

Ernan McMullin on Human Nature and the Meaning of Reduction

with Paul L. Allen, "An Augustinian Philosopher between Dualism and Materialism: Ernan McMullin on Human Emergence"; and Ernan McMullin, "Biology and the Theology of the Human"

AN AUGUSTINIAN PHILOSOPHER BETWEEN DUALISM AND MATERIALISM: ERNAN MCMULLIN ON HUMAN EMERGENCE

by Paul L. Allen

Abstract. In claiming the independence of theology from science, Ernan McMullin nevertheless saw the danger of separating these disciplines on questions of mutual significance, as his accompanying article "Biology and the Theology of the Human" in this edition of *Zygon* shows. This paper analyzes McMullin's adoption of emergence as a qualified endorsement of a view that avoids the excesses of both dualism and materialism. I argue that McMullin's distinctive contribution is the conceptual clarification of emergence in the light of a precise understanding of matter, in light of Aristotelian metaphysics and Darwinian theory. As applied to human nature, McMullin retains an Augustinian outlook that sees spirit as emergent in the human body and which posits a credible biblical hermeneutic. I indicate briefly how McMullin's perspective could be fortified by a fuller natural theology.

Keywords: Augustine; Catholicism; consciousness; dualism; emergence; independence; Bernard Lonergan; matter; Ernan McMullin; Arthur Peacocke; reductionism; soul

In a very perceptive observation, Ian Barbour outlines Ernan McMullin's views on science and religion in his landmark Gifford lectures (Barbour 1997, 91–92). This summary comes at the intriguing stage in that well known volume where Barbour describes and elaborates on the group of views that he labels "Dialogue." This section appears in Chapter 4, "Ways of Relating Science and Religion," probably one of the most read texts in the field. McMullin is introduced as the first of three Catholic authors

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who advocate dialogue. Yet, according to Barbour, McMullin's distinction between scientific and religious statements resembles the views of those whom Barbour categorizes as favoring "independence."

What could account for such ambiguity? I think 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. McMullin's hybridity is evident in his paper "Biology and the Theology of the Human," which first appeared in an edited collection, *Controlling Our Destinies: Historical, Philosophical, Ethical and Theological Perspectives on the Human Genome Project* in 2000 (see Sloan 2000).

The reprinting of that paper in this issue of *Zygon* is designed to alert the reader to the subtlety of McMullin's thought as it evolved over his decades-long philosophical career. And it also highlights his intimate familiarity with some of the most important scientific and theological arguments concerning human nature. Admittedly, he did not devote a great deal of time to this topic as a philosopher of science who was also a scholar in several other fields. McMullin specialized in the semantics of realism, the philosophy of quantum mechanics, the ontological status of matter, the Galileo episode, and the historical construction of scientific rationality from the seventeenth century until the contemporary period. But, in summary, what this theologically oriented paper demonstrates is McMullin's counterintuitive ability to diagnose intellectual discrepancies, an ability that he possessed in vast quantities. He had an uncanny knack of being able to simultaneously critique and defend a theological perspective without sounding equivocal, all the while unearthing the false assumptions of scientific reductionists in a way that was friendly to your average naturalist. Quite a feat.

In this short paper, I will begin by summarizing what I believe to be the most significant aspects of McMullin's argument, before turning to an interpretation of his claims. To some extent, my analysis and interpretation is carried out in the light of his other work, including some comments he made to me personally concerning the intellectual options he chose and rejected and others which are sprinkled throughout his work. One ought to begin by noting that McMullin's abilities as a polymath are on full display in this paper. What is also relevant for understanding his perspective is the way he views consonance between science and religion. McMullin does not employ Kuhnian paradigm theory, Lakatosian epistemology, process philosophy, or any other philosophical schema for imposition on either science or religion. Partly, the reason has to do with the fact that he is conversant in several disciplines, and his respect for the integrity of each discipline implies for McMullin neither an interference in disciplinary procedures nor an overinterpretation of a discipline's findings. McMullin was always a firm believer in allowing the history and framework of a particular discipline to determine its conclusions without unnecessary outside

