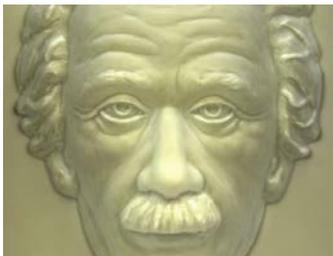
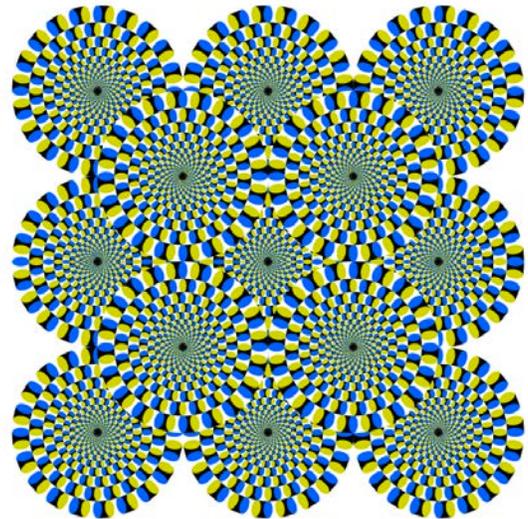




The Brain with David Eagleman
Episode 1: WHAT IS REALITY?

1) These “snakes” appear to move, even though nothing is actually changing on the page. Why do you suppose neuroscientists call illusions like these “visual illusions” instead of the colloquially-popular term “optical illusions”?



2) In the hollow mask illusion, an inside-out mask looks as though it’s coming out at you. The next time you find yourself in fresh snow, can you think of an easy (but cold) way to capture a photo of what *appears* to be a 3 dimensional sculpture of your face crafted out of snow?

3) In this episode we met people who experienced different internal realities—for example, the law professor who spoke about her schizophrenia, or the graduate student who described her synesthesia. Can you think of other examples in which someone’s reality doesn’t match up with the broader population?

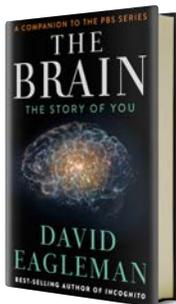
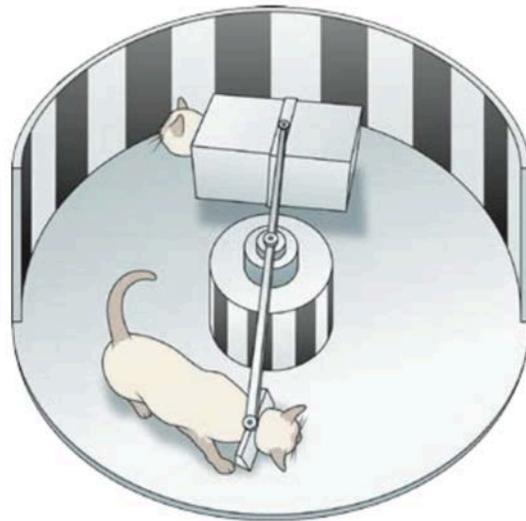
4) Do you enjoy the unpredictable and bizarre realities you inhabit while dreaming, or would you rather not experience dreaming at night? Why or why not?

5) Read the following passage and explain why one might say that *vision is a whole-body experience*:

When babies reach out to touch what's in front of them, it's not only to learn about texture and shape. These actions are also necessary for learning how to see. While it sounds strange to imagine that the movement of our bodies is required for vision, this concept was elegantly demonstrated with two kittens in 1963.

Richard Held and Alan Hein, two researchers at MIT, placed two kittens into a cylinder ringed in vertical stripes. Both kittens got visual input from moving around inside the cylinder. But there was a critical difference in their experiences: the first kitten was walking of its own accord, while the second kitten was riding in a gondola attached to a central axis. Because of this setup, both kittens saw exactly the same thing: the stripes moved at the same time and at the same speed for both. If vision were just about the photons hitting the eyes, their visual systems should have developed identically. But here was the surprising result: only the kitten that was using its body to do the moving developed normal vision. The kitten riding in the gondola never learned to see properly; its visual system never reached normal development.

Inside a cylinder with vertical stripes, one kitten walked while the other was carried. Both received exactly the same visual input, but only the one who walked itself – the one able to match its own movements to changes in visual input – learned to see properly.



Previous passage comes from the companion book, [The Brain: The Story of You](#)