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The Emperor's New Science, Or Jerry Coyne on the Incompatibility of Science and Religion

Jerry A. Coyne, *Faith versus Fact: Why Science and Religion are Incompatible*, New York, Viking, 2015, 311 pp. ISBN 978-0-670-02653-1. £20.00.

In a video documentary produced by Lee Sedwick in 2002, biographer Robin Marantz Henig (*The Monk in the Garden*, 2001) says of Mendel that he was a “situational” monk, i.e. someone who did not join the priesthood out of a calling but out of the fact that he had nowhere to get an education from, such that in the end his calling was that of knowledge. This standard over-beaten path of secular rendition of the triumph of science over obscurantism gives the spirit in which this book is written. Surely, we are told, it is impossible that one would, in his right mind, ask to be ordained Catholic priest and really mean it out of belief in God, rather the new clerics will tell us what is acceptable and what is not from the viewpoint of increasing the knowledge of humankind. To paraphrase Francis Bacon, we'd be like children back in the garden of Eden, in fact the garden of salvation through knowledge, and as the subtitle indicates, Coyne's (hereafter C.) book is an attempt to argue for the incompatibility of science and religion. It has five chapters. The first one posits the problem. The second, which is the longest (70 pages) describes what's incompatible and speaks in particular of conflict of method, of outcome, and of philosophy. The third looks at attempts to engage science and to “integrate” it inside a Christian worldview, to use one of Ian Barbour's famous categories. The fourth is about faith striking back, and it deals with the recent renewal of natural theology and the attempts of some to restrict scientific knowledge only to a certain corner of humankind's overall experience of the world. In the fifth chapter, C. claims that one can show cases of detriment incurred by the estate of man, to speak Hobbes' language, if religion were to march on triumphantly and supplant science.

Chapter 2 sets the tone of the whole endeavour, if one is to focus on the truth-claims made in this book. In attempts to define “fact” and what is meant by it, C. claims that problems start to arise when one considers the empirical content of revelation. He asserts that it is never parsimonious to invoke God and explains further that, whereas we can define a religion, it is more fruitful for the present purposes to engage monotheistic traditions, inducing a further distinction, saying he will consider theistic religions where God is said to intervene in the world (42). This is interesting, and we will have to come back to it, but it seems to imply that were God made responsible for the orderliness and the heuristic character of a world that works well, that is eupraxis, that contains information, then such a God could be denied. But the ways in which one could deny that God would be equiva-

lent to the ways in which one could deny being conscious, even having a personal name, for short an identity. C. does not realize how, if this were the case, it is all experience of the qualitative that we would have to rule out; this is why the great doctors of the history of Christian theology have reasoned by saying: whatever men have designated as a transcendent horizon to what we can know and determine, that we *also* call God. How could we otherwise account for our being able to operate in all these disconnected realms through the unique perspective one gets from sharing a worldview that is unified? C. makes the case that existence claims about gods are empirical and require some kind of evidence (47). He approves of an article by A. Bernstein (from *The Objective Standard*, a journal devoted to applying the egotistic philosophy of Ayn Rand!) saying that theology, in using some of the best intellects that have happened in history, has wasted their admirable capacities on nothing (58). He also argues that it is false to say that Augustine, and Aquinas later, favoured a non-literal reading of Scripture. C. entirely misses the point that Aquinas, fighting for a spiritual sense that would be *in* the literal sense, argued against free-floating allegorical interpretations, and that, furthermore, he asked in the end “what is real?” As such, he expressed a conviction that a theory of reality is constituted fundamentally by meaning, by a huge hierarchy of hieroglyphic signs in the cosmos, and that these are too rich and multifarious to be all included in our capacity for metaphorization, hence their “hiding” forever under the stubbornness of the letter.

