

## The *Camera Obscura* As Processual Space

Almost a millennium ago, Persian polymath Al-Hacen Ibn Al-Haitham (c. 965 – 1039 CE) wrote the *Book of Optics* (1011-1021).<sup>i</sup> Born in Basra, Iraq but working predominantly in Cairo, Egypt, Al-Hacen was fascinated, amongst many other things, with the properties of light and the principles of perception and viewing. Throughout his experiments, he described the use of a special room for isolating and studying optical principles.

Let several lamps be positioned at various points in the same area, all being opposite a single aperture leading to a dark place; opposite the aperture let there be a wall in that dark place or let an opaque body be held facing the aperture: the lights of those lamps will appear separately on that wall or body and in the same number as the lamps, each light being opposite one of the lamps on the straight line passing through the aperture.<sup>ii</sup>

The *al-Bayt al-Muthlim* or 'dark house' was designed by Al-Hacen as an experimental process to assist in the observation of the properties of light. Despite the optical principles being known as early as the 5<sup>th</sup> century BCE in the writings of Chinese polymath Mozi (c. 470-391 BCE) and later in Euclid's *Optics* (c. 300 BCE), Al-Hacen's experiments were the first formal accounts and descriptions of the construction and use of a *camera obscura*.

The first use of the term *camera obscura* or 'dark room' was in 1604 by German astronomer and mathematician Johannes Kepler (1571-1630).<sup>iii</sup> It can be defined generally as a darkened chamber in which images of external objects, received through an aperture and inverted, are exhibited in their natural colors on a surface arranged to receive them. Used by artists, scientists, philosophers and many others, the camera obscura is a predisciplinary space, offering alternative views and opportunities to observe and mediate the things of the world. It offered safety to Roger Bacon (c. 1214-1294) in observing solar eclipses.<sup>iv</sup> It offered experimentation and fascination to Leonardo da Vinci (1542-1519) in his study of the eye.<sup>v</sup> It offered faithful reproduction to Albrecht Durer (1471-1528), Daniel Barbaro (1514-1570) and Giovanni Battista Della Porta (1538-1615) who may have used the process as a drawing aid. It offered secrecy and voyeurism to artist Joshua Reynolds (1723-1792) who used a camera obscura disguised as a book to observe the world<sup>vi</sup>, and it offered a prototype for the work of Louis Daguerre (1787-1851) and William Fox Talbot (1800-1877) in their inventions of photographic processes.

The camera obscura enables choice and focus. As a space separated from the world, it offers meditation and a place for experimentation. That the projected images are immediate yet inverted, the durational experience of being inside the camera obscura is a contemporary experience which reveals both the properties of light as well as the structures and strictures of the gaze. In all applications, it is not an end unto itself. It is a moment of process, a processual space - a space for choice, focus, observation, experience, experiment, meditation and mediation.

Suggesting 'camera obscura' as a curatorial concept allows for the possibility of the exhibition of an artist's work in space as unfinished – as work-in-process. The expectation for resolution and stoppage is replaced by an embracement of relation and duration. The distinctions between artist, work and viewer are rendered as nothing more than fluid choices or momentary focuses within a fluidity of relational agencies.

It is also an engagement with the near ubiquity of projection and video art within contemporary art shows. Many artists have turned towards the cinematic to explore and expose the temporalities, durations and relations that are inherent in all mediation.<sup>vii</sup> For example, Gerard Byrne, at his March 2009 show at the Lisson Gallery, included three cinematic works, two of which were 16mm projections. One of the two 16mm works, '68 *Mica & Glass (A demonstration on camera by workers from the State Museum)* (2008) projects a documentary image of installers at work. The work both explores the medium of film as well as the placement of boundaries on artwork. By presenting the process of installing work as the work-in-itself, the relations and agencies which underpin artwork are exposed, transforming the work-in-process into the work-*is*-process.

Neither the aspirations nor the strategies of the cinematic are new. Following Nicolas Bourriaud's argument for the 'altermodern' at the 2009 Tate Triennial, nothing is new.<sup>viii</sup> The world is but a heterochronic renegotiation and remediation of things present to us. This is a sentiment which itself is nothing new, anachronistically echoed by Joshua Reynolds in his *Discourses* on art: "invention, strictly speaking, is little more than a new combination of those images which have been previously gathered and deposited in the memory".<sup>ix</sup>

This is the intention of our camera obscura. It is a durational space where we can safely renegotiate and remediate the images of the world in open and recursive processes. In it, we can allow light to consume time as we experiment, observe, reflect and reinvent relations within our world.

- Ian Russell, London, March 2009

<sup>i</sup> Mustafa Nazeef Bec 1942 'Al-Hacen Ibn Al-Haitham; his optical research and discoveries', in Arabic, Nuri Publishing: Egypt.

<sup>ii</sup> A. I. Sabra (1989), Ibn al-Haytham, The Optics of Ibn al-Haytham, London: The Warburg Institute, vol. I, pp. 90-91

<sup>iii</sup> Kepler, J. 1604 'Ad Vitellionem Paralipomena' in *Supplement To Witelo, Frankfurt, Germany, p51*.

<sup>iv</sup> See Roger Bacon's 'De Multiplicatione Specierum' (Book II, ch.viii) and 'Perspectiva' for descriptions of the camera obscura.

<sup>v</sup> Descriptions of the camera obscura can be found in the 'Codex Atlanticus' (*Vinci, Leonardo, Ambrosian Library, Milan, Italy, Recto A of Folio 337*) and 'Manuscript D' (*Manuscript D, Vinci, Leonardo, Institut de France, Paris, Folio 8*).

<sup>vi</sup> The camera obscura Reynolds used which was designed by Benjamin Martin (1704-1782) is on display at the National Museum of Science and Industry, London.

<sup>vii</sup> Campany, D. (ed.) 2007 *The Cinematic*, The MIT Press: Cambridge, MA.

<sup>viii</sup> Bourriaud, N. 2009 *Altermodern*, Tate Britain, London.

<sup>ix</sup> Reynolds, J. 1824 "The Second Discourse" in J. Reynolds *The Complete Works of Sir Joshua Reynolds*, Printed for Thomas McLean, Haymarket, London, p.23.