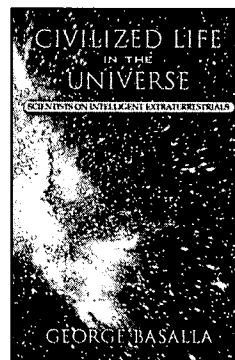


BOOK REVIEWS

Deities for Atheists

A review of *Civilized Life in the Universe: Scientists on Intelligent Extraterrestrials* by George Basalla, Cambridge University Press, 2006. 224 pp. \$29.95. ISBN: 0-19-517181-0



M I C H A E L S H E R M E R

On February 8, 2000, the *New York Times* science section featured a newly published book, *Rare Earth: Why Complex Life is Uncommon in the Universe*¹ by the paleontologist Peter Ward and astronomer Donald Brownlee, who were called radicals for daring to challenge the orthodox assumption that the cosmos is probably teeming with complex life. “Now, two prominent scientists say the conventional wisdom is wrong.”²

How did the belief in the existence of extra-terrestrial intelligence (ETI) change from the heresy it was in the early 1960s when Frank Drake, Carl Sagan, and others took up the search, to “conventional wisdom” by the late 1990s? It certainly was not due to any new empirical data for the existence of ETIs, since this continues to be a science without a subject. A compelling answer may be found in George Basalla’s critically important new book, *Civilized Life in the Universe*, the best treatment on the history and science of the subject since Steven Dick’s magisterial two volumes, *Plurality of Worlds* and *The Biological Universe*.³

A historian of science and technology at the University of Delaware, Basalla’s 1989 book, *The Evolution of Technology*, presents an evolutionary theory of technological change that employs an organic model in which a diversity of artifacts are selected and refined by society for incorporation into material and economic life. By challenging the popular belief

that technology arises from either heroic individuals or class struggles, Basalla’s book became a watershed in science and technology studies. *Civilized Life in the Universe* may do the same for students of ETI.

Basalla’s tightly-woven and highly readable narrative begins with an epigraph from the theoretical physicist Paul Davies: “What I am more concerned with is the extent to which the modern search for aliens is, at rock-bottom, part of an ancient religious quest” (p. 3). That is precisely what it is, says Basalla, who proceeds to outline three assumptions underlying the thinking about extra-terrestrial intelligence from antiquity to the present: (1) the universe is very large or infinite, (2) there are other inhabited worlds, (3) these other complex and intelligent beings are vastly superior to us.

Modern cosmology has confirmed the first assumption. We live in an accelerating expanding universe some 13.7 billion years old, which contains several hundred billion galaxies each of which houses at least several hundred billion stars. And modern astronomy is in the process of confirming half of the second assumption: there are a great many worlds circling those hundreds of billions of stars in our galaxy. Whether they are inhabited or not, of course, remains to be seen.

As for the third assumption, if we did make contact with an ETI, they would have to be vastly superior to us (since we just recently mastered radio

and spaceflight). On an evolutionary time scale, an ETI species only slightly ahead of us biologically could be millions of years ahead of us technologically. Pace Arthur C. Clarke, I have called this Shermer’s Last Law: “Any sufficiently advanced extraterrestrial intelligence is indistinguishable from God.”⁴

This is actually an ancient belief, says Basalla. “The idea of the superiority of celestial beings is neither new nor scientific. It is a widespread and old belief in religious thought. Aristotle divided his universe into two distinct regions, the superior celestial realm and the inferior terrestrial realm.” The incorporation of Aristotle into Christian theology carried this belief into the Middle Ages. “Christians populated the celestial regions with God, the saints, angelic beings of varying ranks, and the souls of the dead. These immortal celestial beings were superior to mortals, who inhabited the inferior terrestrial realm” (p. 10). Even though the Copernican revolution overturned Aristotelian cosmology, “the belief that creatures living on a distant planet were superior to the human species” hung on into the modern age, and that “religious elements continue to adhere to the perception of extraterrestrial life even as we study it in the twenty-first century” (p. 12).

