Introduction.

> The only true voyage of discovery is not to go to new places but to have other eyes. [1]
>
> Marcel Proust, 1913. *Remembrance of Things Past.*

This research has emerged from speculations about the night sky, a space remote from the immediacy of sense experience. The observation of this cosmic space is bound to the behaviour of light and how it is mapped in order to extend our vision. It raises questions. What lies beyond empirical data? How might we experience or have an imaginative understanding of this cosmic space and our place within it? When culture and its technologies are laid over nature like a map, what are the implications for our sense of the real, and for curiosity and desire? If we have an instinct for mapping, then in the context of evolving ideas about space and time, how can new mappings be generated that are more creative and experimental? What is the relationship between observation, speculation and imagination in the process of mapping, both in artisitc terms and in a wider field of relationships that includes history and science?

Proust speaks of personal experience and the way in which it is made meaningful through developing other ways of seeing, 'other eyes.' This research begins with the personal. It has evolved from the way in which I approach my practice as a visual artist. It comes from the way I respond to sense experience, to the spaces I find myself inhabiting and thinking about, both literally and metaphorically, and to the way my perception of and in time and space shifts about. This exegesis has long and retrospective views, views beyond the visible, found, imagined or remembered, up-close and intimate views. For me these fields of view, both proximate and distant, seem to function and co-exist simultaneously, as a montage of experience. It is

[1] Marcel Proust in John N. Wilford, *The Mapmakers*, (London: Pimlico, 2002), p. 282.

through these considerations that I have approached the research and extended it into a wider field of activity.

It has opened up a new direction in my art practice and developed and built on artistic and philosophic considerations already in the work. This has involved seeking out new knowledge about astronomy, mapping and cosmology, the relationships between art and science, and the properties and behaviour of light. This has allowed me to develop a new body of art work in response to these interests. What became evident as the research unfolded was that if I were to make observations about mapping and its processes, then I had to be mindful of the way that human culture interprets and understands space and time, nature, and ideas about reality. These are continually evolving as technological change takes place.

I have been aware, when venturing in to foreign territory in order to gain more knowledge of a subject, that this activity is motivated first of all by my actions as an artist. While artists are interested in the world around them, (and it is possible to gain a sense of another discipline by reading about it, and talking to those who are involved with it), I am under no illusions about the problems involved in such an activity for the non-scientist. Rather my intention has been to discover a poetic dimension or insight, that through art might speak of things outside art in new ways, that then reconnect with art. It has been a form of discovery in which my investigations have lead me into unexpected territory. I have drawn together the strands of an inquiry with the hope that this will generate and raise awareness of the possibilities for artistic practice as an interaction and conversation with other fields of inquiry. Having in mind the relationship that light and observation have with space and time, and the similarities and differences in the ways they are expressed through art and science, I was interested in how they might interact and play off each other to suggest other possibilities or experiences about the night sky and how we understand it.

To further familiarize myself with the subject, at the commencement of my research in 2003, I completed a short course at Swinburne University of Technology called *New Views of the Universe* conducted by the Centre for Astrophysics and Supercomputing. This gave me added insight into the

general field I was planning to explore, and continued reading enabled me to select and discard material accordingly. The NASA website was also a rich source of information and images, and the Parkes Radio Observatory in New South Wales, Jodrell Bank Observatory in the U.K. and the Australian National University, supplied me with sound material. The State Library of New South Wales was a useful resource for material which I found in the *Crux Collection of Rare Maps*. In the same year, 2003, a short trip to the U.K. to organize the 2005 exhibition *Which Way Is Up?* gave me the opportunity to see the work of Olafur Eliasson and *The Weather Project* at the Tate Modern Museum in London.

In the course of my research there were three significant contributions to the material with which I worked. David Malin, the noted astronomer and photographer, who has had a long association with the Anglo-Australian Observatory in New South Wales, made available a number of his time lapse star trail photographs for my use. Later I was able to attend his lecture on *The Colour of the Stars* delivered at an international planetarium conference at the Melbourne Planetarium in 2006.

Another contribution came while conducting research at the National Maritime Museum and Observatory at Greenwich in the U.K. in 2004, organized for me by Dr.Geoff Quilley, the Museum's Curator of Maritime Art. This gave me an opportunity to see a range of possibilities for my work within diverse collections, to learn of other contemporary artists who had worked with the collections, and to obtain images that were associated with the processes of mapping and printmaking. As I was planning to work with paper and digital printmaking for the exhibition in the U.K. the following year, I was interested in the paper conservation activities of the Museum, and what could be found not only from images but also from processes. One aspect of conservation is the use of x-ray to see beyond the visible in order to identify what lies embedded in degraded surfaces. I found several images of the interiors and surfaces of globes made with x-rays. The Conservator, Paul Cook, made these available for me to work with. The images had a particular resonance with ideas surrounding the history and process of their original construction, and the possibility of their reappearance through mapping with light.

