

Many Worlds: Theological Issues

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Below is another installment from the book "Many Worlds: The New Universe, Extraterrestrial Life & the Theological Implications" edited by Steven Dick. This installment, titled "Life and Intelligence Far from Earth: Formulating Theological Issues" is written by Ernan McMullin.

The O'Hara Professor of Philosophy, now emeritus, at the University of Notre Dame, Ernan McMullin is an internationally respected philosopher of science who has written and lectured extensively on subjects ranging from the relationship between cosmology and theology, to the role of values in understanding science, to the impact of Darwinism on Western religious thought. A graduate of Maynooth College in Ireland, where he received an undergraduate degree in physics and a bachelor of divinity degree in theology, he went on to study theoretical physics at the Dublin Institute for Advanced Studies and earned a Ph.D. in philosophy at the University of Louvain in 1954. Joining the Notre Dame faculty as an assistant professor of philosophy that same year, he was named to the John Cardinal O'Hara Chair in 1984 and chaired the department from 1965 to 1972. He has been a visiting professor at the University of Minnesota, the University of Cape Town, the University of California at Los Angeles, Princeton, and Yale, a Phi Beta Kappa National Lecturer, and a Cardinal Mercier Lecturer at the (Flemish) University of Leuven. In addition, he has served as president of the American Catholic Philosophical Association, the Metaphysical Society of America, the Philosophy of Science Association, and the Western Division of the American Philosophical Association, as chair of the History and Philosophy of Science Section of the American Association for the Advancement of Science, as a member of the executive committees of the History of Science Society, the Council for Philosophical Studies, and the Society of Christian Philosophers, and as a member of numerous scholarly and scientific committees, congresses, and panels. A fellow of the American Academy of Arts and Sciences, the International Academy of the History of Science, and the American Association for the Advancement of Science, he holds honorary degrees from Maynooth, the National University of Ireland, and Loyola University (Chicago). A member of many editorial boards, Dr. McMullin is the author of numerous scholarly articles and nine major books and the editor of a series of monographs on logic. His latest volume is *The Inference That Makes Science*, published in 1992. He is working on a study of rationality, realism, and the growth of knowledge.

McMullin's essay considers the implications of theoretical and future empirical

probability/possibility of Extraterrestrial Life (ETL) and Extraterrestrial Intelligence (ETI) to the particularity of the Human and Earth-centered cosmologies of the Western theistic traditions. The plurality of worlds in the universe has long been a topic for theological debate, particularly in Christianity, going back at least as far as the Middle Ages. McMullin offers an illuminating survey of different theological interpretations of doctrines like ³Original² Sin, the Body and Soul, and the Incarnation in light of the challenges presented by the possible plurality of worlds.

This posting is part of a series of postings from the MANY WORLDS book, edited by Steven Dick, 2000 (see Metaviews 092, 095, 097, 101). If you like what you read, the book is available for purchase online at .

-- Billy Grassie

Ernan McMullin, ³Life and Intelligence Far from Earth: Formulating Theological Issues² in MANY WORLDS, edited by Steven Dick, Philadelphia: Templeton Press, 2000 (pp. 151-175).

Chapter Excerpt:

Plurality of Worlds

In popular discussions of extraterrestrial intelligence, it tends to be assumed that the discovery of such intelligence would pose new problems, new challenges, for religious believers. But as historians of science have recently reminded us, the notion that we should expect to find such intelligence came, in significant part, from Christian theologians in the first place.⁹ The revival of Aristotelian natural philosophy in the Latin West in the thirteenth century led to a rupture of serious proportions between Aristotelian philosophers (many of them also theologians) and theologians of a more traditional persuasion. One of the main issues that divided them was the status of propositions in natural philosophy. According to Aristotle, scientific demonstration should proceed deductively from propositions perceived to be true, indeed necessarily true, in their own right, after the manner of geometrical axioms. Theologians were quick to point out that if Aristotle's cosmology be allowed this status, it would imply that the general structure of the world could not be other than it is, thus compromising the key Christian doctrine of Divine freedom. The theology of creation deriving from Augustine maintained that the Creator was in no way constrained in fashioning the sort of universe in which we find ourselves.

One of the test cases between the two sides of this debate was whether there could be a plurality of worlds. For the Aristotelians, this was impossible. Were there to be another world, it would still have to be of the same general sort as this one; a simple analysis of natural motion would then show (as Aristotle argues in two dense chapters of his *De Caelo*, I, 8-9) that it would reduce necessarily to the world we already have. To many theologians of that day, this seemed an implicit denial of Divine omnipotence. And so the possibility of a plurality of worlds became a rallying point for those who were alarmed at the necessitarian tendencies of the new natural philosophy. Despite the efforts of Thomas Aquinas to mediate the quarrel, the Aristotelian position was condemned in 1277 by a council of the bishops of France, thus giving an official

status to the doctrine of the possible plurality of worlds.

