

**Science and/or Religion: a 21st Century Debate**  
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**Ernan McMullin's Thought on Science and Theology: An Appreciation**

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**Abstract:** The thought of Ernan McMullin on the relationship between science and theology can be summarized with a word that he himself used: consonance. We briefly describe this epistemological proposal, and we show a concrete instance of its application by way of a short analysis of one of McMullin's interdisciplinary works, "Cosmic Purpose and the Contingency of Human Evolution." With the help of the authoritative comment that William Stoeger has made on this paper, we sketch McMullin's effort to find a consonance between two different claims: the theological one – humans expected – and the evolutionary one – humans unexpected. In this case, consonance is reached by recurring to the classic Augustinian notion of the atemporality of God. We then show how McMullin's way of interpreting consonance affects the question of the viability of a natural theology in a scientifically informed era. In fact, his distrust of various kinds of natural theology is another crucial aspect of his epistemological framework for interdisciplinary dialogue.

**Keywords:** consonance, Ernan McMullin, evolutionary contingency, natural theology

**Introduction**

Ernan McMullin (1924-2011) was an Irish thinker very well-known for being a learned scholar in different disciplines. During his long career, he provided important contributions in distinct areas of knowledge, such as the philosophy of science, the history of science, and the science-theology relationship.<sup>1</sup> In this paper, we will focus on some of McMullin's reflections in the third of these fields of inquiry. Our essay follows what can be seen as an ongoing appreciation of McMullin's work and conceptual achievements. By no means could we argue that his contributions have ever been underestimated: suffice to say that in the 1980's he was deemed as "perhaps the best-known Catholic writer and lecturer on the history and philosophy of science"<sup>2</sup>; and that the first monograph – dedicated to his thought and its relation to the science-theology dialogue – was published in his lifetime.<sup>3</sup> Furthermore, in the years following his death his thought has been re-examined in depth. It seems to us that the two clearest instances of this have been: first, a Symposium in his honor held at the Annual Meeting of the American Catholic Philosophical Association in 2011, whose contributions were later published in a dedicated section inside the *American*

1 Hess and Allen, *Catholicism and Science*, 134-137; see also Sayre, *Adventures in Philosophy at Notre Dame*, for an in-depth account of McMullin's academic life in relation to the history of the Philosophy Department at Notre Dame, USA, where he taught and worked.

2 Byers, quoted in Hess and Allen, *Catholicism and Science*, 134.

3 Allen, *Ernan McMullin and Critical Realism*.

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*Catholic Philosophical Quarterly*<sup>4</sup>; and secondly, the reprinting of some of his most significant studies, hosted in the interdisciplinary journal *Zygon*, each of which is preceded (and in one case followed) by a long comment – an introduction to the reading – in the form of a dedicated essay.<sup>5</sup>

Our appreciation of McMullin's thought on science and theology<sup>6</sup> centers on one of *Zygon*'s reprints, "Cosmic Purpose and the Contingency of Human Evolution," and the related commentary by William Stoeger. In addition, we will also make references to his other works. Our intention in this essay is to foster the appreciation of McMullin's thought on science and religion further, with the certainty that the conceptual tools that he elaborated in his reflections are useful to promote dialogue and to avoid standoffs.

## Consonance

The positioning of McMullin inside the classic categorization of the ways in which the relation between science and religion is usually conceived – conflict, independence, dialogue, and integration – falls, according to Ian Barbour who proposed it, into the category of dialogue. Nonetheless, in his treatment of the Irish philosopher, he also states that "McMullin starts with a sharp distinction between religious and scientific statements that resembles the *Independence* positions."<sup>7</sup> Commenting on this, Paul Allen – who defines Barbour's use of two of his categories as an "ambiguity" – adds that, according to him, "Barbour's interpretation of McMullin as an advocate of dialogue couched in the language of the independence of science and religion simply captures the hybrid approach that McMullin advocated."<sup>8</sup> Such an approach can be better understood with a brief description of the term that expresses his proposal in a nutshell. This one is actually well known in the field, is associated mostly (but not exclusively) with his figure, and goes under the name of consonance. The term is characterized by Peter Hess and Paul Allen in their brief presentation of McMullin, when they include him among the crucial figures for an understanding of "The Legacy of Vatican II in Cosmology and Biology."<sup>9</sup> According to these two authors, the term consonance conveys the idea that "science and theology need to remain autonomous intellectual pursuits while nevertheless agreeing to fashion inquiries in such a way that the two disciplines should not fall into conflict."<sup>10</sup> And they add that "for disciplines to be in consonance, they need to be coherent with one another too, even though they are dissimilar in contents."<sup>11</sup> To trace back the origin of this term as applied by McMullin we have to refer to one of his often-quoted works: "How Should Cosmology Relate to Theology?"<sup>12</sup> Here McMullin characterizes consonance by comparing it to a term that in his view differs significantly: implication. In the context of a discussion regarding the relations between cosmology and theology, McMullin recalls an event in which the question came, once again, to the fore.<sup>13</sup> On the occasion of a 1951 allocution to the Pontifical Academy of Sciences<sup>14</sup>, Pope Pius XII made use of the latest scientific discoveries and theories – chiefly

4 *American Catholic Philosophical Quarterly*, 86:2 (2012). The contributions are: Deltete, "Ernan McMullin on Anthropic Reasoning in Cosmology"; Allen, "McMullin's Augustinian Settlement: The Consonance between Faith and Science"; Sweetman, "The Dispute between McMullin and Plantinga over Evolution"; McDonald, "Fr. Ernan McMullin on Evolutionary Biology and a Theology of the Human."

