

background to understand it, but readers should get their overview of cosmology from elsewhere. — PHILLIP HELBIG.

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From Stars to Life: A Quantitative Approach to Astrobiology, by Manasvi Lingam & Amedeo Balbi (Cambridge University Press), 2024. Pp. 400, 26 × 21 cm. Price £59.99/\$79.99 (hardbound; ISBN 978 1 009 41121 9).

Astrobiology is perhaps the most multidisciplinary science that can be imagined. Everything, from cosmology to biology, planetary science to astrophysics, is involved at some level, and a detailed understanding of the history of life on Earth is also necessary since we have but one place where the emergence and evolution of life can be studied. In fact, if we go so far as to include the search for extraterrestrial intelligence, we must add human history and sociology to the mix. This extreme multidisciplinaryity means that many textbooks that cover astrobiology take separate chapters written by multiple authors and edit them together to produce the final work. That is not the approach taken here as the authors bravely take on the vast epic that is the story of life in the Universe from the Big Bang to the present day and beyond. And in doing that they are largely successful, maintaining a coherent voice and approach throughout. The book starts with the large-scale boundary conditions provided by cosmology and then moves to the astrophysics of stars and planet formation. The Earth is then studied in detail, including its early conditions, then looking at the possible routes through which life might have originated here, and how life both affects and is affected by the terrestrial environment. The lens then zooms out to look at broader questions of habitability elsewhere, before potential astrobiological targets, inside and outside the Solar System, are discussed. The astrophysical techniques for detecting life elsewhere, including intelligent life, are then examined. The book’s subtitle is ‘a quantitative approach’ and there is indeed a decent amount of quantitative analysis both in the text and in the included problems. However, the squishy and at times speculative nature of the field makes it inevitable that a fair fraction of the problems are more wordy than quantitative, and try to send the

reader off to the broader literature to come up with their own hypotheses and analyses. Such explorations would certainly be rewarding, but, in a world where students increasingly use Large Language Models to answer such homework questions, they may be less useful in a formal teaching environment. The goal of the book, to cover the field of astrobiology in its true breadth, from stars (and even from before stars form) to life, is fully achieved, and there will almost certainly be something new here for anybody involved in astrobiology. Highly recommended, and already added to the reading lists of relevant courses that I teach. — DAVE CLEMENTS.

The Blue Straggler Mystery, by Martin Beech (World Scientific), 2026. Pp. 271, 23.5 × 15.5 cm. Price £55 (hardbound; ISBN 978 981 98 2008 5).

Blue stragglers are stars that lie in the vicinity of the main sequence in a cluster colour-magnitude (or HR) diagram, but bluewards of the cluster turn-off. The ‘mystery’ is, or rather, was, how they come to be there when, in the simplest scenarios, they should’ve evolved away to the red. This nicely produced little hardback (also available as an e-book) pursues that question, using the device of allusion to detective fiction (particularly Sherlock Holmes) to frame the chase.

This is more a scholarly book than a ‘popular’ one, though written in a relaxed narrative style. The first two chapters — roughly half the page count — present a primer in basic stellar astrophysics (‘The measure of the stars’, ‘How the stars work’), with the third (‘Making blue stragglers’) reviewing the historical development of solutions to the ‘mystery’. A final 50-page chapter (‘And finally. . .’) is a speculative ramble touching on topics as diverse as alien civilizations, black holes, artificially engineered stars, and much else that seemed to me to be only tenuously linked, at best, to blue stragglers. Simple equations are sprinkled throughout the text (minimal calculus and no derivations), as are graphs and other diagrams, along with a few astronomical images. Colour is used to good effect, and each chapter is supported by a page or two of references. There is no index.

The acknowledgements don’t include a nod to anyone for proof-reading the manuscript, which may explain the smattering of infelicities and oddities. Pretty much all are harmless (e.g., are radio astronomers really not observers [p. 34]? Was a wide-field, shallow image of the Pleiades really obtained with *HST* [p. 57]? or even amusing (stars “sliming down” [p. 88]), although the naïve reader may wrongly infer that neutron-star magnetic fields are a proximate consequence of convection [p. 137]. A forceful editor may’ve also reined in the author’s rather intrusive predilection for the word ‘indeed’.

Regardless of these trivial quibbles I found the book to be an engaging and pleasant enough read, even if the content of the last chapter wasn’t much to my taste. The real mystery for me was: for whom is the book intended? It’s too technical for a general readership; didactic, but not suitable for use as a textbook; and the principal topic is so narrow that the interested researcher is likely to go directly to the primary literature. I therefore turned to the World Scientific website, where I learned that, apparently, the “target audience for this book is the undergraduate science student, and the informed, general-reader on topics relating to astronomy and physics.” Elementary. — IAN D. HOWARTH.

Crush: Close Encounters with Gravity, by James Riordon (The MIT Press), 2025. Pp. 287, 23 × 15 cm. Price \$29.95 (about £22) (hardbound; ISBN 978 0 262 05098 2).

This might be the only book to discuss both event horizons and the anatomy of snakes.

The name James Riordon seemed familiar to me, but probably because I was thinking of James Riordan, who played a role in the *Apollo 13* mission. Or perhaps because I had come across something else by the author, NASA-affiliated science writer James Riordon. Confusingly, the author’s father (also James Riordon) also worked for NASA, on the Apollo and Space Shuttle programmes. (Finally, an internet search for ‘Riordon’ and ‘Apollo’ will