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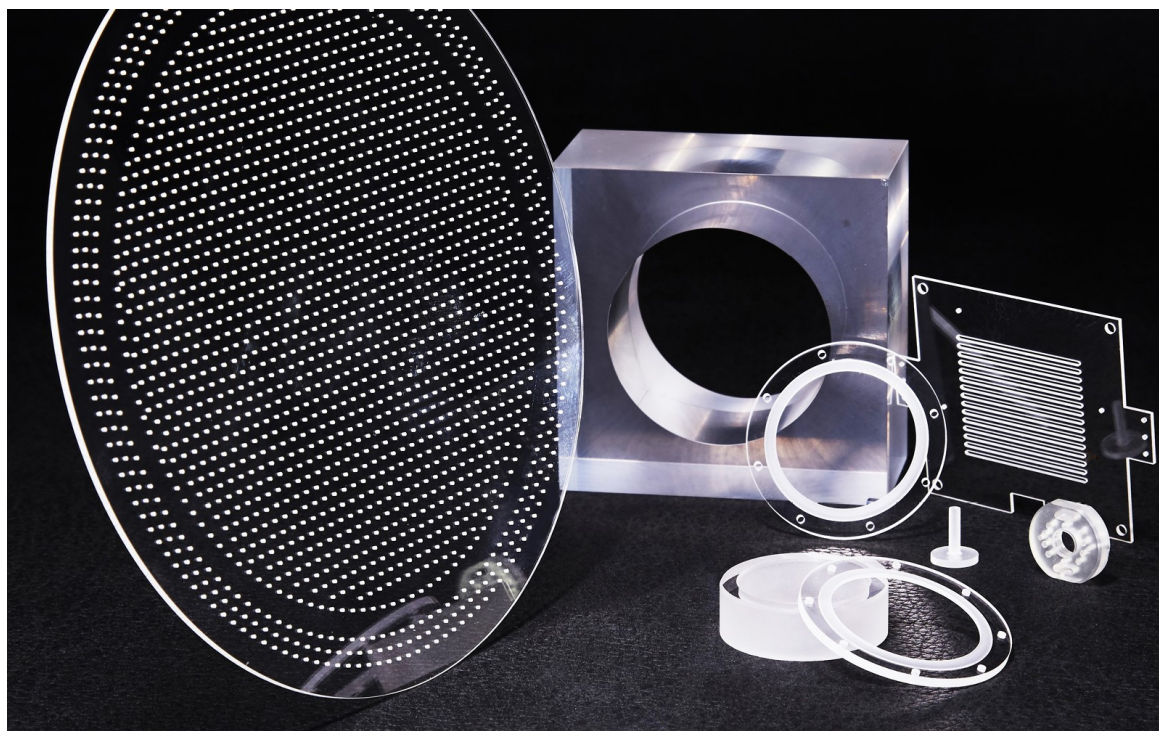
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*Physics Today* **61** (8), 58–60 (2008);

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by revealing that its position is near the edge, not at the center, of the galaxy. Wonderful discussions of extremophilic life and of how biological evolution is often shaped by astronomical events follow, and it is here that Impey's writing shines. The latest insights from genetics about the metaphorical bush of life are particularly well done, if perhaps overly technical for the target audience. Alas, lateral gene transfer among bacteria is now casting doubt on our ability to ever identify a last common ancestor at life's origin. The book concludes with chapters on Mars and Titan, extrasolar planets, and SETI-type explorations. The first of those chapters surveys unsuccessful robotic searches for life on nearby alien worlds, and the third has little new to report about the hunt for extraterrestrial intelligence. Yet the presentation of distant exoplanets is cutting-edge and informative.

Readers of PHYSICS TODAY will find some of Impey's smooth prose jarring, with its English units and high speculation. Turning phrases into language suitable for general readers is often admirable, but the author suffers some lapses and inconsistencies in the process. For example, he writes, "About a half million years ago, the record of animal fossils peters out like a road winding into a thick fog" (page 69), but he actually means a half billion. In another peculiar sentence, Impey states that Orion "isn't far from home as the crow flies, only 1,800 light-years" (page 161), but today's best estimate is hardly more than half as much. Also, the author writes that "ALH84001 traveled a long, meandering journey to the Earth, taking sixteen million years to get here" (page 123), which contrasts with a similar statement a few chapters later (page 200) that gives a value of 10 million. Discerning readers will find other sweet phrases, albeit

occasionally tinged with sour content.

Illustrations in a trade book for a general audience are also admirable, but most of the more than 100 figures in the *The Living Cosmos* are poorly reproduced and technically unsuitable for the intended audience. Many minute graphs are not explained well for lay readers, neither in the text nor in the captions, and even nonexpert scientists will likely need to work to decipher some of them. Among many illustrations that are tiny and unclear is one that shows the rate of asteroid impacts during Earth's history (figure 59). This good example of a bad figure treats time disappointingly, with "Ga" units at the bottom, "b.y." at the top, and "m.y." for the plot-line labels, which are otherwise unexplained. In addition, the time axis increases right to left, whereas subsequent graphs in the same chapter show time increasing left, then right, left, right, down, up, and right. No effort was made to make these temporal graphs uniform, or at least consistent, and the resulting lack of clarity will almost surely confuse the target audience.

Publishers do very little for their authors these days. Even commercial, trade-book firms offer minimal editing, fact checking, and artistic help. It is sad to see an otherwise fine book, whose treatment and erudition are commendable, marred by poorly illustrated and inadequately explained figures that resemble a potpourri of unrelated PowerPoint slides. I recommend that readers wait for the next edition of *The Living Cosmos*, when the publisher will, hopefully, have invested some time and effort to improve the illustrations so that they actually support the book, rather than detract from it.

**Eric Chaisson**  
Tufts University  
Medford, Massachusetts

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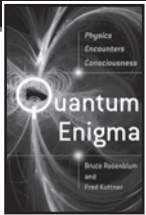
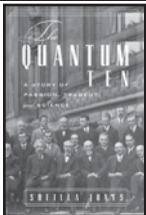

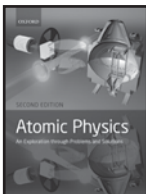
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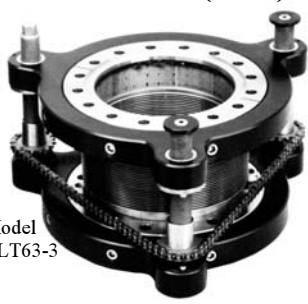
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