Conflict-of-interest statement: My copy of *You Can't See in the Dark with the Lights On* was a gift from the author, who kindly inscribed it "to the most avid reader I know." — Virginia Trimble.

Data Modeling for the Sciences, by Steve Presé & Ioannis Sgouralis (Cambridge University Press), 2023. Pp. 415, 25 × 18 cm. Price £59·99/$74·99 (hardbound; ISBN 978 1 009 09850 2).

Data Modeling for the Sciences is an intermediate-level book for students and researchers who wish to gain either a wide coverage of data-analysis techniques, or a deeper understanding of the underlying principles, or both. It is wide in scope, covering everything from statistical principles, to the computational methods that are now the norm for analysis of data sets, which are rarely simple enough for analytic techniques to be applicable. The book therefore takes a more data-driven approach than many. One aspect that sets this book apart is the large number of problems that it sets, the bulk of them being computational, often generating synthetic datasets and subjecting them to the analysis methods presented in the book. The book is targeted at Masters-level students in the sciences, who will typically have the appropriate computational skills that are assumed, but also at more experienced researchers, who will also find it a very valuable resource. There are some sections that are marked as advanced, and some of these would probably require some time for Masters students to absorb. Unusually for a review, I more-or-less read the book from cover to cover, as I felt that there was a lot to learn from this book, and I was right, and found it a rewarding read. I found the ordering of topics quite interesting — for example, there is a long chapter on dynamical systems, and Markov processes precede the more foundational inference chapters. It meant that sometimes one has to pause to consolidate and work out how everything fits together, but that is no bad thing. I recommend the book strongly for anyone involved with analysis of data with any degree of complexity. — Alan Heavens.

From The Library

Modern Physical Laboratory Practice, by John Strong (Prentice Hall), 1938; 15th printing (Black & Son Limited), 1949. Pp. 642, 23 × 15 cm.

Why is this an astronomy book? Well, it was deaccessioned by the RAS a while back, after living there for more than 70 years. Second are the authors: John Strong is listed as Assistant Professor of Physics in Astrophysics at the California Institute of Technology (he headed a balloon-infrared group later in life and the second of his four collaborators was Albert E. Whitford, Assistant Professor of Astronomy at Washburn Observatory of the University of Wisconsin (later director of Lick Observatory and the chairman of the first, 1962, decadal review panel that attempted to set priorities for government funding for astronomical equipment (*etc.*) for the next decade)).

Third is the content. Although Chapter I begins with glass blowing (still useful in some branches of science, though maybe not in astronomy) and Chapter XX ends with casting replicas of small items using cuttlebone (now useful only for cuttlefish), quite a lot of the middle deals with optics, measurement of radiant energy, photoelectric cells, and photography, focussing on astronomical photography with special emulsions provided by the Eastman Kodak Company, whose astro-friendly director of research, C. E. K. Mees, appears several times in the text. Also to be found tiptoeing around in the footnotes are Karl

Schwarzschild (for reciprocity failure), Hubble (on detectability of very small images), and H. N. Russell (on converting stellar apparent magnitudes to other units like lumens). The author(s) suggest using Polaris as a standard; perhaps it was not a weakly pulsating Cepheid that year.

Most fun and impressive is the figure of the sensitivity of spectrum plates available from the Eastman Kodak Company. There were, in those days, no fewer than 19, all inevitably with near-UV and blue sensitivity (to be cut off by Wratten filters if you so desired), but with their long-wavelength ends extending to anything from about 500 nm to 1200 nm (1·2 microns). The names are all letters of the alphabet, in order O J H G T D B C F S U N K R L P M Q Z (perhaps the model for the various bands of radar called S, X, and so forth). By 1973, the survivors were O J G H D E H-alpha F N and Z (B and M were panchromatic).

Are there reasons to remember these? Perhaps if you are interested in digitizing old astronomical images. And perhaps there is more than the one bit of humour that I remember, featuring a senior astronomer instructing a graduate student in a dark room. The senior chap lit a cigarette while plates were still in the developer. The student gasped in horror at the thought of losing a night's work. But the mentor said, "Is OK, Chris. They are only O plates." (which did not respond to orange or red light). Of course plates could be sensitized in various ways, after which, the authors advised said plates should be kept in an icebox. — Virginia Trimble.

Here and There

NON SEQUITUR

The star's brightness was measured more than 300 times a second, and its diameter calculated with extreme precision from the fluctuations in its luminosity during the occultation: it's exactly 2,173 times as large as the Sun, and thus the smallest star ever measured. — *A History of the Universe in 100 Stars* (Quercus), 2023, p. 93.