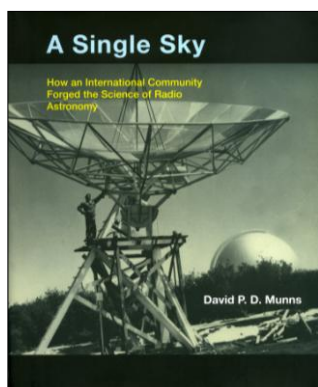


BOOK REVIEWS

***A Single Sky: How an International Community Forged the Science of Radio Astronomy*, by David P.D. Munns (Cambridge, MA, The MIT Press, 2013), pp. 247, 12 illustrations. ISBN 978-0-262-01833-3 (hard cover), 235 × 180 mm, US\$34.00.**

A Single Sky traces the emergence of radio astronomy after WW II. It examines the relationships among the various radio astronomy groups and, in turn, their relationship with the established community of optical astronomers. The author, David Munns, is an Australian scholar, and he teaches history at the City University of New York.



Munns states his thesis in the Introduction:

A Single Sky takes issue with the idea that recent science has been driven by competition. The radio astronomers understood science as an open, inclusive, international, interdisciplinary process, and their community succeeded because of cooperation ... Instead of a fractious world of science, the radio astronomers saw a single sky, unifying both nations and disciplines.

Radio waves from space were discovered by the American physicist Karl Jansky in 1931, but the new branch of radio astronomy did not develop significantly until after WW II, largely as a result of major wartime advances in radio and radar technology. Much of Munns' analysis focuses on the three major groups that emerged in the immediate post-war years: the CSIRO group in Sydney led by Joe Pawsey (the largest of the three), the group at the Cavendish Laboratory in Cambridge led by Martin Ryle and the group at the University of Manchester led by Bernard Lovell. It is interesting to note that all three group leaders were involved in wartime radar research, as indeed were many of the other early pioneers in radio astronomy.

By the early 1950s new groups had emerged in countries such as France, Germany and the Netherlands, while after a slow start the United States soon became a major player. According to Munns, the fact that radio and optical astronomy relied on completely different technologies encouraged a culture of interdisciplinary and international integration and cooperation. The book has been thoroughly researched, with Munns drawing on extensive archival material in Australia, England and the US. There is also a detailed bibliography which will be of value to other

researchers working in this field.

Although I largely agree with Munns' thesis, he has swept at least one inconvenient truth under the rug. It is well documented that Martin Ryle was obsessively secretive about his research, reluctant to visit other groups, and guarded as to who could visit the Cavendish Laboratory. So rather than the collegiate style of radio astronomy groups claimed by Munns, the cooperative model won out *despite* Ryle's combative and competitive nature.

Although there is a wealth of available material, the book has only a handful of photographs, and some are rather dull shots of radio telescopes. Perhaps the most interesting photograph of all is the one on the cover (see above), showing the Australian radio astronomer John Bolton and a 32-ft dish on Palomar Mountain. In 1955 Bolton and his close CSIRO colleague Gordon Stanley were hired by the California Institute of Technology (Caltech) to start a radio astronomy program. The 200-inch Hale Telescope at that time was the largest optical telescope in the world, and its dome can be seen in the background. Munns argues that the photograph is strongly symbolic of the spirit of cooperation that arose between traditional optical astronomers and the new generation of radio astronomers (many of whom had radio and/or radar backgrounds and little initial knowledge of astronomy).

This book follows in the footsteps of the well-known book by David Edge and Michael Mulkey, *Astronomy Transformed*, which was published in 1976. Both books are primarily studies in the sociology of science where the development of radio astronomy is essentially a case study, one used to argue a particular point of view on the nature of science. As a result there is a fair amount of sociology jargon in the Munns book. As one example, Munns constantly refers to new recruits to the growing field of radio astronomy as 'disciples', a term that I'm sure will grate with some readers. Although the book is well written, there is some unnecessary repetition which could have been avoided with tighter editing by the publisher.

No doubt *A Single Sky* will be of interest to sociologists of science, but I suspect that the readership of those interested in the history of radio astronomy may be somewhat limited, despite its very modest price.

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