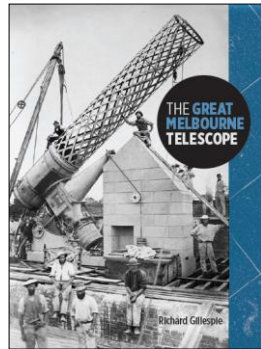


## BOOK REVIEWS

***The Great Melbourne Telescope*, by Richard Gillespie (Melbourne, Museum Victoria, 2011), 188 pp., ISBN 978 1 921 83305 2, AU\$29:95 (paperback), 200 x 250 mm.**

The Great Melbourne Telescope—or GMT as it is affectionately known in Australia—is an icon of Australian astronomical history. Once the largest equatorially-mounted reflecting telescope in the world, great things were expected of it when it saw first light in Melbourne in 1868. However, this did not happen, and it has been viewed internationally by many as a ‘white elephant’.



Precisely how this categorization came about is examined in a fascinating new book penned by Dr Richard Gillespie, Head of the Science and Technology Department at Museum Victoria in Melbourne, Australia.

In England, the Great Southern Telescope Committee assembled a suite of research objectives for the GMT, involving an investigation of the southern nebulae. But the open lattice tube of the telescope which vibrated in even the gentlest of Melbourne’s winds and forced the observers to make drawings of these tenuous objects rather than take photographs of them, partly militated against this, as did the use of speculum mirrors which rapidly tarnished in the salty Melbourne air, and required repolishing and figuring. Regular ‘public nights’ when visitors could queue and look through the telescope also ate into valuable observing time that otherwise would have been devoted to research. Eventually, staffing cuts during the economically-turbulent 1890s and the Observatory’s new-found involvement in the demanding international Cart du Ciel Project effectively sounded the death knell of the great telescope as a Melbourne icon. Yet it would rise from the ashes, phoenix-like, to emerge in two totally different incarnations, first at Mount Stromlo Observatory in the years following WWII, and then towards the end of the twentieth century back at the Melbourne Observatory site itself—but more on this anon.

Richard Gillespie weaves all of these threads into his account of the GMT, but he also provides a socio-political dimension to the telescope by supplying biographical information about those who planned it and used it, and on the rapidly-changing city of Melbourne during the life of the telescope. For instance, I knew that William Parkinson Wilson, the young foundation Professor of Mathematics at the University of Melbourne, and George Verdon, the equally-youthful Treasurer of the colony of Victoria, played key roles in making the dream of a ‘Great Southern Telescope’ a reality, but Gillespie shows how they skillfully used their political acumen and contacts in both Australia and Britain to actually make this happen.

I also knew that Albert le Sueur—the first GMT ‘Observer’, who was trained in England for the role—

prematurely returned home, but I was surprised to read that he was a mere 16 or 17 year old recent mathematics graduate from Cambridge, with no formal astronomical education or observing experience, when in 1866 he was appointed to conduct research with what was then the most advanced astronomical telescope in the world. I found it fascinating to read about the various problems—some genuine, others of his own making—that le Sueur encountered with the telescope, and the conflicts that arose through his dual commitments to the Royal Society in London (which appointed him) and the Government of Victoria (which formally employed him and paid his salary). Eventually it all became too much for the youthful, inexperienced and somewhat naïve le Sueur and he tendered his resignation and returned to England. Once there he lost his supporters, and he was soon abandoned by the astronomical fraternity.

Farie MacGeorge succeeded Le Sueur as the GMT Observer, but his stay at Melbourne Observatory was equally short-lived, and Gillespie explains why: Farie and his wife were heavily involved in spiritualism (which was very popular in Melbourne at the time), and observing sessions with the great telescope took him away from meetings that he wished to attend. Eventually he tendered his resignation, for, as Gillespie explains, “MacGeorge was seeking a greater understanding of the universe than he could find in the eyepiece of the telescope.” (page 94).