5 Ruse comments on "Values in Science"; van Fraassen presents McMullin's Aquinas Lecture, "The Inference that Makes Science"; Coyne offers his reflections after the reprint of "Galileo's Theological Venture"; Allen comments on "Biology and the Theology of the Human"; Stoeger († 2014) comments on "Cosmic Purpose and the Contingency of Human Evolution."

6 In this paper we will consider as synonyms the expressions "science and religion" and "science and theology", even though we are aware of the respective meaning that the terms "religion" and "theology" entail. For the sake of our argument, we will nonetheless consider them as interchangeable. McMullin distinguishes theology, "the reflective study of religious belief" from religion, seen "as a complex of belief and practice" in McMullin, "Realism in Theology and in Science," 42.

7 Barbour, *Religion and Science*, 91, italics in original.

8 Allen, "An Augustinian Philosopher between Dualism and Materialism," 295.

9 Hess and Allen, *Catholicism and Science*, 134-137; this quotation is the title of Chapter 5 of this book.

10 *Ibid.*, 134.

11 *Ibid.*, 135.

12 McMullin, "How Should Cosmology Relate to Theology?"

13 Allen, "McMullin's Augustinian Settlement," 334.

14 McMullin, "How Should Cosmology Relate to Theology?," 30.

among them, that of the Big Bang to account for cosmic origins – to reason about “the implications of the new cosmology for Christian belief.”<sup>15</sup> According to that Pope, these new achievements, by “strengthening” some classic proofs of God’s existence<sup>16</sup>, were pointing to the doctrine of creation.<sup>17</sup>

McMullin’s objections to such a stance are clearly stated. We report two of them. First of all, he posits that the Big Bang does not have to necessarily coincide with a “beginning of time or of the universe”<sup>18</sup>: something “preceding” it could have happened.<sup>19</sup> Furthermore, and in the light of Augustine’s and Galileo’s meditations on how to interpret the Bible correctly, we could ask ourselves if a precise doctrine of “creation in time”<sup>20</sup> can be formulated after reading the accounts of creation present in Genesis; or better, if the messages of the “dependence of the universe on a Creator”<sup>21</sup> and of “God’s special care for man,”<sup>22</sup> as actually emerging from it, entail a literalist reading in terms of a “beginning in time.”<sup>23</sup> More generally, summing up these criticisms we could say that serious epistemological problems appear when linking scientific discoveries (or theories) with theological assertions so directly. This linkage would entail a “direct implication” of science for theology, the counterpart of which being the “direct implication” of theology for science.<sup>24</sup> In the words of Paul Allen, “the term ‘implication’ expresses the idea that, whether from the relevance of findings in science for theology, or from the relevance of a theological text such as the Genesis creation narrative for Big Bang cosmology, one discipline contains within itself findings that point to a belief or theory or claim in the other discipline.”<sup>25</sup> As a response to the stigmatized view, in an often-quoted passage McMullin sustains, on the contrary, that “what one cannot say is, first, that the Christian doctrine of creation ‘supports’ the Big Bang model, or second, that the Big Bang model ‘supports’ the Christian doctrine of creation.”<sup>26</sup> And later on, drawing some conclusions and considering the question from the theological standpoint, he suggests that theology should not be viewed “as an autonomous source of logical implication capable of affecting scientific theory-appraisal, but as one element in the constructing of a broader view.” And immediately after, he adds that “the aim could be consonance rather than direct implication.”<sup>27</sup>

This study of the relationship between cosmology and theology is, in our opinion, even more valuable. That is because, in addition to the specification of consonance as a fruitful way of building an interdisciplinary framework, it also makes explicit claims that indicate what is actually one of the distinguishing features of McMullin’s proposal. It is something which reveals itself repeatedly alongside all of his contributions concerning science and religion, but that on this occasion is stated frankly. We refer to his belief that the task of relating science and theology is epistemological.<sup>28</sup> In his irenic and respectful style, one that always allowed him to benefit from different knowledge from different disciplines<sup>29</sup> McMullin promptly says that, without doubt, all the disciplines involved in the dialogue are important: one has to be well aware of all the issues at stake, be they scientific, theological, historical or sociological; and, in the end, all of them have to be taken into account “before coming to any conclusions.”<sup>30</sup> He also adds that from his statement it

15 Ibid.

16 Ibid., 31.

17 Allen, “McMullin’s Augustinian Settlement,” 334.

18 McMullin, “How Should Cosmology Relate to Theology?,” 35.

19 Ibid., 34-35.

20 Ibid., 35.

21 Ibid., 36. For an explanation of the meaning of this dependence in Genesis 1 and Genesis 2 see Bergant and Stuhlmüller, “Creation According to the Old Testament,” 155-162.

