

Thinking of Things Unseen

August 02, 2007

One of the most distinctive characteristics of humans is probably one you don't think of very often — the capacity to learn based merely on what someone tells you. Think about it: new information is most often given to us about entities that aren't present.

For instance, if we are told that our neighbors' son has died his hair purple, we update our mental image of him to accommodate this newly acquired information.

What is unknown, however, is when we become capable of revising our mental representations of objects or situations based solely on what someone tells us.

To answer this question, Boston University psychologist Patricia Ganea and her colleagues set up a series of experiments.

The researchers asked 19-month and 22-month –old infants to name a toy that was presented to them in the lab. After a short time, the toy was taken from the infants and placed in an adjoining room. Later, while the toy was out of view, lab assistants told the infants that the toy had become soaking wet after someone mistakenly spilled a bucket of water.

The question was whether the infants would incorporate this information into their mental representation. When asked to retrieve the animal from the next room, would they reach for the newly wet stuffed toy, or a dry version identical to what they had been previously presented?

The researchers found that the 22-month-olds, but not the 19-month-olds, were able to identify the toy based solely on the property that they were told about but had never seen.

The study, appearing in the August issue of *Psychological Science*, a journal of the Association for Psychological Science, suggests that before the end of their second year, infants have become capable of updating their knowledge using what other people tell them.

“This nascent ability,” writes Ganea, “constitutes a significant cognitive advance, enabling children to vastly expand their knowledge by learning about the world through verbal interaction.”