interference. And, although he was a philosopher of science by training, McMullin always strengthened his arguments with historical examples. Not all philosophers of science can provide historical support for their claims. And, in his writing, there is an irenic sense of curiosity and a deep respect for the legitimate claims of different disciplines to knowledge of distinct kinds. This presupposition of disciplinary specificity resonates with the example of parallel intellectual pursuits in philosophy and theology practiced by Thomas Aquinas. Nevertheless, as we shall see, McMullin did not venture into the terrain of metaphysics or natural theology in the way that Aquinas did. This fact alone propels any evaluation of McMullin's thought to the conclusion that he was a believer in dialogue between theology and science though inclined to see the value of the independence of each discipline.

How is this independence articulated? Let us begin with McMullin's conclusion, where as he puts it, the creation of each human person is "an act of election" (323; page references herein refer to the reprint in this issue). The language of election is a significant clue to McMullin's thinking, which is guided by Augustine and the relation of God to history, revealed and mediated through the biblical text. Taken as a whole, it is certainly apparent that McMullin believes that substance dualism offers a dubious set of claims for the Christian theologian. What McMullin suggests, perhaps obliquely, is a more genuine methodological independence for theology, although he claims this from the standpoint of a philosopher. Substance dualism is scientifically questionable, philosophically weak, and theologically unnecessary. It should also be noted that despite Augustine's supposed radical dualism (much exaggerated by his critics over the centuries), McMullin draws on aspects of Augustine's thought that do not support what is termed—since Descartes—"substance dualism."

By itself, McMullin's critique of substance dualism is not unique of course. Following his adherence to disciplinary autonomy, McMullin here portrays substance dualism as biblically inadequate and scientifically implausible. For McMullin, consonance is not worth purchasing unless it provides for a close attention to the role and meaning of the biblical metaphor. As I have already claimed, this assumption about the positive role for the biblical text means that theology has a specificity that cannot be derived from either natural theology or metaphysics of one sort or another. For him, the Bible is testimony to a narrative of salvation history initiated by God and, as such, is irreducible to metaphysical speculation. And he elsewhere describes the theological portrait of human nature not only in terms of the Bible, but also in terms of the human capacity for moral responsibility and our hope to live with God in eternal life. Again, this is the Augustinian approach toward theology which suggests close attention to the biblical texts and salvation history, not the most common of interests in the science–theology dialogue. But McMullin's approach plays down

the status of a parallel natural theology, still a somewhat minority position within Catholic scholarship, it should be noted.

Coming back to the beginning of the paper, McMullin sets up his argument by noting the similarities between two documents. The first is a 1996 papal speech that contains a positive and rather definitive reference to an ontological discontinuity between human beings and other animal species. This gap (and here, it would be entirely appropriate to invoke the problems with the various “God of the gaps” arguments that McMullin elsewhere deplors) that is marked by the uniqueness of the human soul is an ontological feature of the world according to Pope John Paul II. It marks a discontinuity between evolutionary theory’s successful explanation for natural human capacities and the dignity of the person which cannot be reduced to a strictly evolutionary philosophy of the person. Rather, according to the Pope, human dignity is provided for by the human soul. One Catholic theologian has referred to this papal claim as a Catholic form of creationism, which, in my view, is a bit of hyperbole (Clifford 2004, 295). Still, despite the fact that the Pope’s view is not coterminous with substance dualism, it is sufficiently dualistic for McMullin to balk.

The second document is the 1981 National Academy of Sciences resolution which states that religion and science are “mutually exclusive realms of human thought” (305). What both of these documents share is the view that science and religion are *entirely* independent realities, the view attributed to McMullin by Barbour in a partial manner. But McMullin does not buy into this view in this paper, neither in the way that Pope John Paul II expresses it, nor following the National Academy. If McMullin holds for an Augustinian view of theology, in which the distinctive character of theological claims are preserved in their relation to human history somewhat independently of the sciences, he nevertheless disagrees with the “independence” views of both John Paul II and the National Academy of Sciences. So, how do we muddle through what seems to be McMullin’s rather striking ambivalence?