22 McMullin, “How Should Cosmology Relate to Theology?,” 36.

23 Ibid.

24 Ibid., 49-52.

25 Allen, “McMullin’s Augustinian Settlement,” 334.

26 McMullin, “How Should Cosmology Relate to Theology?,” 39.

27 Ibid., 51.

28 Ibid., 26.

29 Allen, “An Augustinian Philosopher between Dualism and Materialism,” 296.

30 McMullin, “How Should Cosmology Relate to Theology?,” 26.

does not follow that “the philosopher is necessarily the person best qualified to discuss it.”<sup>31</sup> Nonetheless “the question” – according to him a very complex one – “is primarily an *epistemological* one about how two different sorts of claim to knowledge are to be related.”<sup>32</sup> This clarity is actually not so common among the scholars of the field. Among those who have promoted a “philosophical mediation”<sup>33</sup> for the dialogue, Hess and Allen highlight William Stoeger.<sup>34</sup> Another scholar in the field, the Spanish philosopher of science Mariano Artigas, must be included in this list as well.<sup>35</sup> To compare and contrast the respective epistemological position of these three thinkers lies outside the scope of this paper.<sup>36</sup> What we shall do, instead, is offer a short summary and a comment on one of McMullin's most-known interdisciplinary papers, “Cosmic Purpose and the Contingency of Human Evolution.” We will do that by taking advantage of his concept of consonance, as briefly sketched above, in order to disclose it at work. In doing that, the sheer epistemological attitudes of the author will emerge clearly. For this task we will also rely upon Stoeger's insightful commentary.<sup>37</sup>

## Consonance and the Contingency of Evolution

The chosen study debates a theme that is typical for the science-theology dialogue. As the title clearly states, the main topic is the relation between two different concepts. The former, cosmic purpose, is theological; the latter, the concept of contingency, and in this case of the contingency of human evolution, comes from evolutionary biology, and from the related philosophical reflection upon it, the philosophy of biology. It is necessary to explain them briefly. For what concerns us here, the first one refers to the idea – a typical one, and fundamental for theology – that the outcome of the universe was decided by God. That is to say that, from an (admittedly) anthropocentric point of view, the appearance of humans – i.e. the creatures endowed with rationality, morality, freewill, thus capable of acting responsibly, and that can freely respond to God and establish a relation with Him – was wanted by the Creator. Humankind had to appear. The second one is, in short, the idea that the evolutionary path is unpredictable. Given the intricacies and complexities of countless interlacing “causal chains”<sup>38</sup> and the unrepeatability of events that occurred in the past<sup>39</sup>, it turns out that the evolutionary outcomes could not have been predicted. In this scenario, the classic example of a contingent fact, of an unpredictable event that dramatically changed the course of the evolutionary history is the impact of an asteroid (or a comet) with the Earth's crust that caused the extinction of non-avian dinosaurs and many other organisms 65 million years ago.<sup>40</sup> Stephen Jay Gould emphasized this notion of contingency. He did it most prominently in a book on the Burgess Shale fossils<sup>41</sup>, testimonies of the geologically sudden arrival of animal body plans known as the Cambrian explosion that began some 540 million years ago. Of the many different body plans that appeared in that fauna, only a few survived. According to Gould “the Burgess decimation may have been a true lottery”<sup>42</sup>: therefore other body plans may have been the lucky survivors. He then concluded with a famous metaphor: “Replay the tape a million

31 Ibid.

32 Ibid., italics in original.

33 Hess and Allen, *Catholicism and Science*, 124.

34 Ibid., 124-125.

35 Artigas, *The Mind of the Universe*.

36 The monograph of Paul Allen, in comparing the thought of McMullin with that of the three scientist-theologians Arthur Peacocke, Ian Barbour and John Polkinghorne, is a precious primer on their respective epistemological frameworks. And for an implicit but striking comparison between those of McMullin and Artigas see the former's review of a book by the latter: McMullin, “Integral Naturalism.”

37 Stoeger, “Ernan McMullin on Contingency.” The reprint presents the version that appeared in *Theology Today*, 55:3 (1998), 389-414. Stoeger comments on this version.

38 McMullin, “Cosmic Purpose,” 344.

39 Gould, quoted in *ibid.*

40 Alvarez, *T-Rex and the Crater of Doom*.

41 Gould, *Wonderful Life*.

42 Ibid., 238.

times from a Burgess beginning, and I doubt that anything like *Homo sapiens* would ever evolve again.”<sup>43</sup> Nonetheless, there are other scientists with other conclusions: according to them, evolution would be predictable, and the appearance of human-like consciousness and intelligence inevitable, as the result of a progressive increase in complexity.<sup>44</sup> McMullin surveys and briefly discusses the various positions in the debate: they span from the “radical contingency”<sup>45</sup> thesis to the “inevitability” one. He is also clear in pointing out that this latter position – the “predictivist” one – has been criticized by many evolutionary biologists and philosophers of biology.<sup>46</sup> McMullin then recalls the “more cautious” proposal of Elliott Sober<sup>47</sup>, and summarizes it as follows: “He is skeptical of the suggestion that the evolutionary process has in the past displayed progress or even direction. Though there may have been directional trends within specific lineages, all that the theory of natural selection allows one to conclude is that such trends are *possible*. It does not, however, allow one to anticipate them in advance; the multiple sources of contingency exclude this.”<sup>48</sup> McMullin concludes his exposition of the topic distancing himself from the two extreme positions; but at the same time he wisely takes into full account the theological challenge that evolutionary contingency entails: “As the palaeontological and geological records come under closer scrutiny and genetic mechanisms come to be better understood, the fragile character of the causal skein leading up to the first appearance of humans becomes ever more evident.”<sup>49</sup>