The other contribution was made by Zane Hammond, an astronomer who operates his Magellan Observatory in New South Wales, (to the north of Canberra). I spent time with Zane observing the night sky and the sun, and he made available for my use a range of astronomical images. A separate observatory exists for astro-photography containing a number of different cameras suitable for such image capture.

Initially, in light of the complexity of the material with which I was working, I kept the project as open as possible. My work was in the process of shifting focus and I felt it was an opportunity to locate new material, sift and revisit it, and in the process observe how the specific direction of the research would unfold. In the realization of the digital printmaking, made from found research material, I took on the role of editor, gathering the material, sifting through it and experimenting with it before making final choices and decisions. The process of orchestrating the making of the digital prints, (for my exhibition in the U.K. in 2005), involved extensive sessions with the Photoshop technician and conferring with the master printer. As a development from my previous art practice where I have worked with fragments, multiples and series, it was also possible with these prints to continue working in this way while finding permutations at the macro and micro levels. Zooming in and out of the images and selecting and rearranging segments, like searching deeper and deeper into space with a telescope.

The conclusion of this writing in January 2007 has coincided with the appearance in the sky of *Comet Mc Naught*, also called the *Great* or *Bright Comet*. Visible to the naked eye, but photographed, mapped and reproduced as a false colour image by NASA's SOHO coronograph LASCO 3 on January 12th. [2] (See fig.1). It is the most intense comet to pass across the southern sky in forty years. No astronomer alive today has ever seen one like it before. The surface is very bright and the long and gentle curve of its dust tail

2 The comet has been named after Rob Mc Naught, a professional astronomer from the Anglo-Australian Observatory at Siding Spring in New South Wales, who discovered it. Figure1 shows a false colour image of *Comet McNaught* that used *LASDCO 3* blue filter with a short exposure time of 4.8 seconds. The head was so bright that it saturated the CCD chip. SOHO is the space-borne Solar and Heliospheric Observatory, supported by NASA and ESA, (European Space Agency). Large radio dishes around the world which form NASA's Deep Space Network are used to track the space craft beyond the Earth's orbit. www.soho.nascom.nasa.gov/hotshots/ p.2 [accessed 15/02/07].