What the defenders of this doctrine maintained was no more than the possibility of other worlds, that is, God's freedom to create such worlds if God desired to do so. They did not argue that God has, in fact, done so; they would have seen no reason to suppose that a plurality of worlds actually existed. But they had not only opened the way to such a supposition, they had given it broad theological sanction.

With the revival of Neoplatonic ideas in the Renaissance, a further step was taken, the introduction of what later writers would call a "principle of plenitude." The principle was of philosophical, rather than of specifically biblical, origin. But it rested on a particular view of the nature of God, one that had some resonance with the traditional Augustinian doctrine of the omnipotence of the Creator, so it might also be called theological in a somewhat broader sense. The principle lays down that a Creator such as is envisioned in the Christian tradition must bring to be all that is possible, out of the fullness of the Divine power and goodness. It is the presumed nature of God that leads to the expectation that a plurality of inhabited worlds is not only possible, but in some sense necessary.¹⁰

Developments in astronomy in the seventeenth century gave fresh impetus to these ideas, not only of an actual plurality of worlds, but of worlds inhabited perhaps by living and even intelligent agents. As historians have shown in some detail, the likelihood of ETI became almost a commonplace in Western Europe in the eighteenth and nineteenth centuries.¹¹ What is especially striking about this development is the support that this idea of ETI received among Christian thinkers of that time. They were aware of the difficult questions that the reality of ETI would pose for Christians. But for most of them, this potential negative was evidently overcome by their conviction that the presence of ETI in many parts of the universe was what one should expect from an omnipotent Creator, whose power and goodness would in this way be made manifest. As telescopic evidence for the vast scale of the universe mounted, it seemed more and more likely (it was argued) that the Creator would not have left these vast spaces empty of the only sort of life that could freely offer homage to the One on whom this mighty frame depends for its very being.

When Christians are asked today what response religious believers ought to make to the growing conviction that the operations of evolution on a cosmic scale would almost necessarily eventuate in life and intelligence in a great number of locations, their first answer might well be that such a plenitude is just what one should have expected, given the premium that the Genesis account of origins already sets on the gifts that allow human beings to be regarded as somehow imaging their Creator. It is in these gifts and their possessors that the story of the Creation in Genesis seems to find its deepest meaning. Would it not seem, then, that as the dimensions of the Creation prove incomparably greater than those of the central Earth of early tradition, the bestowal of that image could hardly be restricted to that single locus?

Not everyone saw it in that way. Indeed, some critics turned matters around to make the plurality of worlds an argument against Christianity. Notable among these was Thomas Paine who in *The Age of Reason* (1793) argued that "the two beliefs cannot be held together in the same mind; and he who thinks that he believes in both has thought but little of either."¹² Paine

took for granted that the astronomical science of his day had already established the plurality of worlds. Telescopes showed a vast number of fixed stars; "the probability therefore is that each of those fixed stars is also a sun, round which another system of worlds or planets, though too remote from us to discover, performs its revolutions. . . ."13 And so: "the solitary idea of a solitary world . . . in the immense ocean of space, gives place to the cheerful idea of a society of worlds, so happily contrived as to administer, even by their motion, instruction to man."14 And since the Creator has filled our own world with life at every level of size and complexity, we should expect that the same would be true of that vaster universe; the immensity of space cannot simply be "a naked void lying in eternal waste."15 Although there are overtones here of the principle of plenitude, Paine's argument hinges not so much on the nature of God as on the belief that the Creator "organized the structure of the universe in the most advantageous manner for the benefit of man" as well as for the humanlike inhabitants of the multitude of other worlds.16

Paine goes on to assail Christian belief, to a deist like himself a lamentable aberration. Christians, he says, are faced with a dilemma: they must either believe that "the Almighty, who had millions of worlds equally dependent on his protection, should quit the care of all the rest and come to die in our world because, they say, one man and one woman had eaten an apple," or else suppose that "every world in the boundless creation, had an Eve, an apple, a serpent, and a Redeemer." In this latter case, "the person who is irreverently called the Son of God, and sometimes God himself, would have nothing else to do than to travel from world to world, in an endless succession of death, with scarcely a momentary interval of life."17