How, then, could these two seemingly contradictory statements, the theological (humans expected) and the evolutionary (humans unexpected) be reconciled? William Stoeger, in his comment, is clear in pointing out that McMullin here is trying to reach a consonance for the two: “It is simply to see whether, given some knowledge of the Creator, from philosophy and theology, there is any way of establishing the ‘consonance’ of the achievement of divine purpose with the contingency of the evolutionary process.”<sup>50</sup> And McMullin is no less clear: “Might not this process [contingent evolution], despite its contingency, still be consonant with the achievement of purpose on the part of a creative Agent?”<sup>51</sup> One of the options available is to consider God as temporal. Evolutionary contingency, as narrated by the natural sciences, can by no means be deemed irrelevant for theological speculations. And after all, if we consider God as being placed in time, it would seem that the actuality of evolutionary contingency is preserved. McMullin considers this option. He shortly recalls the proposals of some thinkers that depict God as temporal. He also guesses a solution for a consonance between evolutionary contingency and the (desired) appearance of man on the part of a temporal Creator: one path of contingent evolution could be “overcome by the immensity of the cosmic scale,”<sup>52</sup> i.e. by the innumerable possibilities for the appearance of a kind of a human-like life somewhere in the universe.<sup>53</sup> But, according to him, even if we allow for such a possibility, the outcome would not be completely assured. In keeping with this line of argument (i.e. conceiving God as temporal), he thus takes into account two other options that could help to overcome contingency. The first one, miracles, defended among others by the philosopher Alvin Plantinga in a different context – a debate with McMullin over “evolution and special creation”<sup>54</sup> – has been already criticized by him.<sup>55</sup> The second one, by loosening the notion of “special action,” and by

43 Ibid., 289, quoted in McMullin, “Cosmic Purpose,” 346.

44 McMullin, “Cosmic Purpose,” 340-343.

45 Ibid., 346.

46 Ibid., 343-347. See also McMullin, “Evolution and Special Creation,” 333 note 27: “*Inevitable* is a word that defenders of evolution, whether theists or not, would be inclined to challenge. It suggests that the evolutionary process is, at least in a general way, deterministic or predictable. But this is just what nearly all theorists of evolution would deny”; italics in original.

47 McMullin, “Cosmic Purpose,” 347; Sober, “Progress and Direction in Evolution.”

48 McMullin, “Cosmic Purpose,” 347, italics in original.

49 Ibid.

50 Stoeger, “Ernan McMullin on Contingency,” 331.

51 McMullin, “Cosmic Purpose,” 348.

52 Ibid., 350.

53 Ibid.

54 McMullin, “Evolution and Special Creation”; see also Sweetman, “The Dispute between McMullin and Plantinga.”

55 McMullin criticizes the recourse to miracles as explanations in the “order of nature”; he is not dealing here with the disparate theological topics regarding God’s involvement in human history and in human salvation. McMullin, “Evolution and Special Creation,” 323-325.

taking advantage of the achievements of twentieth-century physics<sup>56</sup>, conceives a God that could “somehow ‘influence’ cosmic process within the limits set by the natural indeterminism of the physical order.”<sup>57</sup> How could this be? Stoeger’s synthesis can be helpful: “Polkinghorne, William Pollard, Robert Russell, and others, propose that God could act directly under the cover of chaotic behavior or quantum indeterminacy to guide the processes toward God’s intended goal, without contravening the laws of nature or the expectation values of quantum processes.”<sup>58</sup> Another different proposal amongst those that maintain the concept of a temporal God is that of Arthur Peacocke, who “suggests that God could act effectively to guide evolution by interacting with the universe as a whole.”<sup>59</sup> McMullin thus shortly describes the different and nuanced positions of Polkinghorne and Peacocke, and formulates some of the objections that, according to him, their proposals would also have to face.