C. repeats a claim already made by Richard Dawkins that, contrary to the mindset instilled by Gould’s “non-overlapping magisteria” proposal (NOMA), religion also deals with facts about the universe, and that conversely the “big questions” can be perfectly handled by secular philosophy without having recourse to the concept of God (65). When C. says that religion will make propositions that can be controlled empirically, he does not in fact further this in any construal that is epistemologically potent, since he is content with saying that religion learns what it learns from revelations, and that it produces or secretes beliefs that are resistant to falsification (66). His next step is to say that truth in religion becomes inevitably dependent on confirmation bias. In the face of many studies in the sociology of science that have pointed out that there is a “fiducial” or “tacit knowledge” element underlying the commitment to scientific hypotheses, C. clings to the statement that scientists would rather abjure all authority because they have confidence in some authorities only to the extent that those have earned their trust by making correct predictions, and that this confidence is not in any way akin to religious faith. C. takes an evidentialist approach and applies it to the problem of the resurrection, saying that it would be irrational for someone to say that, were the resurrection proven impossible, one would

continue to believe in it (73-4). He completes the picture by saying that he has never himself seen a Christian who would abandon his belief in the resurrection if science proved it wrong. These remarks are meant to support the more foundational statement that an “accommodationist” strategy would inevitably leave one in the presence of a double standard. This is seen when theologians transform scientific necessities – points at which findings of science have contradicted the empirical claims made by Scripture – into religious virtues. For example, the “design” of animals and plants was a merit of the deity, a proof of the benevolence of God; when it was dismissed by Darwin, the refutation of the idea of a God acting everywhere fell back on God but to increase his greatness, his creative genius, since he was then regarded as all the wiser for not having to intervene everywhere. Here, the consideration of Frederick Temple’s lectures of 1884 (*The Relations between Religion and Science*) would show that C.’s problem was addressed long ago, and that the solution given by Temple approached that advocated by C. on pp. 145-6, speaking of a God who created pre-determined encounters that in the end vindicate Paley’s concept of design, rendering it more probable to the extent that its instances are less.

C. laments that religions are incompatible with one another. This is a problem throughout the book. Even though there is an attempt in chapter 1 at effecting some clarification, it remains the case that what is dismissed is any possibility of a valid religious language that would be experience-based, an argument that was already made by neo-positivism long ago (85f.). If it suits him, C. will point the finger at monotheistic traditions, but the problem remains that “religion” is a term that has taken on such a wide logical extension that is difficult in the end to know what one is talking about. Marxism and psychoanalysis have both been called “religions” by their detractors. C. tries to win on the empirical ground by saying that he challenges anyone to give him a single fact about reality that came from Scripture alone and later would have been confirmed by science or by empirical observation. After quoting the famous book review of C. Sagan’s *The Demon-Haunted World* by R. Lewontin (92-3), who says that we cannot let any supernatural explanatory principle step in the door, since we have to be in principle materialists, C. claims that Lewontin went too far. For him, it ought to be possible to put God in the test tube.

Chapter 3 declares irrational the self-pleading or self-serving character of what is called “accommodationism”, which C. says is based on cognitive dissonance, the capacity to hold two or more irreconcilable views in one’s mind. People live in a culture that reveres science, but they also cling to pre-scientific or pseudoscientific myths. To those who say that there is at least a mental compatibility because there are many scientists who are religious, who go to church or mosque or synagogue, and that there are religious people who practice science, C. replies that they cannot use historical

arguments to make such a case, because in the early days of science it was no wonder that scientists were religious since everyone was religious. C. claims that the strategy for religious people is to redefine one of the two terms, “science” or “religion,” so that it will include the other (101). He shows his dismissal of the emotion-based mysticism stemming from the study of the cosmos by referring to Philip Gingerich (*sic* as he wrote Owen Gingerich), the paleontologist who witnessed to being connected to the large universe he is studying, and who expressed his Einstein-like awe-struck sensation in front of it. Having dismissed any such solution, which one would also find in Ursula Goodenough, C. goes on to declare impossible the paradigm of their ultimate impossibility in principle of generating a contradiction, such as was advocated by Pope John Paul II, because it would according to him be silly, in the face of answers that are in fact irreconcilable, to declare them compatible.

C. attacks the NOMA solution of Gould and says (107) that moral and philosophical issues have been handled by secular philosophers, thinkers and scientists without any need for religion, while he had said 10 pages earlier that everyone was religious in the old days, such that it would not count if scientists also were religious (99): this goes to show the extent to which C. neglects the presence of roots of atheism in the history of Western thought – a history which was written way before this book was published (Lange’s history of materialism was being widely discussed at the end of the 19th century). Theism and atheism might have very little to do with the fact that we now “know” so much more. Gould is accused of restructuring science and religion so that they can coexist, and C. objects that religious people make claims that, one more time, fall out of NOMA, and land on the turf of science. He talks about Gould denying the reliance on miracles, and reviews his claim that creationism would not be religion (109). In fact, if natural theology has any value, the exceptional and miraculous cannot be ruled out by *fiat*. When he meets the objection of the undesirability of many of science’s outcomes, C. uses the exact same manoeuvre, that of redefining science: it was not science which did it, but technology... What is more, he is claiming that scientists would never overstep their territory, while this is exactly what this book is overtly doing.