As I demonstrated in an analysis I conducted on the SETI pioneers,⁵ most were once religious but became either atheists or agnostics as adults. Radio

astronomer Frank Drake—creator of the canonical “Drake Equation” for estimating the number of ETIs inhabiting the galaxy—was brought up as a Baptist, and later reflected: “A strong influence on me, and I think on a lot of SETI people, was the extensive exposure to fundamentalist religion.”⁶ In his book on the subject, Drake suggested that “immortality may be quite common among extraterrestrials.”⁷ Carl Sagan—who did more than anyone to conventionalize SETI—grew up Jewish and became agnostic, later writing of SETI’s importance: “It touches deeply into myth, folklore, religion, mythology; and every human culture in some way or another has wondered about that type of question.”⁸ ETIs are secular Gods. Deities for atheists.

Why should so many people—theists and atheists, theologians and scientists—believe in the existence of superior celestial beings, be they angels or aliens? Basalla’s answer is twofold: first, the psychologist Robert Plank suggests that humans have an emotional need to believe in imaginary beings.⁹ “Despite all their scientific trappings,” Basalla writes, “the extraterrestrials discussed by scientists are as imaginary as the spirits and gods of religion or myth” (p. 14); and second, the historian

of science Steven Dick thinks that when the Newtonian mechanical universe displaced the spiritual world of the Middle Ages it left a vast and lifeless void, which was filled by modern science with ETIs. Consider Sagan’s vision of alien intelligences, says Basalla. “Sagan was certain that these creatures were benevolent. They would help us solve current problems, like the spread of nuclear weapons and environmental pollution, by sharing their advanced knowledge with us” (p. 13).

Basalla is also highly critical of the anthropomorphism inherent in SETI science. Although Sagan identified a number of chauvinisms (oxygen, carbon, temperature, etc.) that cloud scientific thinking on this subject, Basalla thinks that he didn’t go far enough. The chauvinism that ETIs will communicate by radio signals, that their intelligence will take a form similar to ours, and especially that they are social beings who live in civilizations are anthropomorphisms that have no basis whatsoever in reality. We cannot even communicate with terrestrial intelligences such as apes and dolphins, Basalla notes, “how can we hope to decode complex messages sent by superior extraterrestrial ones?” (p. 200). The discovery of even the simplest life form anywhere outside

of our planet would be an enormous boon to this science, albeit a far cry from beings capable of signaling us with a prime number sequence, as Sagan’s aliens did in *Contact*.

If we ever do make contact with intelligent celestial beings, all of this speculation and conjecture will fall by the wayside in favor of real science. So in the spirit of scientific inquiry, the search must go on. *Ad astra!* ▼

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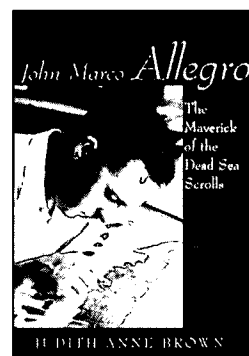
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Of Scholars, Scrolls and Mushrooms

A review of *John Marco Allegro: The Maverick of the Dead Sea Scrolls*, by Judith Anne Brown, Wm. B. Eerdmans Publishing Company, 2005, 288 pp. \$25.00 ISBN 0-802828493

T I M C A L L A H A N



SOME TIME IN THE LATE 1970s a friend lent me a hard-cover copy of John Marco Allegro’s *The Sacred Mushroom and the Cross* that he had purchased a garage sale for \$1.50; and, after reading it I can say that it was worth every penny. Allegro’s approach was to assume *a priori* that everything in the Bible, particularly the Passion, was a coded reference to a fertility cult

whose worship centered on ingesting the hallucinogenic mushroom *Amanita muscaria* for the purpose of seeing visions. He then interpreted every name in the Bible as supporting (in a coded sort of way) his thesis and blithely ignored such mundane forms of authentication as reasonable inference, supporting archaeological evidence, or references in ancient sources

to the worship of Yahweh that might have lent independent attestation to his assertion that the Israelites were a bunch of crazed druggies worshipping a phallic mushroom god. I had heard that Allegro was taken seriously because, up until the publication of *The Sacred Mushroom and the Cross*, he was known for good, solid scholarship. However, I was so put off by the

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