

# Monkeys also reason through analogy

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Recognizing relations between relations is what analogy is all about. What lies behind this ability? Is it uniquely human? A study carried out by Joël Fagot of the Laboratoire de Psychologie Cognitive (France) and Roger Thompson of the Franklin & Marshall College (United States) has shown that monkeys are capable of making analogies. Their results are just published in the journal *Psychological Science*.

A cat takes care of a kitten and a bird feeds fledglings: although the context is different, these two situations are similar and we can conclude that both cases involve a mother and its offspring. For a long time researchers believed that this type of analogical reasoning was impossible without language and that it was restricted to humans or, at best, great apes that had been taught a language. However, two scientists, Joël Fagot and Roger Thompson, have demonstrated that [monkeys](#) are capable of making analogies without language.

The two researchers carried out their experiment on 29 baboons (*Papio papio*) of variable ages, which could freely perform the proposed exercise (this represents a large number of animals for this type of experiment). First of all, the baboons were shown two geometric shapes on a touch screen, for example two squares. After they touched one of these shapes, two other pairs of shapes appeared on the screen, such as: a triangle and a star for the first pair and two identical ovals for the second pair. To successfully complete the exercise and be rewarded, the animal had to touch the pair representing the same relation (of identity or difference) as the initial pair (here, the two ovals). In other words, the baboon had to detect relations between relations, which is the definition

of analogy. After an intensive learning period covering several thousand tests, 6 baboons correctly performed the task, thus demonstrating an ability to resolve analogy problems. Furthermore, the researchers suspended the task for nearly one year before proposing it again to the baboons. The animals re-learnt the task much faster than during the initial training, which shows that they remembered the situation.

This work therefore proves that language is not necessary to analogy. But how can animals use this skill? This adaptive ability, especially useful to the monkey, could in particular serve in the transfer of knowledge from one field to another.

**More information:** Generalized Relational Matching by Guinea Baboons (*Papio papio*) in two by two-item analogy problems – Roger K. R. Thompson and Joël Fagot, *Psychological Science*, 20 September 2011.

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