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VENICE ASIAGO 2016

DATE: 3rd September 2016

TIME: 9:00 - 10:15

LOCATION: Osservatorio Astronomico di Asiago, via dell'Osservatorio, 8; Asiago, Vicenza

Mirror cognition

What we can learn from what people cannot learn about mirrors.

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ABSTRACT

Mirrors are familiar objects in our environment, we use mirrors effectively, and we recognise ourselves without effort. Yet many simple aspects of mirror reflections are surprising for a large number of children and adults.

This difficulty in understanding how mirrors work leads to prediction errors. We can identify two types of errors. The first type relates to questions of what can be seen from where. This issue is linked with the role of the viewpoint in perception and in memory. The second type relates to information on the surface of the mirror itself. This issue relates to size constancy, distance perception and the nature of the distal stimulus.

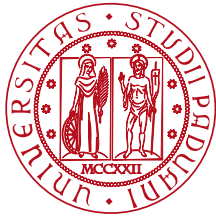
In this respect mirrors are transparent surfaces akin to glass windows. The nature of these two types of errors is different, and I will also illustrate both of them with a series of studies and also in relation to some works of art in which mirrors are present. Indeed, artists across the centuries have taken advantage of certain aspects of mirror cognition.

In addition, I will illustrate the difficulty in detecting mirror reversals using two famous films by Kurosawa, to test whether mirror reversal affects what we like. Mirrors also provide information about the self but not from a first person perspective, thus showing the flexibility of the system in how sensory information is used to update body image.

Mirrors remain unique tools to study many aspects of human perception and cognition.

FURTHER READINGS

- 1) Bertamini, M., and Parks, T.E., (2005). On what people know about images on mirrors. *Cognition*. 98:85–104. doi:10.1016/j.cognition.2004.11.002.



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- 2) Bianchi, I., et al., (2008). Estimation and representation of head size (people overestimate the size of their head – evidence starting from the 15th century). *British Journal of Psychology*, 99:513–531. DOI:10.1348/000712608X304469.
- 3) Croucher, C.J., et. al., (2002). Naive optics: Understanding the geometry of mirror reflections. *Journal of Experimental Psychology: Human Perception and Performance*, Vol. 28(3):546–562. DOI: 10.1037//0096-1523.28.3.546.