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The expanding universe. Astronomy's 'Great Debate', 1900–1931.

Cambridge: Cambridge University Press (ISBN 978-0-521-13006-6/pbk; 978-0-521-23212-8/hbk). xiv, 220 p. (2010).

This is a paperback re-issue of a book originally published in 1982. The author starts from the statement that, at the time when in 1932 A. S. Eddington wrote his account of the latest developments in extragalactic astronomy in "The expanding Universe", astronomers had witnessed in less than a generation three sweeping changes in their view of the visible part of the universe: (1) the roughly ten-fold increase in the size of the galaxy, (2) the acceptance of the existence of external galaxies, and (3) the realization that these galaxies disclose the expansion of the universe. In the book, these shifts are described and explained, nearly without use of mathematics, but principally referring to scientific papers. Additionally, the author employs reminiscences of astronomers active in the early twentieth century and archive material such as letters and drafts of papers. Since all three aspects involve an expansion of some kind, in the title of the book he imitates Eddington, while the subtitle derives from the so-called 'Great Debate' in 1920 between H. Shapley and H. D. Curtis on the scale of the universe. The development described culminates in Hubble's findings that the author, were a dramatic end of a debate that had lasted for centuries and begun by Copernicus. Hubble found that hundreds of thousands of known nebulae were in fact 'island universes', namely galaxies beyond our galaxy and that their motions indicate that the visible part of the universe is not static, but expanding. Finally, the implications for general-relativistic cosmology are discussed, and it is reminded of some of the debates between Einstein and his astronomical contemporaries. *Horst-Heino von Borzeszkowski (Berlin)*

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