Unearthly ideas

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The Extraterrestrial Life Debate 1750–1900: The Idea of a Plurality of Worlds from Kant to Lowell. By Michael J. Crowe. Cambridge University Press: 1986. Pp. 680. £40, \$59.50.

A FEW years ago, at an annual meeting of the American Association for the Advancement of Science, I participated in a special session entitled "The Edges of Science" which was devoted to three topics: parapsychology, unidentified flying objects and extraterrestrial intelligence (ETI). Although Frank Drake and I, paired on opposite sides of the extraterrestrial question, wondered a bit about our presence at a session otherwise devoted to "fringe" topics, the logic is, in fact, clear: none of the phenomena has been proved to exist. Rather, the differences lie only in relative scientific respectability, and that, of course, is a matter of opinion.

One member of the audience noted this, and asked why SETI (the search for extraterrestrial intelligence) was so well funded while the other two fields received little government support. Drake quite properly replied that, while SETI's funding is by no means lavish, it has a mature set of scientific questions waiting to be answered. There didn't seem to be any disagreement on this point, certainly not from me. Nonetheless, SETI is indeed on the "edge of science"; the data are sparse even on important subsidiary issues such as the existence of extra-solar planets, the origins of life on Earth and the like. We know a good deal more than was known a century ago, but the probabilities we assign are too often still guesses. Of course, that has stopped very few people from speculating and venturing opinions on a question that has, as Crowe shows us, long excited human imagination.

My response to *The Extraterrestrial Life Debate 1750–1900* is influenced by the even more speculative character of the debate during the century and a half Crowe considers. There wasn't much science involved until the mid-1800s; before then there was little more than the post-copernican description of the Solar System (the critical displacement of Earth and its inhabitants from the centre of the Universe), and a strong suspicion that the stars might be suns with attendant families of planets. Consequently, pluralists (who believed in other inhabited worlds) and their opponents were relatively free to camp on philosophical and theological battlegrounds, engaged in what Crowe calls a "night fight in which participants could not distinguish friend or foe until close combat commenced".

This characterization points to two problems with the book. First, because even now the outcome is unknown, there is a temptation to keep score, to count pluralists and opponents. Crowe has succumbed, and seems compelled to categorize people as being in one camp or the other. Too often the attempt seems forced, especially for those who, while venturing opinions or using pluralist themes, were sceptical of pluralist arguments. Voltaire is an example.

Score-keeping of this sort has led to the book's second problem, its structure. As the jacket suggests, a lot of people participated in the debate and Crowe has given us a catalogue of them, summarizing what each had to say on the question. The result is long and endlessly repetitious. I eventually caught on and, if I saw yet another phrase to the effect that God would not create suns to light empty worlds, knew it was time to skim onward.

Respite comes in two sections devoted to significant changes in the debate. The first deals with the controversy created by William Whewell, Master of Trinity College, Cambridge, who in 1853 broke with the then-prevailing pluralist view. He argued that geological evidence for humanity's appearance late in terrestrial history could be used to dismiss the pluralist argument that (in Crowe's words) "if God did not populate distant planets, his efforts would have been wasted". Whewell also outlined the astronomical evidence and noted that pluralists had generally leaped far beyond it in populating the Solar System and the rest of the Universe. This part of the book is lively and informative, in part because here Crowe deals with a small number of players who were introducing new, more substantive arguments into the debate.

The other lively part of the book is the penultimate chapter on Mars and its non-existent canals. Here, although the catalogue approach occasionally intrudes,

science enters more frequently, giving the participants opportunities to change their minds, even though some of the data and interpretations, as so often happens, eventually proved invalid. It is strange that after spending nearly 500 pages chronicling the opinions of philosophers, theologians, scientists and purveyors of popular culture, Crowe surveys only scientific opinion in the Mars chapter.

This brings me to a final point — in truth, a wish — about the book that Crowe might have written. A few months ago serendipity led me to Martin Rudwick's *The Great Devonian Controversy* (University of Chicago Press, 1985), in which the author keeps in view the importance to the scientific detective story of the very human qualities of the players. In the process Rudwick produced a thoughtful and thought-provoking picture of the way that science works. In writing his book, Crowe had an opportunity to show the interplay between science, beliefs in extraterrestrials, and concepts of extraterrestrials and of ourselves. The century and a half he covers was a time of tremendous change in the debate. Pluralism won the field for a while in the scientific world and strengthened its hold in popular culture; but then, slowly, was forced to abandon, at least in the scientific world, the idea that other planets in the Solar System were inhabited. New discoveries in astronomy, biology and geology were changing conceptions of the Universe faster than in any previous time in history. Yet Crowe chose to catalogue rather than to analyse. He touches on these issues in places, particularly in the valuable final dozen pages, but I hope that someone will eventually distil the rest of his mass of material for use in a more purposeful discussion. □

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Engineering discovery — Karl Jansky and the equipment with which, in the early 1930s, he identified radio signals from beyond the Solar System, an event which marks the birth of radioastronomy. The picture is reproduced from Thomas R. McDonough's *The Search for Extraterrestrial Intelligence*, published by Wiley price \$19.95, £16.50.