World Knowledge, Context and Structure: The use and acquisition of dimensional adjectives

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Abstract

Language is produced and interpreted in context, not only within an immediate physical context, but also in the context of interlocutors' previous linguistic and physical experiences, which constitute their world knowledge. Yet, despite each speaker's unique set of experiences, speakers generally manage to converge on representations of categories and their associated linguistic descriptions which are similar enough to enable communication. This dissertation investigates the way speakers acquire these representations and the ways the immediate context and world knowledge interact in language use. To this end, I focus on dimensional adjectives, such as *big* and *tall*, which have been shown to be highly context dependent. The first part of this dissertation examines the acquisition of the field of dimensional adjectives, and how context contributes to that process, while the second part zooms in on a single pair of dimensional adjectives, *big* and *small*, in order to examine the interaction of world knowledge and immediate context in determining their interpretation.

In contrast to other adjective domains such as color or evaluative adjectives, dimensional adjectives all designate the physical extent of an object. Additionally, they specify the relevant dimension (e.g. verticality for *tall*) and polarity, and are associated with an antonym of opposing polarity. Associating an adjective with its antonym requires understanding the contribution of all of its components, and therefore studies of antonymy can provide a window into the structure of the lexical field. Through an experiment designed to elicit dimensional antonyms from Hebrew speaking children aged 3 to 7, using pictures for contextual support, I show that the stages of acquisition of dimensional adjectives reflect progressive and structured knowledge of these meaning components.

Having laid out the structure of the lexical field, the second part of this dissertation

focuses in on the most general of the dimensional adjectives, and the first acquired, *big* and *small*. The interpretation of a dimensional adjective in the positive form (e.g. *big*) is dependent on the scale representing the property, such as size, height or length, associated with the adjective pair. In order for an object to count as *big*, its size must exceed some threshold, defined in relation to a contextually determined "comparison class". Researchers often implicitly assume that only the objects in the immediate visual context constitute the comparison class, but I show this is an oversimplification. I explore the factors determining the composition of the comparison class and argue that real world size information and prototypicality play crucial parts in its determination.

I present a series of experiments probing the nature of the comparison class used when determining the applicability of *big* and *small* to a series of objects (e.g., 7 mice of increasing size). Experiment 1 shows that information from the immediate visual context is integrated with world knowledge to form the comparison class. Experiment 2 shows that prototype information about the category depicted is utilized when determining the applicability of *big* and *small* to cartoon images, while for photographs speakers rely more heavily on their prior knowledge about the actual size of these objects. Experiment 4 provides evidence that the effects observed in Experiments 1 and 2 are not caused by the adjectives used, but rather reflect differences between the size of the objects depicted in the images. Experiments 3 and 5 demonstrate that the effects observed in Experiments 1, 2 and 4 are stable when the stimuli are presented in a randomized order, and thus are unlikely to be caused by participants adopting a fixed response strategy. These experiments provide the foundation for arguing that adjective comparison classes are representations determined by integrating world knowledge of various kinds with information from the immediate visual context, thus contributing to our understanding of dimensional adjective interpretation.