

Humans Do Not Understand Mirror Reflections, Say Researchers

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Psychologists at the University of Liverpool have found that people still find it difficult to understand how mirrors work.

Dr Marco Bertamini, from the University's School of Psychology, conducted a number of experiments by covering a mirror on a wall and inviting participants to walk along a line parallel to the mirror.

He asked them to guess the point at which they would be able to see

their reflection. Results showed that people believe they can see themselves even before they are level with the near edge of the mirror.

Dr Bertamini said: “People tend not to understand that the location of the viewer matters in terms of what is visible in a mirror. A good example of this is what we call the Venus Effect, which relates to the many famous paintings of the goddess Venus, looking in a small mirror.

“If you were to look at these paintings, you would assume that Venus is admiring her own face, because you see her face in the mirror. Your viewpoint, however, is rather different from hers; if you can see her in the mirror then she would see you in the mirror.”

Participants were also asked to estimate the image size of their head as it appears on the surface of the mirror. They estimated that it would be a similar size to their physical head. However, participants based their answer on the image they saw inside the mirror rather than on the image on the surface of it. They failed to recognise that the image on the surface of the mirror is half the size of the observer because a mirror is always halfway between the observer and the image that appears inside the mirror.

Dr Bertamini added: “Mirrors make us see virtual objects that exist in a virtual world; they are windows onto this world. On the one hand we trust what we see, but on the other hand this is a world that we know has no physical existence. This is one of the reasons why throughout history people have been fascinated by mirrors.”

Source: the University of Liverpool

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