Sloan Digital Sky Survey, and some memory-dredging yielded EG = Eggen–Greenstein (who are not cited anywhere for their then-enormous lists) and LTT = Luyten Two Tenths (meaning the proper motions), but is G for Giclas or Gliese, and who are GD, HE, and HS? Oh, yes! One of those non-existent indices should surely have listed the more prominent stars by name.

Topics treated in some detail include (*i*) metals in WD atmospheres (ground up planetary material has replaced accreted interstellar stuff as the best-buy explanation), (*ii*) "Roche-Lobe detached Post-common Envelope Main Sequence-White Dwarf Binaries" candidate for longest list of modifiers, but also a good discussion of weak, strong, and very strong magnetic fields, with plausible mechanisms for creation of the strong fields, and (*iii*) the zoo of cataclysmic-variables, historically introduced with initial basic understanding of explosions and the importance of donor companions, properly credited to Leon Mestel, Willem Luyten, Robert Kraft, and John A. Crawford (not any of the Crawfords we knew). Not a word, however, for the Gaposchkins, who apparently coined the cataclysmic variable name, and who over decades compiled very many light-curves of eclipsing binaries and other variable stars. Chapter 7 ends with the 'single degenerate' scenario for producing type Ia supernovae. The double-degenerate case is barely mentioned, and perhaps "accreting a whole other star" would not be the best description of the process of two merging. The dedication on page *vii* tells us that the book was written during a two-year period when the author was mourning the death of his wife of 52 years. I therefore refrain from a compilation of grammatical and similar infelicities, but the volume contains some excellent and very useful material, and one might wish for a second edition with a publisher who values whole books and not just downloadable chapters. —Virginia Trimble.

Galaxy Formation, Third Edition, by Malcolm S. Longair (Springer), 2023. Pp. 798, 24 × 16 cm. Price £89·99 (hardbound; ISBN 978 3 552 65890 1).

A volume of Springer's *Astronomy and Astrophysics Library*, this third edition brings previous editions up to date without leaving out too much history of the field. The result is a very long book, perhaps the reason why the preface ends with "Good Luck!" Probably no stranger to most readers, Longair is a prolific scientist, has written several books, and is an excellent lecturer. (I had the pleasure of hearing him, along with Allan Sandage and Richard Kron, at the 1993 Saas-Fee course *The Deep Universe*[1] (reviewed here[2]) — his second stint as a lecturer there, after 1978 with Martin Rees and Jim Gunn[3,4]. Some of his lectures can be found in good audio and video quality on YouTube.) The first edition has also been reviewed in these pages[5].*

Others have noted, confirming my impression, that Longair's presentations are often much more general than their titles. That is also the case here, with, of the twenty chapters, arguably only one complete chapter and one section of another actually about galaxy formation. However, rather than much forest and few trees, it surveys the entire landscape including the forest and many other types of tree (as well as other plants and animals) within it. As such, this book, aimed at final-year undergraduates and/or first-year postgraduates, would be a good introduction to a number of topics: theoretical cosmology, observational cosmology, the cosmic microwave background, star formation, dark matter, the early Universe, large-scale structure, General Relativity, Big-

*A sentence from Pagel's review in this *Magazine* is quoted on Springer's web page for the book, where one can also learn that it is available in paperback for $69·54 and as a PDF file for $53·49.

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[6,7] and Baumann[8] 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 $\sim 10^{-5}\ M_\odot\ \mathrm{y}^{-1}$ 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