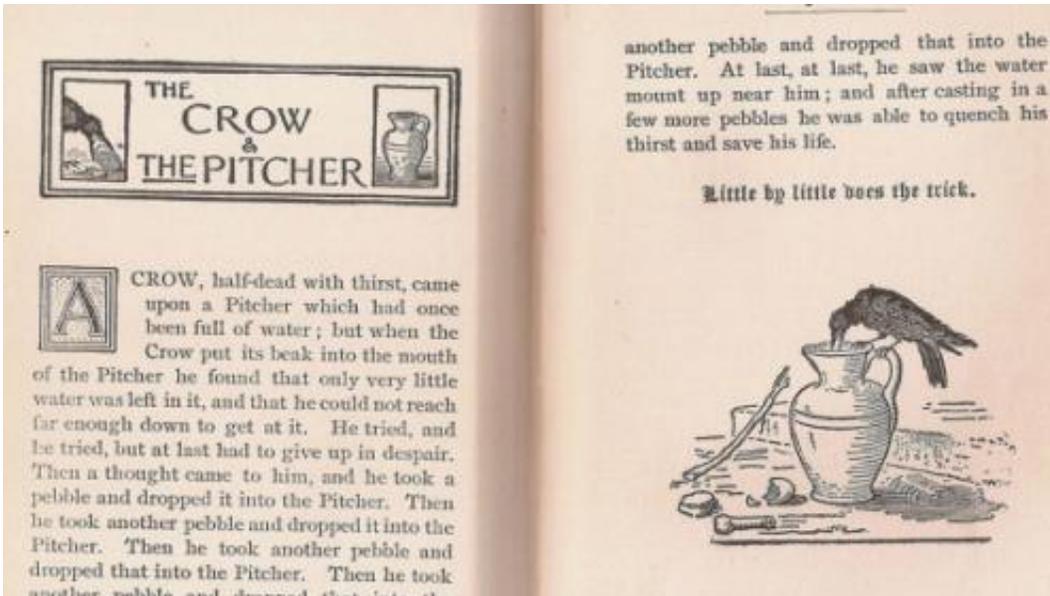


Aesop's Fable unlocks how we think

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(Medical Xpress) -- Cambridge scientists have used an age-old fable to help illustrate how we think differently to other animals.

Lucy Cheke, a PhD student at the University of Cambridge's Department of [Experimental Psychology](#) expanded Aesop's fable into three tasks of varying complexity and compared the performance of Eurasian Jays with local school children.

The task that set the children apart from the Jays involved a mechanism which was counter-intuitive as it was hidden under an opaque surface.

Neither the birds nor the children were able to learn how the mechanism worked, but the children were able to learn how to get the reward, whereas the birds were not.

The results of the study illustrate that children learn about cause and effect in the physical world in a different way to birds. While the Jay's appear to take account of the mechanism involved in the task, the children are more driven by simple cause-effect relationships.

Lucy Cheke said, "This makes sense because it is children's job to learn about new cause and effect relationships without being limited by ideas of what is or is not possible. The children were able to learn what to do to get the reward even if the chain-of-events was apparently impossible. Essentially, they were able to ignore the fact that it shouldn't be happening to concentrate on the fact that it was happening. The birds however, found it much harder to learn what was happening because they were put off by the fact that it shouldn't be happening."

The tasks were a variation of Aesop's fable that consisted of using a tube of [water](#) containing an out-of-reach prize. The subjects were required to use objects to displace the water so that the prize could be reached.

The first task involved two tubes, one filled with a prize amongst sawdust while the other tube contained a prize floating out of reach in water. The subject was presented with objects and was to choose which tube with which to drop the objects into: the sawdust or the water. Dropping objects into the tube containing [sawdust](#) obviously did not raise the level of the prize, whereas dropping the objects into the tube containing water created displacement and raised the prize within the reach of the subject.

The second task involved only one tube of water with a floating prize, but the subject was given a choice of what type of object to drop into the

tube: an object that floats or another that sinks.

The final task presented the subject with an apparatus that consisted of one u-shaped tube with a wide arm and one narrow arm, and one single straight tube. These were imbedded in an opaque base so that the joining of the U-tube was hidden and the apparatus appeared to consist of two identical wide tubes with a narrow tube between them. Both the u-tube and the straight tube were filled with water such that the level was equal between them. The prize was inside the narrow arm of the u-tube, too narrow for the subject to insert an object to create displacement. Therefore, the subject was forced to pick one of the wider tubes on either side. If they picked the Wide arm of the u-tube, then the level of the [prize](#) would rise, but if they picked the single tube, it would not. Because the join of the u-tube was hidden, it appeared to the subjects as if dropping an item in one tube caused the level of water in a different tube to rise: which is impossible.

The [birds](#) were unable to complete this task, whereas the children performed at the same level as in the previous tasks, easily determining which tube raised the level of the water through trial and error.

Lucy added, "The Aesops fable paradigm provides an incredibly useful means by which to compare cause-effect learning with understanding of underlying mechanisms, i.e. folk physics. We are planning on extending this paradigm to really try to understand what's going on in the heads of adults, children and [animals](#) when they deal with problems in the physical world."

[Lucy](#) continued, "We would like to thank the staff, [children](#) and parents at Godmanchester community primary school for taking part in the study".

More information: The study entitled: How do Children solve Aesop's

Fable? Is published today (July 25th) in *PLoS ONE*.

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