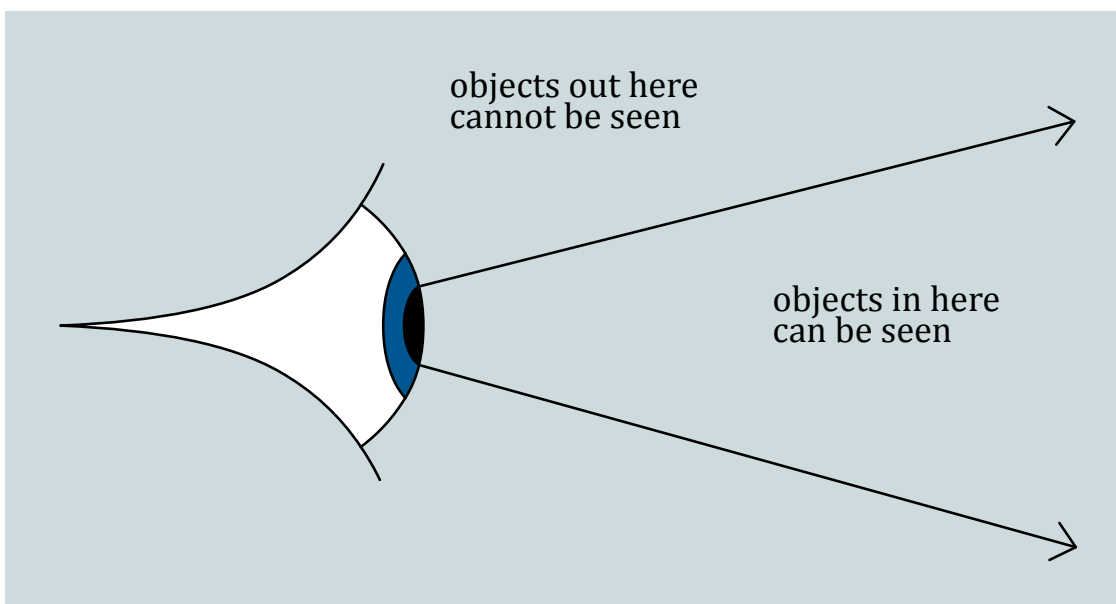


Two arguments

The ancient Greek philosopher Euclid lived in the 4th Century BC. Euclid supported the idea that the eye works through the giving-out or emission of “visual rays”. His two main arguments in favour of emission by the eyes were as follows.

Argument 1: In searching for a small object like a needle, or in looking at a page of a book, you do not immediately see the needle, or all of the letters on the page. Euclid argued that this could not happen if the images of these things were reaching the eye and making an impression. It must therefore be the eye that is the active emitting organ such that eventually one's eye rays might land on the missing needle or particular words on the page.

Argument 2: The second argument relates to the shape of the eye. Here, Euclid argued that the ear is hollow and is obviously a receiving organ, such that sound enters the ear. Conversely, since the eye has a protruding shape, it must be an emitting organ, thereby giving out light.



Euclid developed a set of rules for “visual ray optics”. He proposed, for example, that visual rays are emitted in the form of a cone, with its apex at the eye and its base at the surface of the observed object, and that these rays travel in straight lines at constant speed.

Euclid had developed his ideas about visual rays from observing sunlight streaming through cracks in the wall and spreading out into dark (dusty!) rooms. Crucially, Euclid did not consider visual rays and sunlight to be the same kind of thing and so he never made the link between light and sight.