**Annual Review of Earth and Planetary Sciences, Vol. 51, 2023**, edited by R. Jeanloz & K. H. Freeman  (Annual Reviews), 2023. Pp. 695, 24 × 19·5 cm. Price $511 (about £400) for institutions; $122 (about £95) for individuals (hardbound; ISBN 978 0 8243 2051 5).

This year's volume of *Annual Review* opens with a remarkable autobiography of Estella Atekwana, biogeophysicist, to which the present writer can personally relate and recommend to all aspiring scientists who face challenges. I hope it is also read by those in positions to lighten the burdens of such colleagues.

The regular scientific-article section as usual covers a broad range of topics within Earth science including Solar System, climate change, the trendy new subject of machine learning (is this an oxymoron?), and the solid, liquid, and gaseous spheres of Earth. There is room herein to comment on only too few of these excellent papers. We are seeing increasing treatments of the interface between society and Earth science these days and I would particularly highlight a beautifully written chapter on 'Communication and Behavior Science' to improve the ability of society to make decisions regarding climate change, by authors Maibach and others. The recommendations, *e.g.*, simple, clear messages, have, however, clear application elsewhere in scientific writings! Another favourite I recommend is the chapter on 'Machine Learning in Earthquake Seismology' by Mousavi and Beroza. This short but to-the-point chapter provides a helpful primer and summary for those who might be wondering what this subject is and whether it is useful. Another of my pet favorites is the chapter 'The Mid-Pleistocene Climate Transition' by Herbert. It boldly states upfront and throughout that a complete explanation of the pattern of climate oscillations during the Pleistocene is still out of reach. Continued study of the interplay of multiple environmental processes, rather than focussing on Earth's orbital variations alone, is the present trend. I am glad scientists have not given up on this stubborn problem! I have room only to mention one more favourite and, after some hand-wringing, it has to be the chapter 'The Rock-Hosted Biosphere' by Templeton and Caro. There are 10 000 times more cells in Earth's crust than there are stars in the Universe, so this little-emphasized subject is not insignificant. In addition to summarizing the current state-of-play in the subject, the text emphasizes what we don't know, which is certainly enough for a fair few PhD projects, to say the least. A good read for aspiring students then. Abject apologies to the authors of the other excellent papers in this year's volume. Readers of this short report will just have to go out and purchase of a copy of their own (highly recommended)! — Gillian Foulger.

**Planetary Systems Now**, edited by Luisa M. Lara & David Jewitt (World Scientific), 2023. Pp. 425, 23·5 × 16 cm. Price £130 (hardbound; ISBN 978 1 80061 313 3).

We are currently in the middle of a revolution in our understanding of planetary systems. There is now a dauntingly large amount of knowledge for the new student embarking on the study of planets. *Planetary Systems Now* attempts to provide a broad overview of the state of the field of planetary science as of early 2021. The book is based on an on-line school aimed at early-career researchers: 'Planets, Exoplanets and their Systems in a Broad and Multidisciplinary Context'.

The 14 chapters are reviews of their individual fields authored mostly by the lecturers at the on-line school. Unlike a typical textbook, the range of authors makes for a broad and diverse book and allows up-to-date results from a wide