

Book Reviews

The Creation of the Anglo-Australian Observatory

S. C. B. Gascoigne, K. M. Proust and M. O. Robins, *Cambridge University Press* 1990, 301 pp + iii

Reviewed by L. E. Cram, Department of Astrophysics, University of Sydney

Just as humans pass through the thrills and tribulations of conception, gestation, birth, childhood and adolescence, so too does a large telescope — ‘a good example of the thing a true civilisation alone can do’. This book sets out to cover both the technical and scientific, and the political and administrative history of the Anglo-Australian Observatory (AAO). It succeeds admirably, treating difficult episodes with tactful honesty, and delving into complex technical matters with gentle clarity. It provides a captivating and thought-provoking account of the rites of passage of one of the major scientific endeavours of the twentieth century.

The book contains 14 chapters, and 9 appendices. A history which attempts to meld both the technical/scientific and political/administrative into a single volume demands a carefully crafted structure, provided here by having chapters each concentrating on one or other of these aspects. The format works well, but has the effect of divorcing some of the political acrimony from its (presumably) scientific context. It also uncouples engineering decisions from financial considerations, but points out in a brief summary that the construction budget was closely matched by the estimated and ultimate costs. Most recent successful major scientific projects have enjoyed such a balance; some of the more spectacular failures have not.

The first four chapters deal with the scientific and technical background to the project, and the negotiations leading to the AAO agreement. The scientific case rested in part on the sorry state of optical astronomy after the Second World War, (outside the USA) and in part on the spectacular successes of radio astronomy. The book reviews the various options that were explored for constructing a large telescope on Australian soil,

and reveals the decision path that led finally to the signing of the AAO agreement.

Chapters 5, 6 and 7 cover technical details, ranging from site testing to telescope computer control systems. Although some of this material would be difficult for many readers (there are even equations in the text!), there is little that could be omitted from any comprehensive history. Most importantly, the reader is led to see how and where novel engineering solutions were used to improve the AAT design. The sections on optical testing are especially apposite in the light of the Hubble Space Telescope affair.

Chapter 8 deals with the ‘turbulent and difficult period’ between 1968 and 1973, which involved discussions and decisions that ‘embroiled several strong and colourful characters’. There are important lessons to be learned from this Chapter. I hope that someday the circumspect approach adopted here is avoided by an author who writes a fictional novel (in the style of C. P. Snow) about people engaged in analogous pursuits, for the issue of personal motivation can be explored, I suspect, only by fiction.

Chapters 9 and 10 deal with the transition from the construction phase to an operational facility, including the important question of where the Observatory staff would live and work. Chapter 11 is a gem, dealing clearly and compactly with all aspects of the history of the UK Schmidt Telescope. The crucial importance of the symbiosis between the AAT and the UKST is explained with great clarity.

The final chapters deal with some of the scientific and administrative highlights of the mature observatory, and look towards the future. The book concludes with appendices covering key documents and statistics of the Observatory.

The book will appeal to a wide audience. Obviously, professional astronomers in Britain and Australia will enjoy it, and many amateurs will also find it very illuminating. Students of science history and of Anglo-Australian relations will find much to interest them, although the book does not have the copious footnotes and cross-references one finds in most modern scholarly histories. There would be many public servants on both ‘sides’ who would be fascinated by the way the respective public administrations and governments have interacted.

Astronomy is an important part of the scientific culture in both the UK and Australia, and the success of the AAO has been responsible in no small measure for this circumstance. Gascoigne, Proust and Robins are to be congratulated for this chronicle of how the work of many dedicated people combined to produce an Observatory whose impact on astronomy has been second to none.