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Simon Starling
Venus Mirrors (05/06/12, Hawaii & Tahiti (Inverted)), 2012
Two drilled 600 mm telescope mirrors, stands
Edition of 5 + 1 AP

Simon Starling
Black Drop, A Film

Venus Mirrors (05/06/2012, Hawaii & Tahiti (Inverted), 2012

Conceived as part of an on-going work concerned with the beginnings of moving image technology and its relationship to astronomy, Venus Mirrors (05/06/2012, Hawaii & Tahiti (Inverted)) presents the 2012 transit of Venus across the sun as it will be observed in June this year from two historically significant observational sites in the Pacific Ocean. The small differences in the position of the transit - as observed when the viewer overlays the reflection of one mirror onto the other - were the basis for huge leaps forward in the understanding of the dimensions of our solar system.

For six hours on the 5th and 6th of June (depending on your location on earth) it will be possible to observe a small black disc passing across the face of the sun. The transit of Venus, an extremely rare astronomical event - occuring in pairs eight years apart at intervals of over 100 years - originally predicted by Johannes Kepler and observed and recorded for the first time by the young English astronomer Jeremiah Horrocks in 1636 - was once the key to unlocking the architecture of the solar system. In what were the first internationally coordinated scientific endeavours, huge efforts were made in the 18th and 19th centuries to precisely observe and record the duration and position of the transit from geographically remote locations across the globe. These observations, which included the use of nascent cinematographic techniques, allowed for the first relatively accurate calculations to be made of the so-called astronomical unit – the mean earth-sun distance.

Black Drop, A Film

"Suppose a human hair be set up at a distance of half a mile from the observer, and that the true line of sight passed on the right-hand side of that hair. Now, if by any mischance the observer should observe the left-hand side of the hair instead of the right, that error in calculating the Sun's distance would make a difference of about a million miles."

The enthusiastic attempts in 1874 and 1882 to use the transit of Venus to refine the measurement of the mean Sun-Earth distance, the so-called 'astronomical unit', are perhaps best known for the clatter that followed the fall of this seemingly daunting hurdle to modern science. What is however less well know is that cinema, that great arbiter of modern spatial understanding, is in large part the illegitimate child of those 19th Century scientific exertions.

For many, Etienne Jules Marey's invention of the chronophotographic gun, the photographic rifle, marks a key generative moment in the evolution of cinema. However it is itself a direct descendent of an earlier device developed in 1874 by the French astronomer Pierre Cesar Jules Janssen – the revolver photographique. It was hoped that this telescope-cum-camera would allow for human-error-free analytical observations based on repeated timed exposures made of the transit in geographically remote locations around the globe. It soon became clear that the results of the 1874 observations where no more objective than those of the previous 'non-photographic' observations, the various revolvers having produced very different and therefore incomparable results.

While the 1874 Transit, itself a quintessential, if reductive, cinematic experience - a shifty planetary protagonist projected by a vast bulb-sun onto the imaginations of an earth bound audience - may not have impacted greatly on our understanding of the solar-system, it could certainly be argued that Janssen's innovative approach to chronophotography had a huge impact on the future of cinema. It is perhaps little surprise then that one of the first films ever screened in public was the Lumière Brothers footage of Janssen himself arriving for the conference of the Société Française de Photographie of 1895. Filmed in Lyon by Louis Lumière on the morning of the 15 June as the conference delegates arrived by riverboat, the film, that was screened for the first time that very afternoon, shows a stream of well dressed people walking down the gang-plank onto the quay. Fittingly perhaps the first man off the boat is Janssen.

While its importance to science has long since waned, in June 2012, and seemingly in the dying days of celluloid based cinema, we will witness the last transit of Venus in any of our lifetimes. Is it possible that these now democratized, and horizontally structured collaborative observations made by amateurs and professionals alike might spawn a new tool for negotiating future spatial understanding?

Together with a small film crew, a journey will be made to the islands of Hawaii and Tahiti to observe and film the 2012 Transit of Venus and the sites of previous observations (Point Venus, Tahiti in 1769 and Honolulu in 1874). It is perhaps no coincidence that Hawaii is also the death place of Captain James Cook (1728 – 1779) who famously observed the distorting black drop effect on the island of Tahiti in 1769 – an effect that in large part led to Janssen's use of chrono-photography some 115 year later. The recording of the event (almost certainly the last time this might be done using celluloid film stock) will form the basis for the production of a film about the relationship between the transit of Venus and the history of cinema, as framed by the parenthesis formed by the 1874 and 2012 transits. The complex drama will be played out in a 35mm film editing suite, as an editor attempts to bring structure and understanding to a rhizomatic array of geographical locations, historical information, still and moving images.