

## **The Origin of Natural Kinds: Early Christian Alternatives**

**Ernan McMullin**

### **Post-Lecture Discussion**

#### **The Augustinian View and the Second Genesis**

**Participant 1:** If I hear you right, you're saying if all the resources were there, in the beginning, and there was a potentiality or potency from then on, does that rule out the possibility of a second genesis?

**Ernan McMullin:** It doesn't rule it out at all. The point made this morning by Holmes is that in fact, in a historical development, the potencies that were present at the beginning are cut off later on. If in fact certain elements were not present on earth, which might have happened, certain kinds of life would not be possible. So there are all kinds of historical contingency built into this. One thing on which Carl Sagan and I had a long-standing disagreement was his conviction that if you had the elements of life in some corner of the universe, life would more or less necessarily develop there. A hundred million communicating civilizations in our own galaxy alone, if you remember, was his estimate at the time of the Viking exploration. That was enough to subdue any Congressman who wasn't thinking. [laughter] I disagree strongly with this sort of reasoning simply because at the moment, we don't know enough about the necessary conditions for the origin and development of life to make a numerical estimate of any sort. As far as things stand at the moment, almost any number is open. Until we know a lot more about the necessary conditions—not the sufficient conditions, that's something else—but a lot more about necessary conditions we should avoid making any attempt to say how many planets are likely to be inhabited., let alone sporting technologically advanced civilizations.

From the theological standpoint, all this raises an interesting question: if one accepts the Augustinian view that the seeds of all the kinds that would ever be were there in some fashion from the beginning, then it is at least possible, as many theologians over recent centuries have argued, that these seeds could develop elsewhere in the universe also. There's a whole sequence of the 18th and 19th century writers who argue along these lines as Steve Dick and Michael Crowe have amply documented. In the mid- 19th century, indeed, when the scientist and theologian, William Whewell, questioned the possibility that intelligent life could originate anywhere else in the universe, there was an overwhelmingly negative reaction among Christians in Britain: the Christian God would surely seed the universe with life everywhere. That seemed much more consonant with the notion of a transcendent Creator, than just limiting His power to one little planet. This was standard Christian thinking at that time, one might say.

**Participant 2:** To follow up on that, is there a difference between the notion of seeds, present at the beginning with predetermined ends—in other words, an acorn becomes a tree—and resources, which have a great diversity of potentialities. In other words, seed is already differentiated toward...

**Ernan McMullin:** You're absolutely right. I have been striving to make the analogy without pointing out the deficiencies of it. One strength of the analogy that Augustine was clearly aware of, was the dependence of the seed on the environment. If the environment of earth and water was not right—he says—it comes only when they are right. On the other hand, one of the deficiencies from our perspective is the suggestion that there is a separate seed, which has within it everything for this particular—I mean, that's certainly not the case. That's the part of the analogy that doesn't work, I think. The part of the analogy that works is only the thought that there is no need for the Creator to intervene in a miraculous way to bring about a consequence that would not otherwise have naturally happened.

**Participant 2:** I think the issue is that if you have the notion of a seed, that's a predetermined—it's as if God had set from the very beginning what everything would be, and it seems to preclude...

**Ernan McMullin:** You're quite right. And that is a defect in the analogy. It's too linear. And the other point I did stress was that it's certainly not Darwinian. I mean, he is not a Darwinian. He had some things to say about the kind of groping we're doing in this area but he is really aware that he has to do the best he could with the analogies he had. And the best analog he had is the seed as we know it.

**Participant:** Could you clarify something for me? Very typically he [Augustine] is associated with the idea of the days of Genesis representing periods of time. Are you suggesting that his own interpretation of Creation did not include that?

**Ernan McMullin:** Oh, no, it did not.

**Participant:** So he's just saying, that it is a possibility, but he believed there was an original Creation wherever they took place?

**Ernan McMullin:** Because he took the position he did about seed principles, and the fact that in the original act of Creation all that was needed would be there—then he has to say about the six days, what is that about?...The periodicity he gives, to my mind, a totally implausible meaning to that. He argues that it's six periods of the development of the angelic knowledge of the universe. He doesn't say that instead of having six days we have six long periods—that would be contradictory to the whole idea that he had. What it is, we don't need any periods at all. No periods. Insofar as there's a suggestion of periods it has some other function.

### **The Role of Chance and Purpose in the Augustinian View**

**Participant 1:** I like your explanation pointing out the idea of the methodological naturalism. I think there's at least one other thing: If you want to be a new Augustinian and argue that God created these immanent seeds that then later sprung up in various kinds of ways, presumably you still want to maintain that ultimately God's plan was to

create human beings who would be able to choose, so therefore you have to interpret evolution. You're going to say the same things that evolutionists will, in many ways, but ultimately, there are not going to be chance factors. Or there are going to be chance factors that are controlled in some way? Because ultimately you get human beings at the end.

