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Abstract

All talk and action: how language and action impact on artificial cognition

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It has long been suggested that cognition and language impact on each other and recently this thesis has received new interest through a number of new studies from experimental psychology showing how perception is influenced by the language we speak. We present a brief overview of these studies and present a number of computational models suggesting how and why cognition is influenced by language in humans. Specifically we will focus on the acquisition of categories and concepts, where linguistic labels act as a catalyst during the acquisition of categories and concepts. Next, we will argue that language can play an important role in acquiring and structuring actions, from action primitives to hierarchical actions. As actions are in essence representations, they will not only be formed through interaction with the environment, but should also be sensitive to linguistic input. We suggest a number of cases in which language might help structure action learning.