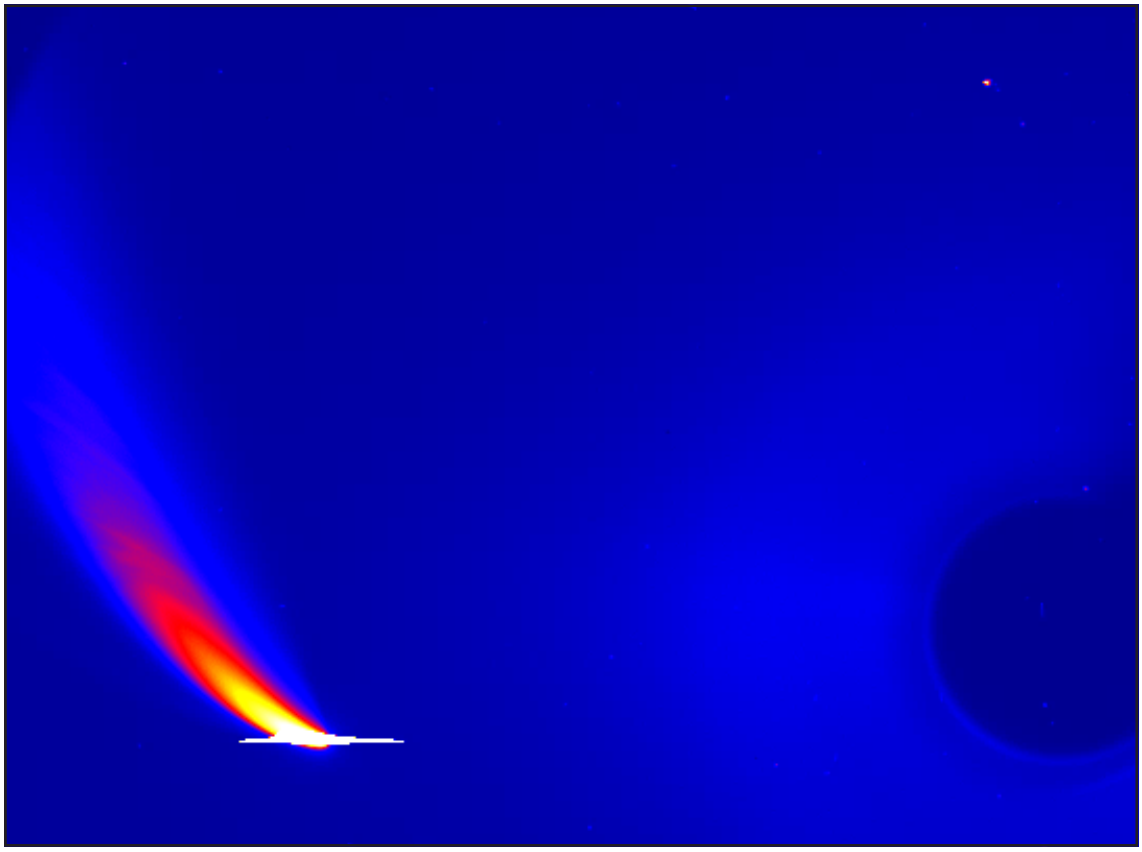

Fig. 1 Solar and Heliospheric Observatory, NASA and ESA, *Comet McNaught*, 2007.

extends one hundred and sixty moon diameters in length, so long that it is visible from the northern hemisphere. This comet, observed in the country under a dark sky and a new moon, away from city lights, is a potent reminder of why I am sitting here now writing these words. Many comets have passed through the sky over thousands of years and have been the source of curiosity and wonder. The *Great Comet of 1577*, (see fig. 2), pictured in a sixteenth century printed broadsheet, was of great interest to the naked-eye astronomer Tycho Brahe, providing the evidence that helped overturn the traditional view of an enclosed, stable and unchanging cosmos. Vija Celmins started drawing the night sky in charcoal in 1996, and in her *Galaxy* 3 #, (see fig. 3), a comet appears, like the one visible now in the night sky. She says of this series of works, titled *Galaxies,* and the process of their realization, '[e]ven though you only see the top surface, you begin to have a feeling that there's depth there. …You realize when you're looking at it that the reality is that the work in front of you has been *made,* and it has flatness and image …but the image is like the ghost of something remembered.' [3]

My research looks at the visual manifestations of the conceptual processes of mapping and the emanation light, as well as searching for a poetic dimension in mapping through connections with art and science (to which mapping in the Western mind has traditionally belonged). By referring to both the secular and the pragmatic, the exegetical and the visionary, I propose an understanding of remote cosmic space, the night sky. This involves interactions between mind and matter, data and the senses. What I am searching for is a contingent web of connections that allows for an experience of the interplay of realities, virtualities and possibilities. This involves an engagement with historical references which as the historian John Pickles suggests, 'require[s] a genealogical tracing of linkages and influences.' [4] He describes history as a form of 'bricolage', and as he observes, 'in this sense genealogy is always an interweaving of multiple related and disconnected practices, events, discourses and institutional settings: contingent, contextual and co-present.' [5] These are the things I have

[3] Vija Celmins quoted in *Art:21: Art in the Twenty First Century*, Susan Sollins (Harry N. Abrams Inc: New York, 2003) p.167-8.
[4] John Pickles, *A History of Spaces – Cartographic reason, mapping and the geo-coded world*, (London and New York: Routledge, 2004), p. 89.
[5] Ibid.

