

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-

tively involved in almanac calculations and production, I found this work highly rewarding.  
— STEVE BELL.

**The Secret Life of the Universe: Searching for the Origins and Frontiers of Life**, by Nathalie A. Cabrol (Simon & Schuster), 2025 (originally published 2024; originally published in French 2023 as *À l'aube de nouveaux horizons*). Pp. 315, 20 × 13 cm. Price €16.99 (about £14.89) (paperback; ISBN 978 1 3985 3132 1).

The hardback edition has the subtitle ‘An Astrobiologist’s Search for the Origins and Frontiers of Life’. In any case, it was translated by the author from her own best-selling book in French. I haven’t read the French book, but the English version is extremely good, and based on the text alone I would not have suspected it of being a translation. (Lack of knowledge of the topic is what usually indicates a translation, though occasionally insufficient knowledge of one or both of the languages does so; neither is the case here.) Born, educated, and initially working in France (Observatoire de Paris-Meudon and the Sorbonne), Cabrol and her husband, Swiss-born hydraulic engineer (and after retirement and further studies planetary scientist) Edmond A. Grin (1920–2022), moved to the US, worked for NASA, and became US citizens. She later moved to the SETI institute, becoming the director of the Carl Sagan Center in 2015. Cabrol has 426 entries (135 refereed) at ADS and has been the PI of several NASA projects involving Solar System exploration (including life in extreme environments on Earth).

The book is not just written in good English; some of it is almost poetic: “Rocks made of solid water ice rolled and rounded by time in torrents of liquid methane.” “. . . a world where everything looks familiar, yet nothing is really what it seems, and where we could be given a chance to explore side-by-side life as we know it and life as we don’t.” Having said that, the book is a down-to-Earth (and/or some other Solar System body) account of the one known and many possible abodes of life, starting (after a brief autobiographical sketch) with Earth and moving to Venus, Mars, the Jovian satellites, Titan and Enceladus, the outer Solar System, extra-solar planets (after a chapter on six methods of detecting them). After that our in nine chapters, discussion turns to the Drake equation, the Fermi paradox, and whether the solution to the latter is some sort of great filter<sup>\*</sup>; and the Kardashev scale, SETI, METI, and UFOs/UAP. Cabrol is clearly someone who would like there to be extraterrestrial life, thinks that it is probable, but, whether regarding microbes on other worlds or visiting aliens, remains true to Sagan’s dictum that extraordinary claims require extraordinary evidence. The final chapter is concerned with various attempts at a definition of life (perhaps it is easier to explain the origin of life or to describe what it does than to define it) and related ethical questions. While the earlier chapters give an up-to-date account of topics I was already somewhat familiar with, much of the last chapter, while not always covering completely new ground, introduced me to things such as xenobots. The epilogue is similar to two others<sup>3-4</sup> I’ve reviewed<sup>5,6</sup> in this *Magazine*, but without the complaint that it seems tacked on; rather, it seems like a logical conclusion, the difference being that it is more related to the main text.

Most of the book is concerned with the Solar System, which is at the opposite end of the scale from my main astronomical interest, cosmology. Nevertheless, I really enjoyed reading the book, and it’s good to be brought up to date on topics such as planetary missions by someone actually involved in them. We now know that many Solar System bodies contain water, though not necessarily liquid and on the surface, and Ganymede has more than Earth. Cabrol has a knack for including interesting details without losing sight of the overall picture. I was reminded of many popular-science books which I read as a child and how they inspired and reinforced my interest in science; this book is a fine addition to that illustrious collection.

<sup>\*</sup>See a somewhat complementary book<sup>1</sup> reviewed<sup>2</sup> in these pages for more on the concept of ‘filters’ as bottlenecks of evolution.