The way forward comes through following McMullin’s engagement with the thought of Arthur Peacocke. Although McMullin is not a theologian, the claim that clearly animates his thinking in this paper is the theological affirmation that we are created by God. But the divine origin of our human nature is found in two very different versions. The claim by Pope John Paul II that the soul is “immediately created by God” is one claim. On the other hand, Peacocke’s defense of human uniqueness through recourse to the concept of emergence is a scientifically plausible claim. Peacocke’s paper appears in the original volume along with McMullin’s paper, and recapitulates Chapter 12 of Peacocke’s Gifford lectures (see Peacocke 1993, 2000).

Peacocke wants precisely to avoid the kind of position set out by the Pope and substance dualists. For Peacocke, distinctly human properties have emerged from lower level processes working in conjunction with one another in order to produce beings with higher degrees of complexity, adaptation, and who therefore comprise a new level of natural reality. The problem McMullin identifies with Peacocke's view, despite his sympathy with emergence, is that Peacocke assumes nonreducibility for human cognitive capacities unless such capacities can be shown to be reducible. As McMullin comments, this is "weak" (308). If human beings are neither discontinuous in a dualist fashion nor mechanical material machines, the terms "reduction" and "emergent" or "emergent property" need considerable clarification.

McMullin sets himself the goal of identifying "troublesome ambiguities" in the concepts used by defenders of emergence, but in order to do so he must first address the issue of reductionism, since a misunderstanding of the latter will suggest a misunderstanding of the former. McMullin raises, in typically historical fashion, the history of the reductionist tradition, referring to the ancient atomists, the progenitors of modern reductionism. This is typically McMullin in the sense that he often sees contemporary debates as not so much new but as refreshed versions of much older debates. But then, McMullin pulls no punches by suggesting that emergentists have been engaging in disputes with reductionists by taking reductionistic assumptions and certain reductionist rhetoric too seriously, especially concerning the definition of matter. It turns out, particularly in the case of quantum physics, that an emergent reality is not just the whole taking in the parts. The parts themselves are far more potent than has been taken for granted. This is why, in two key statements contained in this article, McMullin writes:

When the science of some complex whole is reduced by the science of its constituent parts, in some cases what has happened might be better described by calling it an *enlargement* of the lower-level science [. . .] it must not be forgotten that [quantum mechanics] was constructed by treating the properties of complexes as clues to capacities that would somehow have to be incorporated in the science of parts. [. . .] The label 'reduction' is thus in this respect equivocal. (310–311)

So, the positions adopted in favor of reductionism have not been what they appeared to be. There was, to use Aristotelian language, much more potency in the parts than could be imagined in the science and philosophy that had postulated the new sciences of those very parts.

The parts, not simply the wholes, should guide our thinking about emergence McMullin goes on to suggest. While this observation appears to be a concession, it is in fact not, because, as McMullin notes with respect to Aristotle's definition of potency and his own work on the concept of matter, what is material can certainly include the capacity to take on "a

different property, or even to become a different kind of thing entirely . . .” (314). A materialism that allows for emergence is, according to McMullin, not all that materialistic. It certainly allows for “spirit” which McMullin describes with the help of Karl Rahner, whose work on a theological view of evolution is cited several times. McMullin develops several more points on conceptual and historical issues related to emergentism and dualism, much of which will be familiar to readers of this journal.