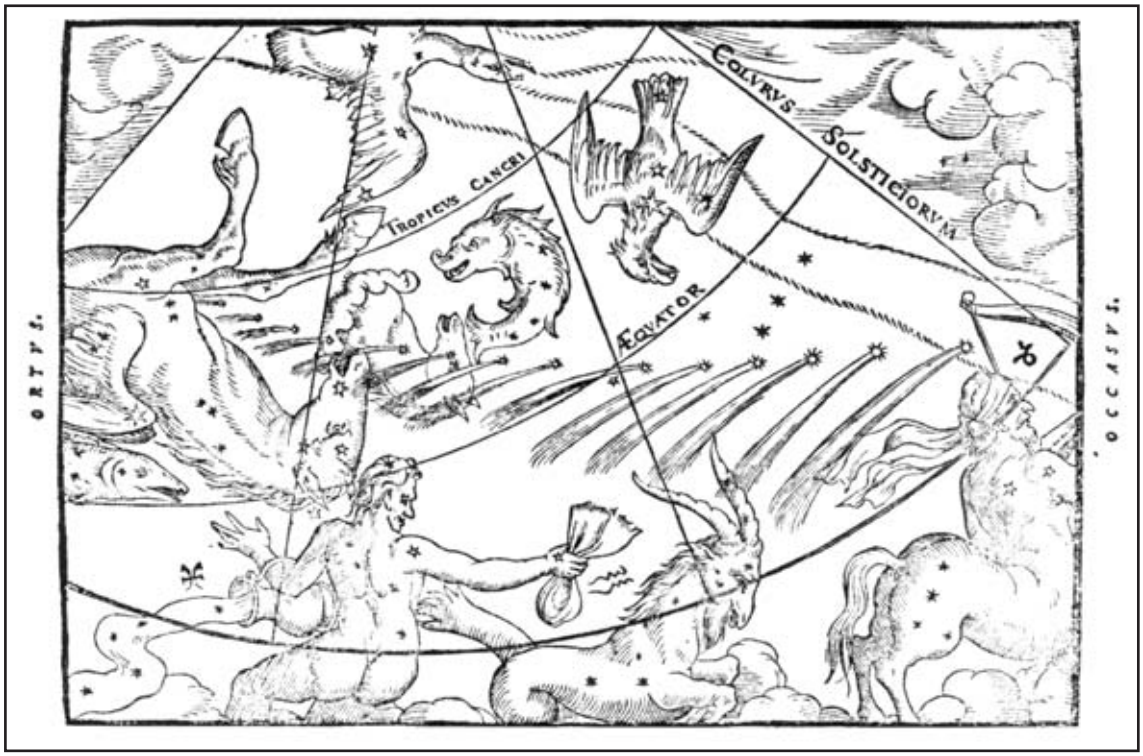

Fig. 2 *The Great Comet of 1577*, Royal Observatory Edinburgh.

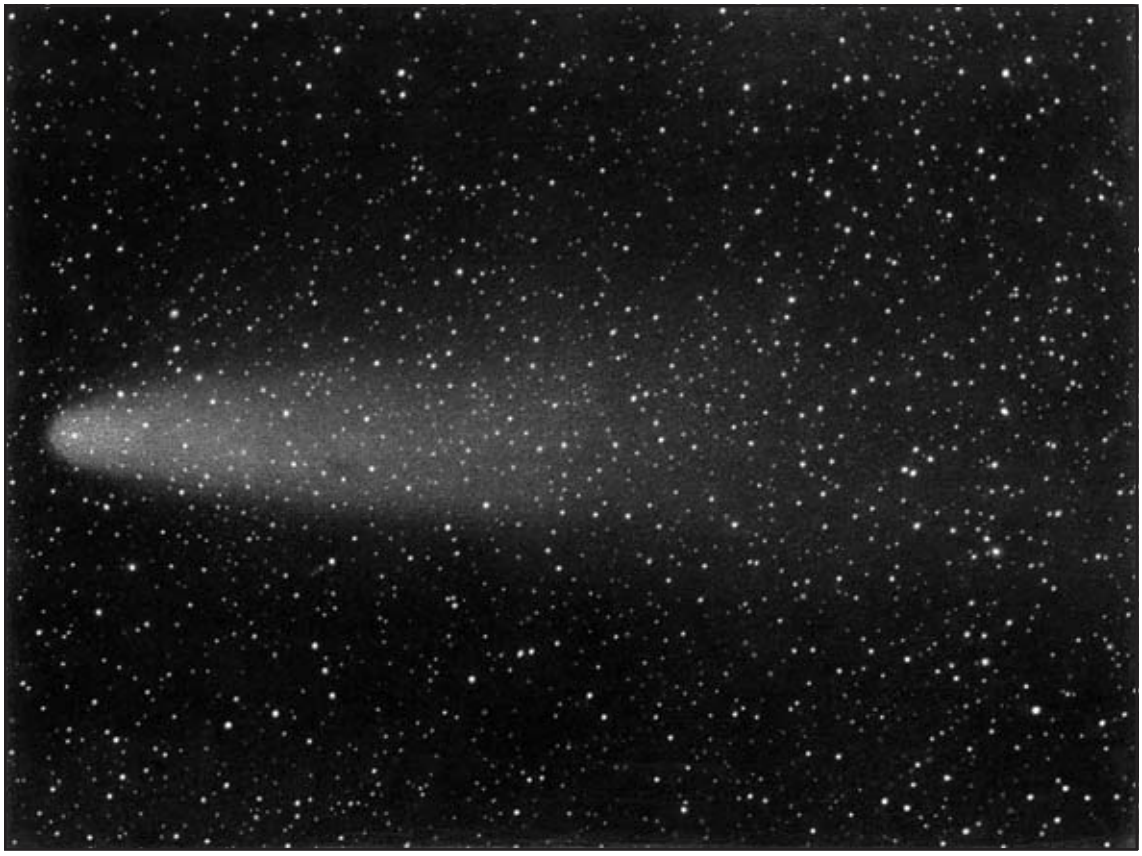

Fig. 3 Vija Celmins, *Untitled # 3*, 1966, charcoal on paper, 17 by 22 inches, The Edward R. Broida Collection, U.S.A.

searched for in writing this exegesis, repositioning this material within a contemporary framework through the production of art.