McMullin, after this survey, proposes an option that is different from the ones previously listed: What about conceiving God as standing outside time? This option is actually a venerable one for Western philosophy and theology, and can be traced back to Augustine’s reflections.<sup>60</sup> In this view, for the Creator to be the effective maker of all that is, a complete absence of constraints has to be postulated; and temporality is such a constraint.<sup>61</sup> God is not temporal; instead, He is the Creator of time as well as of everything else. And the act of creation, according to this tradition, has to be considered as both the bringing into being of everything that is and the keeping of it in existence.<sup>62</sup> There are serious philosophical and theological reasons to consider God as atemporal instead of temporal. In fact, theologically speaking, a temporal God hardly resembles an omnipotent and unconditioned Creator.<sup>63</sup> Furthermore, another theological pillar, *creatio ex nihilo* (creation out of nothing) would, were the option of a temporal God be accepted, lose its full significance.<sup>64</sup>

Stoeger expresses in a concise way the theoretical problems that emerge from considering God as temporal, and he does it from a philosophical point of view: “A temporal Creator – one which is conditioned by time and therefore by the physical world – is an incoherent and contradictory concept. Such a Creator would have to be part of the world the Creator holds in existence.”<sup>65</sup> On the contrary, by embracing the classic doctrine that sees God as atemporal, the dichotomy between the contingency of human evolutionary history as emerges from the study of evolutionary biology, and the act of election on the part of a Creator that wants man to establish a relation with Him, and that thus wants him to be an outcome of evolution, ceases to be.<sup>66</sup> Both are now taken into account, and neither of them is, in one way or another, misinterpreted.<sup>67</sup> That is because for an atemporal Creator, such a (real) contingency is not an obstacle to the desired outcomes: being outside time, there is not for Him an “interval between decision and completion.”<sup>68</sup> In McMullin’s effective words, “God

<sup>56</sup> McMullin, “Cosmic Purpose,” 352.

<sup>57</sup> Ibid.

<sup>58</sup> Stoeger, “Ernan McMullin on Contingency,” 334.

<sup>59</sup> Ibid.

<sup>60</sup> McMullin, “Cosmic Purpose,” 354.

<sup>61</sup> Ibid., 355.

<sup>62</sup> Ibid., 356.

<sup>63</sup> Stoeger, “Ernan McMullin on Contingency,” 335.

<sup>64</sup> Ibid., 335-336.

<sup>65</sup> Ibid., 336.

<sup>66</sup> The question now arises: How could an atemporal God be relational and caring? A passage from Stoeger’s commentary is helpful here: “Somehow, in a way that we don’t understand, the Creator combines transcendence with immanence and intimacy, and atemporality with love, personal relationship, care and communication. Within Christian theology this begins to be partially captured by conceiving God as Trinity, a community of divine persons or ways of being God in constitutive relationship with one another. God is intrinsically relational, but in an analogous and transcendent sense. We might then think that those relationships must involve some kind of ‘temporality’ – some dynamism. Perhaps in a sense they do, but it would be a ‘temporality’ which would be very different from the one we are familiar with and embedded in.” Ibid., 335.

<sup>67</sup> The other questions that arise when this solution is offered are as classic as the solution itself: How to reconcile human freedom and evil (especially “natural evil”) with this conception of God? McMullin is not unaware of these problems, but he explicitly leaves them aside, to concentrate on the relation between evolutionary contingency and the atemporality of God’s act of creation. McMullin, “Cosmic Purpose,” 356. But see *ibid.*, 363, note 64.

<sup>68</sup> Ibid., 357.

knows these outcomes directly in their presentness as their Creator,”<sup>69</sup> because “the act of creation is a single one, in which what is past, present, or future from the perspective of the creature issues as a single whole from the Creator.”<sup>70</sup> McMullin can thus conclude by stating that “it makes no difference, therefore, whether the appearance of *Homo sapiens* is the inevitable result of a steady process of complexification stretching over billions of years, or whether, on the contrary, it comes about through a series of coincidences that would have made it entirely unpredictable from the (causal) human standpoint. Either way, the outcome is of God’s making, and from the biblical standpoint may appear as part of God’s plan.”<sup>71</sup>

There’s another point that has to be carefully considered when commenting on “Cosmic Purpose.” This one is worth underlining because its recognition is fundamental in order to better understand McMullin’s idea of consonance. In fact, we believe that this further aspect of his thought is another good instance of consonance doing its job. We refer to the fact that, in this context, when he talks about purpose and its relation to evolution and Darwinian evolutionary biology, he is clear in stating that he is not trying to detect such a purpose inside the natural order, and then, from this (alleged) detection, infer the existence of a supernatural Purposer<sup>72</sup> or Designer. Stoeger stresses this aspect of McMullin’s inquiry twice in his commentary<sup>73</sup>, and McMullin himself does it several times.<sup>74</sup> Even more precious than the simple statement that he is not doing it is, in our estimation, the reason he gives for it. And the reason is that contemporary natural sciences do not allow us to make such a move. If the theologian or the philosopher wants to be consonant with them, he has to pay attention to the message that emerges from Darwinian evolutionary theory: “From the standpoint of the synthetic theory of evolution, evidence of design, of the work of conscious purpose, is not to be found in evolutionary process.”<sup>75</sup> Is then all the former disquisition over the assured evolutionary outcome achieved by an atemporal Creator now contradicted with a single statement? Not at all. When talking about a purpose for nature, McMullin is careful in characterizing it, so to speak, from God’s viewpoint, and not from a previous and independent detection of such a purpose in nature: “Asserting the reality of cosmic purpose in this context takes for granted that we already believe that the universe depends for its existence on an omniscient Creator whose action is sufficiently like ours to allow us to call it purposive, in an admittedly analogical sense.”<sup>76</sup> The famous aphorism of John Henry Newman commenting on that natural theology of his times that relied on design arguments comes now naturally to mind: “I believe in design because I believe in God; not in a God because I see design.”<sup>77</sup>