Laying aside the element of conscious caricature in these passages, one can easily enough discern the sort of challenge that Paine is posing to believers in the Incarnation, that is, in God's taking on human nature in a particular individual who grew up long ago in Galilee. His objection is posed to Christians only, not to Jews or Muslims who could, without much of a stretch it would seem, allow that intelligent peoples elsewhere in our galaxy might be granted by a magnanimous Creator their own Moses, their own Mohammed. How, Paine asks, are believers in the Incarnation to adjust to a new cosmology in which the created universe no longer centers on the Earth and in which humanity is scattered across myriad planets? It was easier to accept the idea of God's becoming man when humans and their abode both held a unique place in the universe. But is it any longer credible in the light of the new questions that the plurality of inhabited worlds poses?

Paine's challenge has been repeated many times since his day, recently again by Roland Puccetti in his *Persons: A Study of Possible Moral Agents in the Universe*.18 Puccetti draws on P. F. Strawson's influential analysis of the notion of a person19 to argue that persons must be corporeal and hence cannot be in more than one place at the same time; they must be capable of moral agency and hence must be able to experience sensations and emotions as only corporeal beings can. This, of course, would mean that the notion of a person could not be applied to God, not at least in the traditional understanding of God as a spiritual being. (This would be ironic in light of the fact that the term "person" in its Latin version *persona* was first used, in something of its modern sense, of God not of corporeal beings, when theologians of the early Christian centuries attempted to illuminate the difficult doctrine of the Trinity.)

In a final chapter, Puccetti asks (somewhat illogically it might seem), But suppose we do apply the term "person" to Christ, what are we to make of the doctrine of the Incarnation, given that we are now certain on scientific grounds (according to him, at least) that civilizations have developed frequently elsewhere in our galaxy? (He even suggests that 1018 might be the best current estimate for the number of ETI sites in the known galaxies.²⁰) It would be impossible even for God, he argues, to become incarnate in so many locations in the time available, given that a person cannot be present in more than one place at once. Alternatively, if defenders of Christian faith were to hold that God became incarnate on Earth only, they would be faced with the objection that the inhabitants of other planets would be unlikely ever to learn of it. How, then, would they be saved? Since the Incarnation is central to Christian belief, Puccetti concludes that the discovery of this vast plurality of inhabited worlds undermines the Christian religion decisively.

His argument rests on some shaky presuppositions.²¹ The sort of linguistic fundamentalism that would prescribe necessary conditions for an ordinary-language term like "person" has been effectively challenged in recent philosophy, most notably by Wittgenstein. We have not the least idea how many ETI sites there may be in our own galaxy, let alone in the collection of all galaxies. The use of the Drake equation, with its seven (more or less) unknown quantities, to estimate, even very roughly, their actual number is inadmissible, given the state of our knowledge of the processes underlying the probabilities making up the equation.

Puccetti's argument rests on the assumption that the number of ETI sites can be known to be very great. One has to be wary here of a fallacy induced by the contemplation of large numbers. It goes like this: out of a million planets (with conditions suitable for life, where life has developed, . . .), it is surely a "conservative estimate" to suppose that 1 percent, at least, of those will (go on to develop life, will progress toward intelligent life . . .). And, lo! that gives us 10,000 candidates right away. But without a fair degree of knowledge of the necessary conditions involved in the process whose probability is being estimated, this kind of argument is logically treacherous. It is one thing to discover one or a small number of ETI sites based on the interpretation of incoming radiation. It is another thing entirely to establish, on the basis of a theoretical analysis of the multiplicity of processes involved in the appearance and survival of intelligent life, that the number of centers of such life in the universe is of a certain order or even that it is, in very general terms, extremely large. So I am making the much simpler assumption that a single center of ETI is discovered, not on the basis of a theoretical analysis of the component genetic processes but directly, by interpretation of radiation patterns. The consequences for Christian theology are less drastic perhaps-Puccetti's "not enough time" argument cannot get started, for example-but in essence they are quite similar.

