

zone”, a topic recently discussed in these pages³. There are also articles about ML itself; the contribution by Hložek highlights aspects important for astronomy, and the abstract is a good summary of the aims of the entire book. A common theme is not just using ML but understanding how it works, at least at some level of abstraction, though of course the whole point is that ML very probably works differently from human thinking; in that respect it differs from conventional uses of computers, which essentially carry out human-thinking algorithms much faster and/or with much more data.

Apart from the contents, there is a preface, basic information about the editors and the conference, a list of participants, and an author index. Presumably most of the black-and-white figures are originally in colour; that and the fact that some are too small limits their usefulness. The book is produced *via* L^AT_EX and my hope is that the participants are using B^BL_AT_EX rather than wasting time; I was thus surprised to see a mismatch between an author name in the text and in the reference list.

In such a fast-moving field, many details will be out of date four years after the meeting, but nevertheless proceedings can provide interesting historical snapshots. However, for a book to fulfill that role, it needs to be produced as a book, or at least in a format (such as that of this *Magazine*) which works both on screen and on paper. All of the contributions are available online, with colour figures, active HTML links, and so on, and that is clearly the preferred format for these proceedings.* Especially considering the price, most buyers of the book will probably be libraries with subscriptions — a common observation in many recent book reviews of such proceedings.

I enjoy going to conferences and well-produced proceedings are both a good record for those who attended and also useful for those who didn't. I think that there are reasons to continue to produce conference proceedings, even if there are fewer such reasons than in the past (*e.g.*, they are no longer practically the only way to get results in advance of publication in the refereed literature — not just the proceedings, but the conferences themselves). Smaller conferences might have to make do with on-line-only proceedings (ideally instead of or in addition to just putting the presentations on the web), which are fine as long as they are permanent. Bigger conferences can justify publishing a book (as well), but if so, it needs to be able to stand on its own. Despite my qualms, I enjoyed reading the book and learned a lot, but am annoyed by the fact that with not much more effort it could have been much better. — PHILLIP HELBIG.

References

- (1) H. Stacey, A. Sonnenfeld & C. Grillo (eds.), *Strong Gravitational Lensing in the Era of Big Data*, IAU Symposium 381 (Cambridge University Press), 2024.
- (2) P. Helbig, *The Observatory*, **144**, 262, 2024.
- (3) P. Helbig, *The Observatory*, **145**, 116, 2025.

Dynamical Masses of Local Group Galaxies (IAUS 379), edited by Piercarlo Bonifacio *et al.* (Cambridge University Press), 2025. Pp. 398, 25 × 17 cm. Price \$155 (about £116) (hardbound; ISBN 978 1 009 39911 1).

This is the proceedings of the IAU Symposium held in Potsdam in 2023 August. It contains 60 papers, each of reasonable length (no one-page *présis*), divided into five sections. There are no specific review papers, though a few do cover some history of their topic, and there is no conference overview or afterword, which might have been interesting. The topics are at the same time niche (ostensibly covering just one physical property for a small number of galaxies), yet wide ranging, across *Gaia* surveys, Λ CDM (and other) halos, theoretical stellar dynamics, mergers, and chemical signatures, among others. The final section actually

*However, only three are open access. Checking which three after I had written this review, I found that — surely not coincidentally — they are the three the authors of which I mention by name.

goes beyond the title of the meeting/book to include near-field cosmology and masses of galaxies outside the Local Group. A drawback of using the book itself is the fact that all the orange circles, blue lines, pink contours, *etc.* are rendered in monochrome, except for one paper with full-colour figures. Also, the review copy I received was poorly constructed, with the first few and last few pages detaching from the binding of the rest. However, as the papers from the meeting are already available online, that hardly matters. Given the price, though the papers themselves are interesting, it is hard to see anyone purchasing this volume beyond libraries with subscriptions to the series. — STEVE PHILLIPPS.

Solar Eclipses, by William Sheehan (Reaktion), 2026. Pp. 253, 23 × 18 cm. Price £25 (hardbound; ISBN 978 1 83639 169 2).

With two geographically-close total eclipses of the Sun anticipated during the next 18 months or so, a substantial number of eclipse watchers are expected to travel to Iceland, north-eastern Portugal, Spain, and the Balearic Islands for the event on 2026 August 12, as well as to Gibraltar, southernmost Spain, northernmost Morocco, northern Algeria, central Tunisia, north-eastern Libya, Egypt, and south-western Saudi Arabia for the subsequent eclipse on 2027 August 2. In this context, the release of a new volume on solar eclipses is particularly timely. *Solar Eclipses*, published by Reaktion Books and authored by William Sheehan — a well-known astronomical historian and author of four previous works in Reaktion's *Kosmos* series — distinguishes itself by focussing on the historical dimension of eclipses, rather than merely offering summaries and maps of forthcoming events, as is common in recent publications.

The opening chapter explores the author's personal experiences observing eclipses, providing foundational information on the various types of solar eclipses. Chapter two places eclipses within the context of ancient history, examining how such phenomena may have appeared to nomadic peoples, with discussions spanning Stonehenge, ancient China, South Korea, Egypt, and the Babylonians, before shifting to the Greeks in chapter three. The fourth chapter addresses the complexities involved in calculating the positions of celestial bodies and the prediction of eclipses throughout history. Chapter five delves into the challenges of modelling the motion of the Sun and Moon during the 16th and 17th Centuries, highlighting figures such as Jeremiah Horrocks — who famously described the Sun as “The Impudent Star” — and Edmund Halley's prediction for the 1715 total eclipse. The sixth chapter transitions into the 19th Century, documenting the evolution toward a more scientific approach to eclipse observation, including phenomena such as Baily's Beads and solar prominences, as well as the solar chromosphere. Chapter seven investigates Le Verrier's proposal of the planet Vulcan as a solution to anomalies in Mercury's orbit, and its eventual dismissal with the advent of General Relativity. The concluding chapter outlines the ‘coming of age’ of eclipse science, detailing the adoption of modern observational techniques on expeditions such as Eddington's experiment during the ‘Einstein Eclipse’ of 1919 May 29, which prompted the iconic New York Times headline, “Lights all askew in the Heavens”. This volume also sheds light on the pivotal role eclipses have played in advancing related fields such as chemistry and physics. Notably, the book includes several rarely seen photographs (at least to me) of influential figures in eclipse science.

Additionally, two appendices address safe eclipse-observation techniques and provide a synopsis of eclipses occurring between 2026 and 2029, both of which are highly commendable and practical. The book is further enhanced by an informative reading list and a comprehensive bibliography. In summary, this is a valuable and well-illustrated addition to any eclipse enthusiast's library, particularly for those interested in the historical and scientific context of eclipses. However, it may not fully meet the requirements of individuals seeking detailed guidance for planning eclipse expeditions in the distant future. Priced at £25, this hardbound edition represents excellent value. As an avid eclipse observer and someone ac-