

## The Real Thing?? – mirror magic

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In this video the illusion of a mirror is created by arranging a symmetric scene using two coke cans and placing an empty photo frame in the middle. Even as elements designed to convince the viewer are stripped away, the illusion persists when the scene is viewed quickly. The illusion is also fairly robust when the angle is varied or binocular vision is used.

What are the psychological mechanisms that cause the brain to assume it is looking at a mirror? It can't be an evolved mechanism as mirrors are a relatively recent invention in terms of natural history.

What are the key elements that cause the assumption? I believe this would make a fruitful research study by varying the parameters and see where the illusion breaks down. For example, would a circular mirror rather than a rectangular mirror work equally.

The illusion was initially sparked by an accidental discovery at home. I was handling a broken mirror frame and momentarily the scene through the frame caused my brain to think it was seeing a reflection. I then went down to my office and made the second illusion in the video by placing a piece of coloured paper on my desk and cutting away all the excess paper that was seen to be on the outside of the frame. The idea of a moving hole (the first illusion in the video) came later. I like how the "misdirection" of watching the moving hole is incredibly strong and the brain misses out on perceiving the background is moving. This is especially noticeable on the left side of the cardboard where there is creases in the cardboard.

I would love to hear your thoughts on the science behind the illusion and how you think it could be strengthened. Thanks for reading, Matt, Nov 2020.