken and signed interaction, yet their kinematic properties as well as their pragmatic functions are rarely examined in a cross-modal perspective. In this keynote, I draw on a series of studies investigating how non-manual articulators – primarily head nods and head shakes – encode feedback, affirmation, negation, and further linguistic functions across signed and spoken languages. My research primarily relies on free interaction multimodal corpora, capturing naturalistic communicative behavior (Bauer 2023; Bauer & Poryadin 2023a,b; Bauer et al. 2025c). Using motion- and face-tracking techniques (OpenPose, OpenFace), we uncover systematic differences in the kinematics of feedback vs. affirmation head nods (Bauer et al. 2024, 2025a), as well as negating vs. pragmatic head shakes in signed and spoken languages (Bauer et al. subm). Further analyses of German Sign Language (DGS) and spoken German head movement pragmatic functions highlight modality-specific preferences (Bauer & Ladewig, subm.), while cross-linguistic comparisons reveal broader patterns of multimodal expressivity across various spoken languages. Using a cluster-analytic approach, we additionally identify the sets of articulators involved in the production of multimodal feedback across language modalities (Bauer et al. 2025a). Together, these findings demonstrate how non-manual signals provide a window into the interplay between central processing and peripheral realization, revealing both shared tendencies and modality-specific strategies in human interaction.

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