

many of the more than half-a-million 8×10-inch glass plates in the Harvard Plate Stacks. The plates cover both the northern and southern hemispheres, the latter being taken at the Observatory's outstation at Arequipa in Peru, from where the plates were shipped back to Boston in many stages: mule train to the Pacific coast, by ship to Panama, over the isthmus by land, and finally by ship to Boston, providing many opportunities for damage; amazingly, very few plates were broken.

Von Mertens stresses the distinction between looking and seeing. Looking is a passive approach, seeing takes intensive and careful inspection and understanding. Seeing requires total concentration for hours at a time and must have taken its toll, physically, mentally, and emotionally. The results were faithfully recorded by Leavitt and her colleagues in many volumes of handwritten notebooks, all of which survive; many were consulted by the author. The plates were annotated by Leavitt, writing in pen on the reverse side of the plate, separated from the emulsion by a millimetre of glass. The plates are now being digitized and initially these markings were erased to give a clearer starfield, but their historical and archival importance has now been recognized and the most important ones are being preserved.

The book is lavishly illustrated by many photographs of plates (mostly negative), meticulous drawings of plates by the artist Jennifer L. Roberts (who also provides a ten-page illustrated essay on Leavitt), and by Von Mertens herself. There are also illustrations of Von Mertens' own artwork and photographs of Leavitt and her colleagues, some including their percipient and supportive Director, Edward Pickering. An essay by João Alves recounts his accidental discovery of Leavitt's work in the 1943 edition of Shapley's book *Galaxies*. He quotes Shapley as writing "Leavitt ... had the gift of seeing things and of making useful records of her measures". Later, he says "It would only later dawn on me that looking at an image over a long period is far from an exercise in boredom: it's a *technique*. Repeated looking, day after day, gazing, contemplating. Looking for a sign, no matter how small." In his PhD thesis, he used this technique to uncover what he calls the Radcliffe Wave — the alignment of many very faint gas clouds running from the Orion Nebula towards the Galactic plane. It runs for more than 10 000 light-years from Taurus to Cepheus, unsuspected until Alves' painstaking work that followed Leavitt's technique of looking until you see.

There is so much in this book that I can't cover it all. But I really enjoyed the very different perspective and can strongly recommend it to anyone with an interest in art and/or the history of astronomy. At the modest price, it would make a good present for someone. At the very least, it would be a beautiful coffee-table book. — ROBERT CONNON SMITH.

The Milky Way Smells of Rum and Raspberries ... and Other Amazing Cosmic Facts, by Jillian Scudder (Icon Books), 2023 (originally published 2022). Pp. 255, 19·7 × 13 cm. Price £10·99 (paperback; ISBN 978 1 83773 101 5).

Jillian Scudder is associate professor of physics and astronomy at Oberlin College, Ohio. As one might expect from the title, the book is a collection of interesting facts, the thirty-four chapters of about four to eight pages each discussing them in turn, starting with the entire Universe and moving in through galaxies, stars, and black holes to the Solar System (with which somewhat more than half of the chapters are concerned). Although chosen to be interesting, they are used as jumping-off points to explain various aspects of astrophysics.

Some examples: ‘The Universe is beige, on average’, ‘The galaxy is flatter than a credit card’, ‘It rains iron on some brown dwarfs’, ‘Europa might glow in the dark’. Forty-five pages of small-print endnotes point the reader to more details, either technical papers (standard bibliographic references but including DOIs) or URLs; footnotes are proper footnotes. It is thus similar to other books^{1–8} which select a (small, medium, or large) number of topics and discuss them in some detail without trying to cover too much ground, a welcome alternative to introductory books which cover all of (some branch of) astronomy but necessarily at a rather superficial level. There are a few black-and-white figures scattered throughout the book, but no index. This is a nice book suitable as an introduction to those interested in astronomy but with pointers to more information, but probably everyone could learn something new from it. — PHILLIP HELBIG.

References

- (1) G. Sparrow, *50 Astronomy Ideas You Really Need to Know* (Quercus), 2016.
- (2) P. Helbig, *The Observatory*, **137**, 30, 2017.
- (3) G. Sparrow, *The History of Our Universe in 21 Stars (That You Can Spot in the Night Sky)* (Welbeck), 2023.
- (4) P. Helbig, *The Observatory*, **145**, 40, 2025.
- (5) A. Cohen, *The Universe* (William Collins), 2023.
- (6) P. Helbig, *The Observatory*, **145**, 78, 2025.
- (7) G. Lavender, *The Short History of the Universe: A Pocket Guide to the History, Structure, Theories & Building Blocks of the Cosmos* (Laurence King), 2022.
- (8) P. Helbig, *The Observatory*, **145**, 77, 2025.

Honoring Charlotte Moore Sitterly: Astronomical Spectroscopy in the 21st Century, edited by David R. Soderblom & Gillian Nave (Cambridge University Press), 2024. Pp.133, 25.5 × 18 cm. Price £110/\$145 (hardbound; ISBN 978 1 009 35192 8).

I suppose it might just be possible, if you are not at all involved in spectroscopy, that you might not be entirely familiar with the name Charlotte Moore-Sitterly. I think, however, that anyone who has done any work in atomic spectroscopy would agree that Charlotte Moore-Sitterly was one of the greatest spectroscopists of the 20th Century, and, as this volume shows, her pioneering work extends far into the 21st. It is probably not possible to make any attempt at interpreting an astronomical spectrum without extensive reference to her tables of *Atomic Energy Levels (AEL)* and her *Revised Multiplet Table (RMT) of Astrophysical Interest*. The spectroscopic notations of atomic energy levels, terms, and multiplets, with which we are today so familiar, is largely the work of Moore-Sitterly, who, as Donald Menzel wrote, “turned chaos into order”

This slim (but exceedingly important) volume represents the Proceedings of the 371st Symposium of the International Astronomical Union, held in Busan, South Korea, in 2022.

The first two plenary papers in the volume are first, a brief biography of Moore-Sitterly (about whom relatively little has previously been written) and how her legacy extends into the present century. These two papers alone are surely of great interest to any spectroscopist interested in the history and development of the subject, and of Moore-Sitterly’s role. How often has Moore-Sitterly’s work been cited? That is impossible to calculate. For one reason, according to this volume, about 2500 different spellings of *Atomic Energy Levels* are to be found in the literature. Furthermore, since about 1995, the work started by Moore-Sitterly in her three *AEL* volumes has now been hugely