On the contrary, the search for an evidence of any kind of independent directionality, of a purpose in order to infer from it the existence of a supernatural Purposer would be something very close to – or in McMullin’s words it “would resemble” – the classic design argument.<sup>78</sup> But it should be remarked here that such an argument – at least in its version that moves from biological adaptations – is no more viable. A natural theology of this sort, after Darwin’s account of evolution by natural selection, is doomed to fail. The teleological explanations provided by Darwin can in principle make sense of the seemingly designed features of the living beings. And these kinds of explanations, as evolutionary biologists and philosophers of biology have clearly shown, are of a naturalistic kind.<sup>79</sup> They dispense us from making reference to God in order to account for these features. That is to say, they do not allow us to move from the seemingly designed character of the living beings in order to infer from it a Designer.

<sup>69</sup> Ibid., 356.

<sup>70</sup> Ibid., 355.

<sup>71</sup> Ibid., 357.

<sup>72</sup> Ibid., 348.

<sup>73</sup> Stoeger, “Ernan McMullin on Contingency,” 331, 336.

<sup>74</sup> McMullin, “Cosmic Purpose,” 348, 357, 359.

<sup>75</sup> Ibid., 348.

<sup>76</sup> Ibid., 359.

<sup>77</sup> Newman, quoted in Ruse, *Darwin and Design*, 72.

<sup>78</sup> McMullin, “Cosmic Purpose,” 348.

<sup>79</sup> Ayala, “Teleological Explanations in Evolutionary Biology”; Lennox, “Darwin was a Teleologist”; Ruse, “Evolutionary Biology and Teleological Thinking”; Ruse, *Darwin and Design*; Lennox and Kampourakis, “Biological Teleology.”

## Connecting the Dots

McMullin recounts the demise of physico-theology several times in his works on science and religion; most notably, he does that in his often-quoted “Natural Science and Belief in a Creator: Historical Notes.”<sup>80</sup> But his distrust of natural theologies of more or less traditional kinds appears repeatedly in many of his works on the topic. Elsewhere, and in different contexts, he detects other kinds of design arguments, or of God-of-the-gaps approaches, or – as he more generally defines them – other “traces of physico-theology,”<sup>81</sup> and makes some reasoned objections to them. Ascribable to a design argument is the use of the “anthropic principle” to try to infer, in a cosmological setting, a Fine-Tuner from an alleged “fine-tuning.”<sup>82</sup> Again, recalling a God-of-the-gaps approach is the one of Alvin Plantinga. He is not directly committed to demonstrate the existence of God, because it is already taken for granted by him. But he nonetheless defends the position – that we report recurring to McMullin’s description of it – that “for the Christian, the claim that God created humankind, as well as many kinds of plants and animals, separately and specially, is more probable than the thesis of common ancestry.”<sup>83</sup> According to McMullin, “traces of physico-theology” can also be found – with respective analogies and disanalogies – in those evolutionary philosophies that consider the naturalistic explanations as in principle insufficient to account for the process of evolution at large<sup>84</sup>, and so suggest other additional factors, or “forces,” or properties, to reach an alleged deeper or better understanding of it. Thinkers like Teilhard de Chardin, Bergson and others all share this presupposition.<sup>85</sup>

It is worth focusing briefly on McMullin’s critique of this latter cluster of views – these evolutionary philosophies – because thanks to it a further significant link to our central topic of interest can be made. We find a short treatment of this subject in an introductory chapter to a book edited by him on *Evolution and Creation* that dates back to 1985.<sup>86</sup> We can glimpse here the sketch of what would have become a successive extended reflection in the paper previously summarized. For its centrality in the framework of our work we quote the detected passage at length: “The difficulties that lie in the way of the theological construal of evolutionary philosophy are obvious enough. They are in the first instance theological. The God of evolutionary philosophy is, almost necessarily, an immanent one and thus not at all the transcendent Creator of traditional Christian belief. Creation itself becomes a time-bound affair, in which God is caught up in, indeed may even be constituted by, the successes and failures of his creatures. Process theologians would, of course, see in this an *advantage* of the evolutionary approach. But at the very least it forces a radical reconstitution of long-held views on God’s transcendence. Further, the distinction between natural and supernatural gets blurred.”<sup>87</sup> And right after it we find a second conceptual link to the paper analyzed before. It is, as we have already stated, the resemblance that some of the evolutionary philosophies’ arguments bear with other forms of physico-theology. More specifically, according to McMullin those (alleged) aspects of the evolutionary process that these philosophies consider as significant indicators of something real but out of reach for science, are not a good warrant of what they are called to point at: “It

<sup>80</sup> McMullin, “Natural Science and Belief in a Creator,” 63-68. See also McMullin, “The Impact of the Theory of Evolution.”

<sup>81</sup> McMullin, “Natural Science and Belief in a Creator,” 68.

