

Communicating about vision and touch in two unrelated languages

Saskia van Putten¹ & Asifa Majid²

¹Radboud University Nijmegen ²University of Oxford

¹saskia.vanputten2@ru.nl, ²asifa.majid@psy.ox.ac.uk

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Traditionally, it has been assumed there is a universal hierarchy of the senses with vision at the top as the sense most important for human cognition. This hierarchy can be observed in language, for instance in the range of meanings and frequency of use of basic verbs of perception (San Roque et al. 2015; Viberg 1983). However, research on descriptions of sensory experiences and how efficiently these can be encoded shows great variability between languages (Majid & Burenhult 2014; Majid et al. 2018). In this presentation we follow up on this research by focusing on a comparison of vision and the sense of touch, which have not been investigated systematically in comparative study as yet. We explore the domains of texture and shape, which are particularly interesting because they can be apprehended through both vision and touch. We focus on two unrelated languages spoken in different parts of the world, Dutch (Netherlands) and Avatime (Ghana). Neither has been tested previously in this paradigm, but based on data from related languages, we predicted that Dutch speakers (like English) would show better performance on visual than haptic stimuli, whereas Avatime speakers (like other West African languages) would show better performance on haptic than visual stimuli (see, e.g., Majid et al., 2018).

In both communities, participants took part in a communication task in which one person had to describe shape or texture stimuli and the other person had to select the described stimulus out of a range of stimuli. Participants either saw the stimuli or explored them by touch, while blindfolded. As a measure of the speaker's ability to efficiently linguistically code the sensory stimuli, we measured the agreement between speakers on the descriptors used for each stimulus. As a measure of listener comprehension, we recorded whether or not the listener could select the correct stimulus accurately.

We found an effect of language on the relative codability of the senses. As predicted, Dutch speakers agreed more in how they described stimuli when participants could see the stimuli than when they explored them by touch. However, there was no difference between conditions for Avatime speakers. In addition, we found Dutch speakers showed higher agreement in naming shape than texture stimuli. Again, in Avatime, the two domains did not differ in codability. With respect to communication accuracy, we found regardless of sensory modality or stimulus type Dutch speakers more often selected the correct stimulus than Avatime speakers. This is surprising given the differences in linguistic coding by speakers, suggesting that efficient codability and communication accuracy may present different pictures of the relation between language and the senses.

All in all, these findings support the growing recognition that languages and cultures differ in which senses are most salient for communication. Although Dutch speakers show the same visual dominance reported in other Western languages, the Avatime data clearly show that vision is not universally dominant. The sense of touch can be as important as vision in the right cultural context.

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