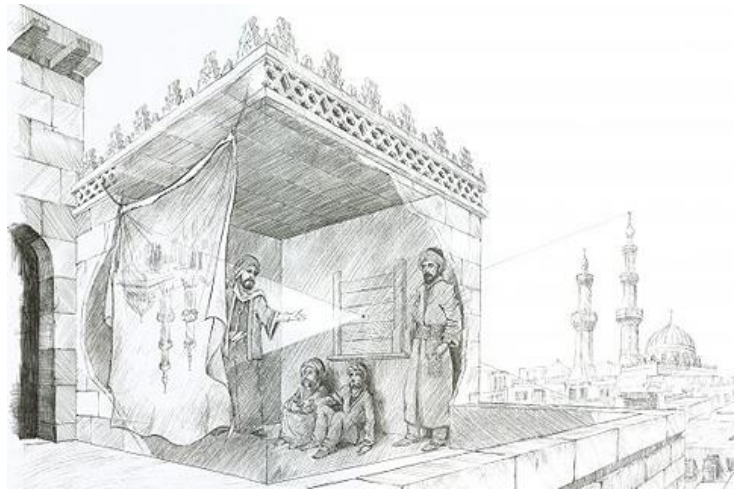


Ibn al-Haytham



Ibn al-Haytham (also known by his Latinized name of Alhacen/Alhzen) was a prominent scientist from the 'Golden Age' of Muslim civilisation. He is known for his significant contributions to the principles of optics, mathematics, astronomy, visual perception and the scientific method – in fact, due to his emphasis on experimental data as well as being able to reproduce results, he is often referred to as the 'world's first true scientist'. He was the first every person to test hypotheses and to develop the scientific method more than 200 years before any European scholars learned of it – through reading his books.

Ibn al-Haytham's knowledge and discovery completely changed our understanding of light and vision. He proved that light travels in straight lines by carrying out experiments with lenses, mirrors, refraction and reflection. He also carried out further research into structure of the eye and illusions in visual perception. For example, he always wondered why the moon looked so big in the sky when it is low-down. Previous scholars had stated that it was an effect caused by the atmosphere however Ibn al-Haytham was the first person to correctly state that it's just an optical illusion.

He was the scientist who built the first camera obscura (or Pinhole camera). A pinhole camera, or 'dark chamber' is a simple optical-imaging device in the shape of a closed box with a small hole on one of its sides via the direct propagation of light which creates an image of the outside space on the opposite side in the box. By experimenting with the camera obscura, he was able to prove and show that light enters the human eye in the shape of a geometric cone of vision. This experiment also laid the foundation for many optical devices such as cameras.

Ibn al-Haytham did a lot of in-depth studying into light and how it moves; he studied how it goes into the human eye. As he says in his Book of Optics: 'Light issues in all directions opposite any body that is illuminated with any light (and, of course, also opposite any self-luminous body). Therefore when the eye is opposite a visible object and the object is illuminated with light of any sort, light comes to the surface of the eye from the light of the visible object.'

Many of his works have been translated into Latin, including the Book of Optics, and have influenced the likes of Roger Bacon, Leonardo da Vinci and Johannes Kepler. Many of the modern inventions rely on the accurate understanding of light and vision, which are the foundations which Ibn al-Haytham laid down for us more than a thousand years ago.