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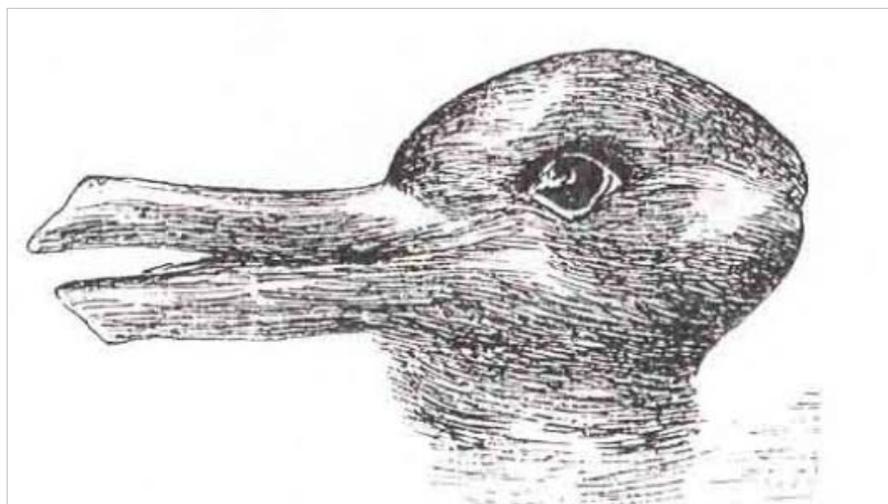
# Researchers may have found world's oldest optical illusion

Experts of Paleolithic art in France say some cave drawings have a reoccurring theme.

By Katherine Butler

Fri, Jan 14 2011 at 3:29 PM EST

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WHAT IS IT?: The famous "rabbit duck" optical illusion. (Photo: Wikimedia Commons)

An optical illusion is when an item is perceived differently from an objective reality. One of the more famous optical illusions is the drawing (pictured above) of a "rabbit duck" which first appeared in Harper's Weekly in 1892. But as National Geographic reports, researchers have discovered that ancient man was also adept at creating optical illusions. In a recent paper presented to an international convention of rock art researcher, Duncan Caldwell revealed that optical illusion plays a "reoccurring part" in Paleolithic art of several caves in France.

Caldwell and others have determined that bison and mammoth drawings on a cave of Font-de-Gaume, France, often share lines and features. As National Geographic explains, "For example in the modern drawing below of an image from Font-de-Gaume, one main body shape, underbelly, and set of legs is adorned with signs of both mammoth and bison heads at both ends."

Cave art isn't the only forum in which ancient artists replicated optical illusions. A small figurine from another French site shows a bison on one side and a mammoth on the other. As National Geographic notes, the Paleolithic artist used the similar contours of the bison and the mammoth to create an object that represents both animals. The bison and the mammoth seem to be

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the only animals in which optical illusions were employed, most likely because of their similar stature.

There are [three main types](#) of optical illusions. Literal optical illusions create images that are different from the object that created them. Cognitive illusions are when the eyes and the brain make different assumptions about an object. And physiological illusions are what happen when light, color, tilt and movement affect the eyes and the brain.

Optical illusions occur in the brain because of a neural lag. Mark Changizi is a researcher at Rensselaer Polytechnic Institute in [New York](#). [As he told Live Science](#), "When light hits your retina, about one-tenth of a second goes by before the brain translates the signal into a visual perception of the world." This foresight has evolved to help us react to the world around us and is almost like seeing into the future. As Changizi explains, optical illusions happen when our brains try to perceive the split-second future and it doesn't match up with reality.

Inevitably, perception seems to be in the eyes of the beholder. Experts note that when children are tested about [Harper Weekly's "rabbit duck"](#) in October, they see a duck. But if they are tested around Easter Sunday, they see a rabbit. Roll back into history, and a duck becomes a bison while a rabbit becomes a mammoth.

**For further reading:**

- [World's oldest optical illusion found?](#)
- [Key to all optical illusions discovered](#)



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### Duncan Caldwell was the sole researcher

Posted By Paleo Observer - Mon, Jan 17 2011 at 2:09 PM EST

As National Geographic reported correctly, Duncan Caldwell was the only researcher involved in making this discovery. He was the only author of the underlying paper and was also alone in presenting this and related observations at the IFRAO Congress on Pleistocene Art of the World.

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