How should we interpret McMullin’s plea for an alternative to the Pope’s language of ontological discontinuity to describe human nature? McMullin’s rejoinder should not be understood as that of a cheeky rebuke. Rather, it simply reflects his Augustinian outlook in theology and his Aristotelianism in philosophy. The Augustinian theology is something he has indicated with regard to Darwinism itself in a posthumously published article in *Zygon* (McMullin 2011). When I first realized his debt to Augustine, I was rather surprised to find out what it implied. In 1998, I visited McMullin in South Bend to interview him for the purpose of clarifying his position of scientific realism *vis-à-vis* the critical realism that was dominant in the methodology of the science–theology dialogue (and which, arguably, still is—see Allen 2006). When I asked about how the thought of Thomas Aquinas came to impact his own thinking, McMullin drew back and stated rather bluntly that Aquinas was actually not nearly as helpful as Augustine, for the former’s view of scripture was too literal. While I was stunned at his response, I realized right away the importance of it. Later, upon reflection, I realized that perhaps on account of McMullin’s deep appreciation of Aristotle’s *Posterior Analytics* (see McMullin 1992), it was also the case that, so far as epistemology was concerned, Aquinas did not represent that much of a way forward beyond Aristotle’s achievement for McMullin. My sense of things is that if there were a theological metaphysics to be gleaned from Aquinas’ Christian interpretation of substantial form and matter, its force was blunted by Aquinas’ literalist biblical hermeneutics anyway. At least, this is how I conjecture McMullin saw things himself.

So, when we read McMullin, we are immersed in the thought of one who values the biblically inspired theology of Augustine while holding for the relevance of Aristotelian inference and logic in epistemology and to a lesser extent, potency and act in metaphysics. And as I see it, the section of this paper dealing with emergence and reductionism seems to have held back on the potency and act distinction for a proper understanding of human nature. After pointing out the spiritual potency of matter in emergence, perhaps McMullin is seeking to avoid metaphysical speculation for fear of constructing a natural theology that would be too imposing. Yet, the potency–act distinction has been a key to expressing the difference between human beings and other animals. As Karl Rahner put it: “The essence of man is not completely itself until he acts” (Rahner 1994, 15). Human

action is a sphere governed, we might say, by laws of a combined development of psychological, sociological, moral, and spiritual orientations. Thus, human action is an emergent reality that goes beyond the portrait of human rationality that is traditionally tied to the intellect exclusively.

As McMullin claims with respect to dualism, too much has been made of the role of intellect, beginning with Thomas Aquinas, for whom there is no need of any evidence in support of the view that the intellect is immaterial. McMullin seems to indicate that he too shares the suspicion of scientists that the human intellect cannot be untethered from the human brain so easily. But here I wonder if McMullin has paid sufficient attention to his own remedy for what ails materialism. For instance, McMullin argues that a proper understanding of matter lies in thinking that it is in the realm of becoming. And this is one positive philosophical point that drives his qualified endorsement of emergentism, as I have mentioned.

On an emergentist account, the mind is more than the brain, but much more importantly if you are one for whom the history of our social relationships is subject to divine judgment and a salvage effort on God's part, what we do is more than who we are. Human action is more than human rationality, but which obviously requires all the resources of rationality in order for there to be plans, choices, and development. McMullin's appreciation of the significance of human history at the heart of the life of faith would seem to imply a recourse to human action—as that dimension of human existence to which we are oriented as social animals. Harking back to McMullin's conclusion on the nature of God's creative act for human beings, this is what divine election entails after all. With election, human action is to be measured and judged by God who seeks, first, to be made known through a relationship with a particular people who may or may not witness to the call and God's offer of salvation. So, I believe that McMullin's hesitant endorsement of emergentism in this context could have been bolstered by an ontological account of human conscious intentionality that is nondualist yet predicated on the uniqueness of the human spirit in action. After all, is this not what is promised by the title of his paper: a "theology of the human"?