<sup>82</sup> McMullin, “How Should Cosmology Relate to Theology?,” 45; McMullin, “Natural Science and Belief in a Creator,” 71; McMullin, “Cosmology and Religion,” 604; McMullin, “Fine-Tuning the Universe?,” 116; McMullin, “Cosmic Purpose,” 358.

<sup>83</sup> McMullin, “Evolution and Special Creation,” 301. In the context of their dispute, McMullin’s response to Plantinga’s position is clarifying: “Establishing the presence of gaps in the evolutionary account is thus essential to his case. This stress on gaps is reminiscent in one respect of eighteenth-century natural theology. Plantinga’s intention is not, of course, to make of the gaps an argument for God’s existence; his faith needs no such support. But he *needs* the gaps to sustain his argument, just as the natural theologians did for theirs. And he fills the gaps with God’s special action, just as they did, while also emphasizing that God is at all moments sustaining the entire process as Creator. Should one use the unflattering label, ‘God of the gaps’, to describe this approach? Only in the sense that it has God operate ‘specially’ within the process of life’s origins at just those points where gaps can be claimed to exist in the evolutionary account.” *Ibid.*, 323, italics in original. See also Sweetman, “The Dispute between McMullin and Plantinga.”

<sup>84</sup> McMullin, “Introduction,” 41.

<sup>85</sup> *Ibid.*, 40-43; McMullin, “Natural Science and Belief in a Creator,” 68-70, 72-73; McMullin, “Cosmology and Religion,” 596-597.

<sup>86</sup> McMullin, “Introduction.”

<sup>87</sup> *Ibid.*, 43, italics in original.



is by no means clear that such features of the evolutionary process as emergence or progress in complexity are any better indications of the *special* involvement of an intelligence or a cosmic living force than where the animal instincts and adapted organs of earlier physicotheology.”<sup>88</sup> And thus we can conclude that the alleged detection of such features, and their use to say something about (a) God are exposed to the same criticisms already recalled while commenting on the demise of these pre-Darwinian design arguments.

By this short recognition, and following some authoritative interpretations of his thought<sup>89</sup>, we can state that McMullin’s suspicion over natural theologies of different kinds is (alongside his preference for placing God outside time) one of the key elements that characterize his works on science and religion. And this element is one that allows us to glimpse a coherent epistemological proposal emerging in his contributions to the dialogue. In fact, it is clear enough that, according to McMullin, in order for consonance to be effective, such arguments should be avoided; and the main reason is quite simple: they cannot keep up with the achievements of the natural sciences.<sup>90</sup> And they are very likely to be defeated (and this is something that has already happened many times) when, as science proceeds, the alleged puzzles, that these arguments relied upon to move from reality to God, are solved.

It is therefore not surprising that Ian Barbour puts natural theology, also characterized by him as a discipline in which “it is claimed that the existence of God can be inferred from the evidences of design in nature, of which science has made us more aware,”<sup>91</sup> in the integration option for the science-religion relation. This emplacement has to be seen in the light of Barbour’s other characterization, that regarding McMullin: our author – as already noticed – has been placed inside the dialogue position, but with the *caveat* that his general proposal also resembles the independence one.<sup>92</sup> The diversity of approaches between McMullin’s consonance and natural theology thus depicted is made clearer by this general distinction too: the former is one of dialogue with independence; the latter, on the contrary, is considered by Barbour as one from amongst the integration options.

There is another aspect of McMullin’s thought on interdisciplinary issues worth recalling here; it is something that, in his overall proposal, relates naturally to the others briefly surveyed in this paper, i.e. his preference for the classic conception of God as atemporal, and his eschewing of natural theology in various forms. This other aspect is his appreciation of the Augustinian notion of the *rationes seminales* (seed principles). This notion was used by Augustine in his famous commentary on Genesis, *De Genesi ad litteram*, McMullin recalls, “to explain how one can say *both* that God made all things at the beginning *and* that the various kinds of things made their appearance only gradually over the course of historic time.”<sup>93</sup> How could it be? Because God had “implanted their seeds” from the start<sup>94</sup>: “The ‘seeds’, in Augustine’s happy metaphor, have been there from the beginning; the universe has in itself the capacity to become what God destined it to be from the beginning, as a human abode, and for all we know, much else.”<sup>95</sup> To engage in a deeper analysis of this topic is outside our scope.<sup>96</sup> What is important to note in this context is that McMullin’s appreciation of the notion of the seed principles is aimed at stressing the concept of a nature that is capable of generating its outcomes without the need to call on special divine interventions

<sup>88</sup> Ibid., italics in original.

<sup>89</sup> Allen, “An Augustinian Philosopher between Dualism and Materialism”; Barbour, *Religion and Science*, 91.

<sup>90</sup> McMullin, “Introduction,” 43; McMullin, “Natural Science and Belief in a Creator,” 68.

<sup>91</sup> Barbour, *Religion and Science*, 98.

<sup>92</sup> Ibid., 91.

<sup>93</sup> McMullin, “Introduction,” 15, italics in original.

<sup>94</sup> Ibid., 11-16.

<sup>95</sup> McMullin, “Evolution and Special Creation,” 328.

