

Galaxies, by Or Graur (MIT Press), 2024. Pp. 195, 17.5 × 12.5 cm. Price \$17.95 (about £14) (paperback; ISBN 978 0 262 54875 5).

According to the Foreword, books in MIT's *Essential Knowledge* series supply "foundational knowledge that informs a principled understanding of the world", which sounds a rather esoteric aim. Fortunately, the present book is much more interesting and informal than that introduction might suggest. The level would be suitable for, say, A-level school students or anyone with a general interest in science. The topics covered are wide-ranging, some history of the subject, galaxy types, structure of the Galaxy, star formation, supermassive black holes, clusters and the cosmic web, dark matter and energy, a spot of cosmology, galaxy formation, evolution, and mergers. Some colleagues may be a bit aggrieved at the shortage of mentions of X-rays, but largely the contents are as you might hope. There are a few things you could quibble about slightly, but (as the author quotes from *The Hitchhikers Guide to the Galaxy*), I think we can judge them "mostly harmless". Large numbers of references to original papers are included in the Notes, which is unusual for a book of this type, though I can't help thinking that going straight from reading an introductory text to, for instance, Binney & Tremaine's *Galactic Dynamics* could be somewhat ambitious, not to mention Einstein's *Kosmologische Betrachtungen zur allgemeinen Relativitätstheorie*. The book ends with things the reader can do besides reading, such as joining Galaxy Zoo or finding a dark-skies site. All in all, an excellent, short, non-mathematical introduction. Recommended. — STEVE PHILLIPPS.

The History of Our Universe in 21 Stars (That You Can Spot in the Night Sky), by Giles Sparrow (Welbeck), 2023. Pp. 351, 20 × 13 cm. Price £9.99 (paperback; ISBN 978 1 80279 505 9).

Having read another book¹ by the same author (positively reviewed in these pages²), I expected an enjoyable, well written, informative, and non-technical popular-science book; I was not disappointed. As the title indicates, twenty-one stars (and three 'impostors') are used as jumping-off points to illustrate aspects of stellar structure and evolution (and a bit more *via* the impostors) as well as basic astronomical knowledge such as distance determination and the main points of the history of astronomy. Each object has a finding chart and description of how to find it, also indicating its magnitude and what type of instrument, if any, is needed. The impostors are the globular cluster Omega Centauri, the Andromeda Galaxy, and the quasar 3C 273. As in the recent review³ of another book⁴, the only real mistake I noticed was towards the end of the book in the discussion of cosmology (jumping off from supernova 1994D to the magnitude–redshift relation for type-Ia supernovae and to observational cosmology in general): while it is a matter of taste whether one describes the cosmological constant as getting stronger over time (by definition, it is constant, though its effects dominate more and more over those of matter as the latter is thinned out by the expansion of the Universe), the 'Big Rip' scenario, in which even (gravitationally or otherwise) bound objects will be disrupted, will not happen if dark energy is just the cosmological constant, but rather involves a more exotic form of dark energy. (It is also probably not the case that the Michelson–Morley experiment influenced Einstein's thinking on Special Relativity, but any mistake here is more than made up for by the mention, in the same footnote, that Michelson appears as a character in an episode of the US Western television series *Bonanza*^{5,6}. Interestingly, Lorne Greene, who played one of the main characters, Ben Cartwright, in *Bonanza*, later moved