**Ernan McMullin:** There are two ways in which you can handle that, and each of them raises its own problems. Galileo asked himself: Why is the universe so enormous? It seems to be without a purpose. His spokesman answered: Only God would know why the universe would be as large as it is. To skip to the present day, one possible answer that people would give is that in the universe, which is so immeasurably large, with galaxies containing billions of planets and billions of stars and all the rest, then the notion of chance can be eliminated by reason of size. If you have the possibilities there, then somewhere within it then one or a small number will originate in it. And given the statistics, one would say this is at least somewhat plausible. There's a second kind of answer that has been endlessly debated since Augustine's day, and that is to ask whether in the universe there is any chance at all from God's perspective. And the answer some theologians have given, is that from the divine perspective the original Creation is the creation of time itself, containing whatever time contained, including all the contingencies. So that, from the divine perspective, there isn't any contingency.

It's things that might conceivably have worked out differently, but God in creating that universe is creating not only the materials at the beginning that might go different ways, but is creating the entire time sequence and therefore there is no chance in that at all. That obviously raises issues, notably the problem of human free will.

**Participant 2:** I would like to differentiate between the time of Augustine and today. And the big difference is Darwin and the time since Darwin. I wonder whether you feel that adopting an Augustinian position today is really compatible with Darwinism, in the sense...I think there is only one way to treat the question of possibility seriously because otherwise it degenerates into debatable semantics. Naturally, if it happened, something was there to make it possible. What really makes it serious is the question of teleology, the question of purpose. What it meant to develop, even including contingency and I think that from the point of view of Augustine or any believer who adopts this position today, he is clearly opting for a purposeful Creation.

**Ernan McMullin:** Oh, sure.

**Participant 2:** Now, when we come to a Darwinism—that can very well be explained without taking into account purpose or teleology.

**Ernan McMullin:** Let me answer in two stages. First of all, Darwinism is a teleological theory, as Ernest Mayr and many others have pointed out.

**Participant 2:** In a different sense.

**Ernan McMullin:** But in an important sense, and actually it's Aristotle's sense. Aristotle will argue for what he calls teleology, which obtains in the nonliving world. A stone will naturally fall back to its natural place. Its natural place is the best place selected for it, if you like. So teleology in the Aristotelian tradition is mindless—it's not a property of mind. Plato was the one who introduced mind. So natural selection is a teleological process: It's aiming at certain kinds of end. It doesn't involve mind, or need not. Except in the case of the domestication of animals, or something like that—but ordinarily it does not. So I think it would be fairly widely accepted at least if you take Mayr and Ayala as authority. They have written widely on this, and it is teleological in the Aristotelian sense. I think he's quite right.

But that's not your point. Your point is whether one could still in the strong sense, the Platonic sense of teleology, involving mind, purpose, and need and in a conscious sense whether that's still possible. The Augustinian answer that is consistent with Darwinism is to suppose that the conditions to make the Darwinian world possible, the conveyance, the gift, if you like, of that kind of potency in the first place, was a gift of the Creator. Then one can further ask, within that gift, what was contained? And the answer Augustine gives, which was fairly plausible if you take the notion of Creation seriously, is that potencies that come later are in fact all there, and whatever develops, is developed in the light of what was in the beginning, and that's purposive. As long as you allow the notion of Creation. Augustine doesn't talk about the world being created. He has a given universe, as every scientist does. That's not part of the scientist's claim; the scientist doesn't ask why should there be hydrogen atoms in the first place, why should the Pauli principle hold. Harold would be shocked to be in a universe in which it didn't hold [laughter]. The point is that the universe with its principles and its laws and its differences and all the rest of it, is the way it is, if you accept the Creation hypothesis in the Augustinian sense as I've tried to define it. It's because it is the gift of the Creator.

**Participant 2:** First I think about the teleology of Darwinism, I think what Mayr and other people are saying explicitly, is that natural selection is a mechanistic explanation of teleology. Of course we cannot do without teleological language in biology. And now for the question of the need for an endowment, I believe that until Darwin and the development of other fields of science today, that wasn't only a Christian position, it functioned as an explanation of what happened in nature; the supposition of Creation, and purpose. Whereas today, we have an alternative explanation.

Let me answer as Augustine might answer it. What Augustine would say is of course we have another kind of explanation. Aquinas would be a better example. What Aquinas would call this would be an explanation in the line of secondary causality, but not primary causality of explaining why there should be a universe of this kind in the first place. Now...just focusing on the living world, the answer there would be that the scientist just does not ask the question and should not. It's not part of the scientist's interest to ask why the universe is governed by the kind of laws that we have in the first place and that's the question to which Creation is the answer.

## **The Multiverse Challenge**

**Participant:** You've alluded to multiverse two or three times. Are there challenges regarding a multiverse—a multiple universe is conceivably an infinite number of universes, each of which may branch off from itself and in some of which the Pauli Exclusion Principle doesn't hold, and some of which may not have a seed principle and may be sterile, not only in a biological sense but in a physical sense as well. Are there challenges in considering that in this theological framework?

**Ernan McMullin:** First, that Linde universe, there is no evidence in support whatsoever. Such a universe could exist, given our current understanding....Linde at Stanford has been pushing that for years. He sees it as an alternative to theism, quite expressly. And it is, because he would want to argue not only for its existence, but for its eternal existence. And therefore, he says, no questions about origins are needed. Now when Aquinas faced the same question from the Aristotelians of his own day, his answer to that was that even an eternal universe requires a reason for being; it might not exist. The standard, you might say the traditional answer to the multiverse, is that even a multiverse requires a Creator.