When people speculate about the implications for Christian theology of an ETI discovery, they tend to assume that Christian theology is a sort of given, that the main outlines of Christian belief are more or less agreed on. But of course this is not the case. Not only are there significant differences in this regard between Christian denominations, but even in a single denomination there are areas of vigorous debate, and particular doctrines can evolve over time. I turn briefly now to several interrelated Christian doctrines, each of them relevant to the ETI discussion, in order to show that the questions ETI would pose for Christian theology depend

quite sensitively on how these doctrines are themselves to be formulated.

notes

1. P. Davies, *The Fifth Miracle: The Search for the Origin of Life* (London: Penguin, 1998).
2. F. Hoyle, *The Intelligent Universe* (London: Michael Joseph, 1983).
3. C. de Duve, *Vital Dust* (New York: Basic Books, 1995).
4. S. J. Gould, *Wonderful Life* (Cambridge, Mass.: Harvard University Press, 1989).
5. Favored by Hoyle in *Intelligent Universe*. See the chapter, "Panspermia," in Davies' *The Fifth Miracle*.
6. For a fuller account, see E. McMullin, "Introduction" in *Evolution and Creation* (Notre Dame, Ind.: University of Notre Dame Press, 1985), 1-56.
7. A. Plantinga, "When Faith and Reason Clash: Evolution and the Bible," *Christian Scholar's Review*, 21 (1991), 8-32; reprinted in D.L. Hull and M. Ruse, eds., *The Philosophy of Biology* (Oxford: Oxford University Press, 1998), 674-697.
8. E. McMullin, "Evolution and Special Creation," *Zygon*, 28 (1993), 299-335; reprinted in *The Philosophy of Biology*, 698-733.
9. S.J. Dick, *Plurality of Worlds* (Cambridge: Cambridge University Press, 1982), chapter 2.
10. Reformation theologians, on the other hand, tended to emphasize the uniqueness both of the Incarnation and of the Bible. Philip Melancthon explicitly rejected the possibility of a plurality of inhabited worlds on these grounds. T.J. O'Meara, "Christian Theology and Extraterrestrial Life," *Theological Studies*, 60 (1999), 3-30; 6.
11. M.J. Crowe, *The Extraterrestrial Life Debate, 1750-1900* (Cambridge: Cambridge University Press, 1986).
12. T. Paine, *The Age of Reason*, in E. Foner, ed., *Thomas Paine: Collected Writings* (New York: Library of America, 1995), 704.
13. *Ibid.*, *The Age of Reason*, 708.
14. *Ibid.*, 710.
15. *Ibid.*, 705.
16. *Ibid.*, 709.

17. Ibid., 710.
18. R. Puccetti, *Persons: A Study of Possible Moral Agents in the Universe* (New York: Herder and Herder, 1969).
19. P.F. Strawson, *Individuals* (New York: Doubleday, 1963).
20. Puccetti, *Persons*, 139.
21. For a detailed critique, see E. McMullin, "Persons in the Universe," *Zygon*, 15 (1980), 69-89.
22. P. Ricoeur, *The Symbolism of Evil* (New York: Harper, 1967), 232-278; S.J. Duffy, "Our Hearts of Darkness: Original Sin Revisited," *Theological Studies*, 49 (1988), 597-622.
23. A few examples: G. Daly, "Theological Models in the Doctrine of Original Sin," *Heythrop Journal*, 13 (1972), 121-152; C. Duquoc, "New Approaches to Original Sin," *Cross Currents*, 28 (1978), 189-200. E.L. Mascall remarks: "The fact of original sin is undeniable, but its adequate formulation is the despair of theologians," *Christian Theology and Natural Science* (London: Longmans, 1956), 43.
24. Once again, there is a large literature in this area. See the bibliography appended in W.S. Brown, N. Murphy, and H.N. Malony, eds., *Whatever Happened to the Soul: Scientific and Theological Portraits of Human Nature* (Minneapolis: Fortress, 1998).
25. N. Murphy, "Non-reductive Physicalism," in *Whatever Happened to the Soul*, 127-148; E. McMullin, "Biology and the Theology of Human Nature," in P. Sloan, ed., *Controlling Our Destinies: Historical, Philosophical, and Ethical Perspectives on the Human Genome Project* (Notre Dame, Ind.: University of Notre Dame Press, 2000), 367-393; Arthur Peacocke, *Science and the Christian Experiment* (London: Oxford University Press, 1971), 148-154.
26. M. Luther, *Sermons of Martin Luther*, ed. and transl. John N. Lenker (Grand Rapids, Mich.: Baker, 1988), 8, 376-377; quoted in James T. Burtchaell, *Philemon's Problem* (Grand Rapids, Mich.: Eerdmans, 1998), 75-76.
27. J.T. Burtchaell, "His Father's Son, Firstborn of Many Children," *op. cit.*, 59-84.
28. The view defended by J.J. Davis in "Search for Extraterrestrial Intelligence and the Christian Doctrine of Redemption," *Science and Christian Belief*, 9 (1997), 21-34.
29. E.L. Mascall, *Christian Theology and Natural Science*, 36-45.

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