

## Language as a Mediator Between Tool Use and Self-Consciousness

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There are three important aspects I see when comparing humans to other mammals: Tool use, the role of language and its mental representation, and self-consciousness.

### **Tool Use**

I agree that the wide cultivation of fire is something unique to human culture. However, it is not unique to the human “hardware”. As an example, a bonobo named “Kanzi” was taught how to make fire, collecting wood and using a lighter, and even to prepare food (NHK, 1993). Apparently, Kanzi not only managed to learn the technique, but found joy in it afterwards, without assistance. One may suggest that Kanzi was only taught how to use a lighter, and not capable to control fire. However, not having a lighter: How many people, today, do have the skills to light a fire without at least matches? Human tool use nevertheless appears to be the most sophisticated on this planet.

### **Language**

Regarding the role of language, I follow Vygotsky’s (1938/1978) view of language as abstract tool use turned inward: language has become a meta-tool to handle thoughts. Therefore, I reject Skinner’s notion that thoughts are not causative for action. Vygotsky’s most illustrative example were children who learn to make a choice: In an initial stage, children point towards several alternatives, and when the pointing finger comes to a rest the decision is made. The pointing *is* the decision process. With practice, the internal representation of the choice-making becomes abstract, and at some point, the selection

process becomes internal and precedes the pointing. Then, the pointing is no longer a tool of thinking, but one of signalling an already made choice. In an initial stage, all information needs to be present in the field of view. Once the mental abstraction is complete, the process can be done with imagination.

A similar question has been raised by Seyfarth & Cheney (2010) regarding animal vocalizations: Are they mere reaction to threat or do they really inform peers intentionally? A sequence may be proposed: Initially, utterances are a reaction to the presence of a threat. A peer, however, observes screaming mate and threat at the same time, creating a connection. At some point, dependent on the ability to self-control, language may emerge when utterances are made to signal. The basic learning capability of brains appears to be the reduction of arbitrariness (impulse control), whether singling out desired variations from random movements, random thoughts, or modulating inborn vocalizations. One may argue that human speech is little more than a sophisticated, impulse controlled modulation of the inborn instinct of babies to scream.

### **Self-Consciousness**

If consciousness turns towards itself (self-consciousness), identity may be formed. Identification appears to be linked with the ability to recognize oneself in a mirror and one of the most basic functions of intelligence that precedes language.<sup>1</sup> The ability to identify with abstract concepts appears to be exclusively human. With self-conscious language, another challenge arises: the ability to pose questions that are not answerable, for example, the origin of the world. The resulting metaphysics also appear to be uniquely human.

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<sup>1</sup> This observation is old and identification as basic mental operation already present as *ahamkara* in the ancient Indian Samkhya model and Upanishads (900-600 BCE). Please see *ahamkara* (n.d.).

## References

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