We are on terrain that overlaps to a certain extent with Thomas Nagel's recent book which insists that the subjective experience of human minds is not reducible to its material components, an irreducibility that leads to his conclusion that philosophical materialism cannot explain consciousness (Nagel 2012). McMullin and Nagel share a skepticism toward materialism, though with admittedly different perspectives as to what such skepticism entails. However, neither of them has elaborated how their perspective offers a convincing explanation for consciousness. Actually, it is perhaps more ironic than even this description of their similarities. Nagel is quite persuaded by a teleological account of the universe, even though that does not lead him to assent to theism, while McMullin the theist forswears a

full-blown teleological account of nature. But perhaps the problem common to both their interpretations of mind lies in a basic lack of trust in an analysis of subjective experience which on its own could tip the scales in favor of a theism that is also tinged with a teleological account of a world that produces conscious beings such as ourselves. Conscious minds ask about meaning, and meaning is derived from the action through which human beings make meaning. But this is to suggest something like a natural theology. Nagel would not consider theology. And McMullin would not consider joining theology closely to an account of nature, even human nature. Who or what bridges the gap?

Prescinding somewhat from the explicit debates over materialism, Bernard Lonergan offers an explanation for human consciousness according to four distinct levels of invariant and active cognitive operations. He does so in the light of an evolutionary understanding of nature. Lonergan's explanation has the added benefit of not hinging on any of the problematic aspects of dualism: Thomist, moderate, or otherwise. In fact, Lonergan's account of human consciousness is not primarily an epistemology, it is a cognitional theory, so it does not bear the burden of being overly abstract, at least not in its basic outline. Moreover, in the 1950s, Lonergan was one of the first to adapt the language of emergence precisely to the way that human consciousness works as a system with higher level properties operating on the basis of underlying biological and neurophysical events.

Lonergan's cognitional theory distinguishes human conscious operations according to whether they are first, sense perceptions, insights, judgments, or decisions. These are the four distinct cognitional levels. This theory may be tested by inquiring of ourselves whether our own conscious operations conform to the fourfold distinction that Lonergan makes. And, in the spirit of McMullin's inquiry into human uniqueness, we may indeed claim that, synchronically speaking, there is something of a dividing line between the creaturely act of sense perception and the more qualitatively human acts of insight, judgment, and decision. Yet, we are still unable to specify where the dividing line between animal and human cognition really lies, although we know that the difference is real and significant. Lonergan's theory of four distinct levels does not settle the synchronic issue definitively about the uniqueness that can be ascribed to being human. But the operation of these four levels as a complex whole of consciousness is certainly greater than the sum of its parts. This is a routine matter since the whole of consciousness is greater than the sum of the parts of consciousness in other animal species. What is not routine is the way in which Lonergan concludes about the meaning of wholes and parts. Normally, as McMullin mentions in his paper, the issue of wholes and parts is instinctively understood as an ontological issue of emergence, and rightly so. But the problem of trying to understand emergence as the existence of new properties at a new level of reality also concerns, fundamentally speaking, an issue of methodological

inquiry. Emergence concerns an integration, and as such, it is a form of evolution that defies common procedures of analysis and methodological reductionism. Science proceeds largely as a matter of analysis, of reducing wholes into parts. Therefore, in order to understand integration and in particular, human development, Lonergan claims it is necessary to turn to philosophy for that kind of understanding.

The more general framework within which Lonergan developed his cognitive theory is termed the worldview of emergent probability in scientific terms, or “the finality of the upwardly directed dynamism of proportionate being” in metaphysical terms (Lonergan 1992, 487). Without parsing the details of Lonergan’s view, it is sufficient to note that both Lonergan and McMullin refer to a narrative of human development in relation to some wider natural theology in their work. As I have said, McMullin’s grappling with emergence theory and the human soul is far from definitive or propositional. While McMullin hesitates to engage in natural theology, Lonergan jumps in with both feet in order to transpose Aristotelian potency, form, and act in the light of an emergentist view of Darwinian evolution and a holistic view of matter from quantum physics. Lonergan thus develops a view that takes emergentism as a dynamic running through multiple levels of nature and human cognition, with the upper level of cognition being the need to decide, to take action.