Gillespie does an excellent job covering these topics, and others, in a mere 188-page book that is also liberally sprinkled with historical illustrations, some of which I had not seen previously. After discussing the concept of a ‘Great Southern Telescope’ in Chapter 1, he explains in the following three chapters how this became the ‘Great Melbourne Telescope’, then he summarises the observational efforts of le Sueur, MacGeorge and the third GMT ‘observer’, professional photographer Joseph Turner. However, this book is designed for the interested public, for amateur astronomers and for professional astronomers who seek an overview on the telescope, so those expecting a detailed account of the telescope’s research achievements must look elsewhere (to Andropoulos, 2012; and Orchiston et al., 2013).

Yet this very focus on the non-research aspects of the telescope’s history is one of its strong points. For instance, I found Chapter 6 on “The Telescope in the City” compelling reading. After introducing us to Britain’s popular young ‘royals’, Prince Albert and Prince George, who shared an evening with the GMT in July 1881, Gillespie shows how an evening visit to the GMT was mandatory for distinguished visitors to the city and members of Melbourne society, until this practice reached the point where it seriously interfered with the Observatory’s research programs and Director, Robert Ellery, was forced to write the Government and request a reprieve. Thus, by 1881 the GMT

... had become the city’s scientific icon. As well as a key instrument in an international scientific research program to understand nebulae, the telescope had become woven into the life of the observatory and the city. The telescope took on a public life that was as

much ceremonial as scientific, becoming a focal point for the public understanding of science. (pages 119 and 121).

The final chapter, titled simply “Rebirth”, addresses the telescope’s rebirth in the 1950s as the Stromlo 50-inch reflector (complete now with a silver-on-glass primary mirror), which for several decades serviced the ANU’s astrophysical research programs, in league with the Grubb-Parsons 74-inch reflector. At the end of the 1980s the 50-inch was refurbished and then was used for the MACHO Project, the search for evidence of missing mass in our Galaxy and the Universe, until the disastrous Canberra bush fires of January 2003 abruptly aborted this project.

Fortunately, by this time the surviving elements of the original GMT had been transferred to Melbourne, thereby allowing the third reincarnation of this remarkable historical telescope. This ambitious project is currently underway as a joint venture between Museum Victoria and the Astronomical Society of Victoria, and when brought to fruition will see the reconstructed GMT back in its original roll-off roof building at Melbourne Observatory. Once more the GMT will be available to the people of Melbourne through educational programs and public viewing nights, but this time it will feature a modern glass mirror instead of a speculum metal mirror.

Completing the book is a 2-page “Chronology” which lists key dates between 1834 and 2008 associated with the history of the GMT; an “Acknowledgements”; a 7-page Bibliography; 9 pages of Notes; and a detailed

“Index”.

As we enter an era involving Australia’s formal commitment to the Giant Magellan Telescope, the ‘GMT’ acronym is destined to acquire two distinctive Australian connotations, one that looks to the future and the other that reflects a time when Australia was home to the largest equatorially-mounted research telescope in the world. This is a sobering thought when contemplating Gillespie’s excellent little book.

My final assessment? Well, I think that *The Great Melbourne Telescope* is an attractive, well-written, profusely-illustrated and very reasonably-priced book. It is compelling reading and deserves to grace the bookshelf of every astronomer interested in the history of Australian astronomy or the evolution of the telescope.

#### References

- Andropoulos, J., 2012. *The Published Output of Melbourne Observatory: A Critical Evaluation*. Ph.D. Thesis, School of Engineering and Physical Sciences, James Cook University, Townsville, Australia.
- Orchiston, W., Clark, B.A.J., Andropoulos, J., and Frew, D., 2013. The development of astronomy and foundations of astrophysics in Australia. In Nakamura, S., and Orchiston, W. (eds.). *The Development of Astronomy and Emergence of Astrophysics in Asia*. New York, Springer.

**Professor Wayne Orchiston**  
**National Astronomical Research Institute of**  
**Thailand, Chiang Mai, Thailand**