
The vocal brain: cerebral processing of social information in voices

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Abstract

The human voice carries much more than ‘just’ speech: it is rich in socially relevant, speaker-related information which normal adult listeners appear to be particularly skilled at extracting. When we hear a voice-whether or not it carries speech in a language we can understand-we form quite accurate impressions of the speaker’s physical characteristics such as gender, approximate age and size; we also perceive valuable information on his or her affective state, sometimes at odds with the spoken message; we form an impression of the person’s personality that strongly affects future interactions. Despite their importance in our everyday interactions, the cognitive and cerebral mechanisms of social voice processing remain largely unexplored compared to other areas of social cognitive neuroscience such as cerebral speech perception of face processing. In this lecture I will present evidence showing that our voice cognition abilities are supported by an evolutionary old, complex network of cerebral regions of which the temporal voice areas of auditory cortex constitute a crucial node, with a functional organization essentially similar to that of cerebral face processing.

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