Lonergan’s confident natural theology contrasts with McMullin’s hesitancy about violating the limits of disciplinary boundaries. In fact, I asked McMullin about the viability of Lonergan’s interpretation of science and metaphysics at one of our meetings, and while he responded that he did not see the value in it as I did, he allowed in his typically humble way that it might be possible. The twinkle in his eye at the latter concession suggested to me that McMullin regarded Lonergan’s thought as misplaced nostalgia for Thomist metaphysics.

As I have mentioned with respect to McMullin’s Augustinianism, the different approaches toward emergence and natural theology adopted by McMullin and Lonergan can be diagnosed according to deeper, underlying causes. Readers of this journal may already be aware of McMullin’s 2011 article in which he lauds the vision of Augustine, despite his deficient science, as “prescient, anticipating the dazzling vision today of a universe billions of years old in which the seeds of what would come after were present in its first cataclysmic moment” (McMullin 2011, 312). That one idea of Augustine, the *rationales seminales*, the idea that nature was complete from the beginning through the creation of seed like principles, is key to the concepts of both matter and emergence (not just the latter). And so I would argue that while “Biology and the Theology of the Human” does not dwell on Augustine or his *rationes seminales*, we should interpret his thinking on emergence in the light of his embrace of an Augustinian approach that he adopts elsewhere (see Allen 2012a, 2012b; McMullin 1991, 2011).

Augustine constantly hovers in the background of much of McMullin's thinking, notably when he deals with theological material as well as in McMullin's historiographical studies of Galileo (e.g., McMullin 1998). There is one intriguing article written for the Dutch journal *Tijdschrift voor Filosofie* (McMullin 1996) that is somewhat of an exception to this utilization of Augustine however. In that article, he draws on Augustine's interpretation of the human imagination. As a product of *spiritus*, the human imagination plays a prominent role in the acquisition of knowledge, both in the sciences and in the arts. Augustine is thus able to draw our attention to a feature of human rationality that is the linchpin for so much of human civilization as we know it. Augustine is not only an authority on biblical interpretation and principles of causation in the natural evolutionary sequence of things; Augustine's thought has significance for an understanding of human rationality in action.

To conclude, we may infer from his reproofs toward mid-twentieth century Thomism that McMullin never saw the value of natural theology. McMullin's frequent references to "speculations" in theology, natural or otherwise, constitute a forthright skepticism toward metaphysical statements in general. Yet I still puzzle over his reticence. The ontology of matter, emergence and the *rationes seminales*—on his interpretation—constitute more than enough material to forge a natural theology that could bridge theology and science. Part of his hesitation toward metaphysics can be attributed to the lessons of history and to the failures of the "God of the gaps." And while McMullin was unable to forge a constructive alternative to the speculative and abstract statements concerning the soul or human nature in general, he cannot be faulted for taking up issues that remained outside his areas of scholarship. To the extent that Lonergan represents an application of emergence theory to human nature, there are more and more voices in support of that enterprise. Patrick H. Byrne, Edward Hogan, and Frank Budenholzer have offered excellent reasons for suggesting Lonergan's outlook in this journal (see Byrne 1981; Budenholzer 1984, 2004; Hogan 2009).

It would be remiss not to mention one other thing. McMullin's interest in human nature is something that was warmly expressed through kind and gracious deeds. He was a scholar who was also a pastor, a Catholic priest with a genuinely compassionate disposition. He let slip during my trip to Notre Dame that he carried on a ministry with a local community comprised of mentally handicapped persons. I say "let slip," because while I never followed up this passing reference to find out what it was all about, I had the distinct impression that this was something that was enormously important for him. Yet I could tell that it was not something that he did to draw attention to himself. Here was the blend of humility and humanity that remains a model for us all, and which was certainly consistent with the way he took human action to be important through his Augustinian,

Christian lens. This part of McMullin's life fits rather perfectly with his working concept of human nature, as a beautiful mystery best left in God's hands at the end of the day.

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