
On the functional role of non-articulatory gestures

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In addition to the articulatory gestures of their vocal apparatus, speakers tend to make movements with other parts of their body as well while they produce their utterances. Just as it would be very unnatural if they would talk in a constant monotone or without any variation in tempo, rhythm or voice quality, it would likewise be extremely odd if they would stay completely immobile during the act of speaking, without producing any motions of their fingers, hands, arms, head or eyebrows. To some extent such bodily gestures may be somewhat random in nature, but it has been argued that their type and frequency can depend on the specific communicative context in which they occur, and they can also serve specific linguistic and social functions, e.g. to highlight important information in the discourse or to steer the turn-taking mechanism. The current paper focusses on how speakers exploit gestures for interactive purpose in exchanges with a speaking partner. We will show how a speaker's gestural behavior is affected by a speaker's perception or awareness of his/her addressee (e.g. whether a speaker can or cannot see his/her addressee and vice versa) and how the degree to which speakers copy a partner's gesture is dependent on its meaningfulness. In addition, we will show how speakers adapt their gestural behaviour to characteristics of their speaking partner (e.g. whether that person is very extravert of introvert), and how gestures that signal various types of feedback can reflect specific personality traits. The overview of observations to be discussed in this talk will provide insight into the interactive usages of gestures, where we will also reflect on how such results can be implemented in specific applications, e.g. to improve the naturalness and believability of synthetic characters (e.g. avatars).