

Bang nucleosynthesis, galaxy evolution, the intergalactic medium, and so on. I see that as an advantage rather than a disadvantage: it is good to have all that material presented in a uniform fashion at a uniform level by someone who actually knows it all. The reader is referred to more detailed accounts when necessary (in particular, the books by Peacock<sup>6,7</sup> and Baumann<sup>8</sup> are often mentioned, as well as other books by Longair). An additional advantage is that both theory and observation are covered.

The twenty chapters are collected into four parts: 'Preliminaries' (large-scale structure, galaxies, galaxy clusters, though starting off with a summary of the entire book), 'The Basic Framework' (theoretical and observational cosmology), 'The Development of Primordial Fluctuations Under Gravity' (including dark matter, correlation functions, and the CMB), and 'The Post-recombination Universe' (galaxy formation and evolution, the intergalactic medium, the early Universe). There are several figures, some in colour, scattered throughout the book, most taken (with attribution) from the literature. Each chapter has its own bibliography, often several pages of small print. Also in small print are a thirty-page(!) main (subject) index and a five-page author index. There are a few footnotes (fortunately no end notes) and references are provided in author/year style within the text.

Although perhaps setting a record for missing hyphens in two-word adjectives, otherwise the style and language are very good (though, of course, even better is a lecture in Longair's Scottish accent) with very few typos, and one could either read the book from cover to cover or dip into it for information on particular topics, as the chapters are to a large extent self-contained and necessary references to others are given. Previous editions have sold well, and that will surely be the case for this one too. The book is a good introduction to its many topics for those wanting to go further and a good summary for those for whom the almost eight-hundred pages are enough. Essentially everyone interested in any of the topics should have a copy of this book. — PHILLIP HELBIG.

### References

- (1) B. Binggeli & R. Buser (eds.), *The Deep Universe* (Springer), 1995.
- (2) B. Pagel, *The Observatory*, **116**, 57, 1996.
- (3) S. Maeder & L. Martinet (eds.), *Observational Cosmology* (Genève Univ. Observatoire), 1978.
- (4) G. Pooley, *The Observatory*, **99**, 163, 1979.
- (5) B. Pagel, *The Observatory*, **119**, 244, 1999.
- (6) J. A. Peacock, *Cosmological Physics* (Cambridge Univ. Press), 1999.
- (7) P. Coles, *The Observatory*, **119**, 296, 1999.
- (8) D. Baumann, *Cosmology* (Cambridge Univ. Press), 2022.

**Winds of Stars and Exoplanets (IAU S370)**, edited by Aline A. Vidotto, Luca Fossati & Jorick S. Vink (Cambridge University Press), 2023. Pp. 290, 25 × 18 cm. Price £98/\$130 (hardbound; ISBN 978 1 009 35278 9).

The organizers of the symposium behind these proceedings have sought to cover a great variety of processes associated with 'winds': radiatively driven mass loss by the most luminous stars carrying  $\sim 10^{-5} M_{\odot} \text{ y}^{-1}$  steadily (and an order of magnitude more in eruptions), flows from cooler, solar-type stars having mass-loss rates nine orders of magnitude smaller, and the erosion of atmospheres of exoplanets, caused mostly by activity of their host stars. For some decades, the communities studying the first two subject areas have been well catered to separately by, *e.g.*, the biennial 'Cambridge Workshops on Cool Stars, Stellar Systems and the Sun' and the series of IAU Symposia focussing on massive and Wolf-Rayet stars; here, they and the newer exoplanet communities are

brought together. To what extent members of the different communities interacted at the symposium is not evident from these proceedings: there is no record of discussion (just a 'Q&A' embedded in one of the contributions) nor a conference summary.

The very diverse strands are, however, brought together in a comprehensive, magisterial survey by Stan Owocki of the physical processes driving the outflows from stars and planets — ranging from the CAK formalism of the line-driven winds of massive stars, through the solar corona and wind, spin-down, planetary winds and mass loss, followed by a discussion of magnetospheres of stars and planets. The proceedings continue with a section on observational evidence for winds, led by reviews on low-mass stars, high-mass stars, and planets. Unlike high-mass stars, where there is an abundance of mass-loss diagnostics, the greatly smaller mass-loss rates of lower-mass stars and planets restricts possible observables, primarily to the Lyman- $\alpha$  line profile, observable only from space and much impacted by interstellar absorption, or the weaker but more easily observable 10830-Å He I line. These reviews are accompanied by a number of shorter papers on individual objects or topics. The following section entitled 'Ingredients of Winds' again leads with reviews covering the three subject areas complementing and often expanding on material presented earlier. I am acquainted with only one of the subject areas but found all these reviews to be informative and well referenced. The lead review in the fourth part of the Proceedings, 'Flow-Flow Interactions', considers interaction of stellar winds with the ISM — but a colliding-wind system is the subject of one of the short contributions. The fifth part considering the relevance of winds contains mainly shorter papers touching on a variety of topics.

The production of the proceedings is mostly acceptable, but the editing could have been tighter. There is a problem with the diagrams. Many of them were produced in colour, which are referred to in the captions, but these are not always discernable on the printed page. This is not a new problem. Many of us have used colour for the on-line versions of our papers but taken care to choose symbols and line styles so that the figures would also be useful to the reader of the monochrome printed page. The authors should have been encouraged to do the same: although colours can be seen on the on-line version or preprints, it is the printed volume that is being reviewed here. Conference proceedings containing reviews and short communications giving a snapshot of current work are often suggested as a good means for beginners to get started in a new field; the present volume gives entry to three. — PEREDUR WILLIAMS.

**The Philosophy and Practice of Science**, by David B. Teplow (Cambridge University Press), 2023. Pp. 391, 25 × 18 cm. Price £54.99/\$69.99 (hardbound; ISBN 978 1 107 04430 2).

In 1931, the UK government first published the now familiar *Highway Code*, an advisory booklet which formalized the system of road users' signals and behaviours that had evolved through the increased use and popularity of all varieties of road transport in the early decades of the century. Four years later (1935) a compulsory practical test for drivers of motor vehicles was introduced. Sixty-one years later (1996), a theory test as precursor to the practical test, and based to a large extent on the *Highway Code*, was also made compulsory.

I mention this history because as I read the current tome, for it surely does meet the essentials in the definition of that word with 770 references and 752 footnotes, I was fleetingly, but all too often, drawn to the analogy with UK road users and their regulation. All analogies are imperfect, but as this work