



Secrets of the Universe: How we discovered the Cosmos

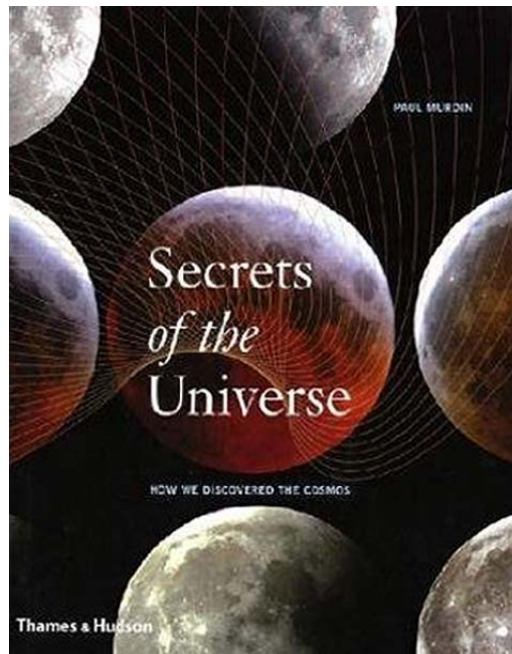
by Paul Murdin

Thames & Hudson, 2009. ISBN 978-0-500-25155-3. Pp 341, £24.95 (hbk).

Secrets of the Universe is a survey of the whole of astronomy, taking a historical approach to show how we reached our present understanding of the universe. Its author is one of the most distinguished observational astronomers alive in Britain today. Now at Cambridge University, Paul Murdin has a long and productive research career behind him, and in 1971 he co-discovered the companion to Cygnus X-1, the first observed candidate for a black hole. He has written many astronomy books at a level accessible to the non-specialist.

Aimed at the high end of the popular science market, *Secrets* is divided into 65 short chapters, each one normally no more than four pages long and on a different topic or episode in the history of astronomy. After a short section on pre-telescopic discoveries, Murdin works from the Solar System outwards, ending with a section on the big cosmological questions being tackled by astronomers today, such as dark matter and dark energy. The text is frequently cross-referenced to other chapters – for example, in Chapter 12, on asteroids, a statement about the discovery of an asteroid by Heinrich Olbers contains a reference to Chapter 61, where we learn about Olbers' Paradox, for which this astronomer is best known.

There are a few very minor factual errors – for example, Ainslie Common (p. 193) was



actually Andrew Ainslie Common, and Richard d'E Atkinson (p. 223) was actually Robert d'E Atkinson – but on the whole the text is very accurate. Murdin particularly excels in writing about his own specialist research areas in stellar astrophysics. The book is enlivened by a liberal sprinkling of anecdotes about the history of astronomy and the personalities involved in it – for example, in Chapter 33 we read that David Fabricius, who discovered the variability of Mira, was later murdered by a peasant whom he had accused of stealing a goose!

Every chapter is lavishly illustrated with the latest telescopic and spacecraft images and some (mostly good) artists' impressions. As we have come to expect from this publisher, the reproduction of illustrations is excellent and the volume is printed and bound to the highest standard. However, the design of the book involves many background graphics and these sometimes annoyingly interfere with the illustrations.

Secrets of the Universe is not, and is not intended to be, a work of historical scholarship. Readers with a serious interest in the history of astronomy will need to supplement their reading with one or more standard works on the subject, perhaps starting with those included in the admirably detailed list of further reading given here. Nevertheless, *Secrets of the Universe* works very well

as a general guide to our present understanding of the cosmos and how we reached that understanding. I recommend it to all astronomers – amateur and professional – and interested general readers.

Lee Macdonald

Lee Macdonald has been a BAA member since 1989 and has a Master's degree in History and Philosophy of Science from Cambridge University. He is the author of numerous articles and a book, How to Observe the Sun Safely, published by Springer in 2002.