<sup>96</sup> We can nonetheless recall that McMullin carefully says that, according to Augustine, the concept of “seed” comprised also the possibility of miraculous interventions on the part of God to originate living beings as adults. McMullin, “Introduction,” 13-15; McMullin, “Darwin and the Other Christian Tradition,” 297-298. And that, according to Augustine, in the context of this kind of explanation an exception to the application of the concept of “seed principle” was the human soul: “Augustine excluded the human soul from the scope of seed-principles. Being spiritual, the first soul had to have been directly created by God.” McMullin, “Introduction,” 51 note 49. See also *ibid.*, 18-19; McMullin, “Darwin and the Other Christian Tradition,” 313 note 8.

in the natural order.<sup>97</sup> And his “qualified endorsement of emergentism”<sup>98</sup> – in “Biology and the Theology of the Human” – to account for the appearance of human spirit (or mind)<sup>99</sup>, is a welcome extension of that Augustinian notion as well.<sup>100</sup> This extension, in our estimation, turns out to be consonant with a scientifically, philosophically and theologically informed analysis of the human in the twenty-first century.

A final quotation from “Natural Science and Belief in a Creator” is useful to connect all the dots depicted before. In fact, thanks to it we can clearly see how his theoretical proposals can fit together in order to constitute a consonant epistemological framework. The context is, once again, the critique of those evolutionary philosophies described above. What is the alternative to considering God as dependent on the evolutionary process? The answer is one we are by now acquainted with: “The alternative way is (...) the one that harks back to Augustine. The emphasis there was upon the transcendence of God, and the self-sufficiency in ‘natural’ terms of the universe he created. There would, then, be no need to invoke a special not-quite-natural energy-animating cosmic process. The ‘chance’ and ‘necessity’ of the evolutionary story could be reinterpreted; they are such only in the eyes of the theorist. For the Creator, there is neither chance nor necessity: only a single Act in which *all* comes to be.”<sup>101</sup>

This quotation is particularly useful to encapsulate his proposal in a nutshell. In fact here McMullin, with a single statement, depicts both his appreciation for the classic doctrine of the atemporality of the Creator and the completeness of the natural world – something already underlined while describing the doctrine of the *rationes seminales*. He consequently states that, in this scenario, the theoretical entities suggested by the already-criticized evolutionary philosophies would not be needed. He then shows how the debate between the chanciness and/or necessity of the evolutionary process, in a context where God is considered as atemporal, would no longer be theologically problematic. And, finally, he states concisely how the act of creation should be interpreted.

Summing up and following McMullin's reflections, we can thus say that if nature is complete in itself<sup>102</sup>, all the kinds of natural theologies sketched above – the respective differences notwithstanding – lose their cogency. And again, in the light of this, as well as of the other theological and metaphysical issues sketched out in this paper, an atemporal God who continuously “sustains” creation (primary causality) but – with respect to the workings of nature – without intervening in it here and there (even if He could do that<sup>103</sup>) is a more sound option. Still, what we are depicting here – following McMullin's suggestions – is consonance at work, while handling scientific, philosophical and theological thorny issues.

## Conclusion

The consideration sketched out here is only a portion of the intellectual “food for thought” that McMullin's works can offer. And, to do him justice, we also want to stress that never in his interdisciplinary works does he claim to have found anything resembling a final and apodictic solution for all these challenging topics. Quite the contrary, as he himself states at the end of his seminal paper on consonance: “This consonance (as history shows) is a tentative relation, constantly under scrutiny, in constant slight shift.”<sup>104</sup>

But nonetheless we believe that, thanks to his contribution, some tenets have been posited to structure a consonant epistemological framework for the dialogue. Such a framework could help us in engaging more

<sup>97</sup> “What is striking about all this (...) is Augustine's conviction that nature is complete in its own order. It does not need to be supplemented, adjusted, added to. He allows, of course, for the occurrence of miracle, noting that it is not, as is commonly said, contrary to *nature*, only contrary to our human expectations.” McMullin, “Natural Science and Belief in a Creator,” 58, italics in original.

<sup>98</sup> Allen, “An Augustinian Philosopher between Dualism and Materialism,” 300.

<sup>99</sup> Allen also defines McMullin's “endorsement of emergentism” as “hesitant.” Ibid., 300.

<sup>100</sup> McMullin, “Biology and the Theology of the Human.” This connection has been effectively detected in Allen, “An Augustinian Philosopher between Dualism and Materialism,” 302.

<sup>101</sup> McMullin, “Natural Science and Belief in a Creator,” 73, italics in original.

<sup>102</sup> Ibid., 74.

<sup>103</sup> McMullin, “Evolution and Special Creation,” 327.

<sup>104</sup> McMullin, “How Should Cosmology Relate to Theology?,” 52.

effectively with the interdisciplinary challenges of times to come. His work has deserved the incredibly appropriate “dedication” that one of his many high-esteemers, Willem Drees, has formulated. We endorse each and every word of it: “As a recommendation, I take the liberty to quote Augustine, who according to his autobiography (*Confessiones*, the end of Book VIII) at the time of his conversion to Christianity heard a child’s voice say ‘tolle, lege, tolle, lege’ – that is, take and read the well informed and intellectually challenging essays by Ernan McMullin.”<sup>105</sup>

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