C. says that the theory of evolution is perfectly refutable. If one were to find a modern bird in sedimented rock, and were able to date it before the flying pterodactyls, one would have refuted the theory of evolution (31, 104). We know however, from many other examples, that this is not what would happen. The theory would be sectorially revised and it would be praised for its integrative power, that can encounter such challenges and keep affirming the same beautiful and simple explanatory mechanism (see, e.g., J. Monod, “On the Molecular Theory of Evolution” in R. Harré [Ed.],

Problems of Scientific Revolution, Oxford, Clarendon Press, 1975, pp. 19-20). So the way one would save the “God-theory”, and the way one saves the evolutionary theory, have something in common. This is borne out by the strangeness of the discussion of the genetical bases of altruism in chapter 4, said to be a result of our including strangers in our “be nice to acquaintance” module (174), and this while at the same moment philosophers of technology such as S. Turkle or N. Carr write books documenting the exact opposite. C. is clinging to a paradigm of refutation that would take place with the adducing of a single counter-example, something which has been shown to be unrealistic, and to be an idealized armchair reconstruction of the history of science.

We read that science has lots to say about the supernatural, that it has tested it and found no evidence for it (113). C. runs with a statement by Carl Sagan from his Gifford lectures, *The Varieties of Scientific Experience* (2007), to the effect that he would see evidence of the Judaic-Christian religion if its sacred documents had contained a sentence like “thou shalt not travel faster than light.” C. claims he has the liberty to say these things, because religious people, if asked what evidence would make them abandon their faith, will say that no data can dispel their belief in God. This is plain silly, as the debate between Whitehead and Einstein concerning the isotropic character of light’s speed in a vacuum suggests: one need not look at a dimensionless physical constant as an unchangeable viewpoint on reality; travel faster than the speed of light could be admitted one day, without the meaning of the Decalogue passing away.

Confronting miracles, and the Resurrection as the great miracle of the Christian faith, said to be unique and therefore to fall outside the realm of scientific scrutiny which looks for cosmic regularities, C. replies that historians can assess the likelihood that unique events have happened, and that the Resurrection does not meet any of these criteria. He also says that if we can’t show that humanoid evolution was inevitable, the reconciliation of evolution and Christianity collapses (141). If we are God’s special object of creation, and he wants to have a covenant with us, evolution must have been guaranteed to lead to us. It’s interesting to note how C. admits otherwise that evolution does not guarantee to lead anywhere, which might suggest that the door must be left open for another source of knowledge to inform us. He claims to dismiss any argument that there was an evolutionary convergence leading to man, as failures of convergence would call into question the inevitability and man’s uniqueness. They involve species that are missing. There are no bats, giraffes, etc., with equivalents among the marsupials in Australia, so that Australia has many unfilled niches. This includes the one which would have hosted humanoids, so for C., judging strictly and mechanically from the criterion of reproductive fitness, human beings did not appear everywhere out of some kind of cosmic necessity but

only appeared in Africa. It is interesting to note how, in the face of objections to this line of thought by Simon Conway-Morris, he does the same name-calling as William Dembski, about whose *Being as Communion* (2015) the present reviewer has written in this journal (Vol. 25, No. 1). One only needs to replace bad “naturalists” by irrational “believers.” For C., our complex mentality is an evolutionary singleton, like the trunk on the elephant or the feathers on the birds. He claims that human inevitability is deduced from one’s religion, but in so doing fails to acknowledge the long Lamarckian ascendancy to this problem which always denied that efforts of the will were pointless in improving our estate. One has to remember that this was, in a modified fashion, the meta-story to which C’s advisor Lewontin clung, and is also the reason why most atheistic Soviet biologists were opposed to genetics and to the contingency of evolution, as well as the central role of chance.

The penultimate chapter strikes one with its defence of evolutionarily-based altruism, which always aims at maximizing genetic fitness, and C. does not seem to appreciate how he self-contradicts in endowing the evolutionary machinery with discrete mathematical abilities, while claiming that the altruist who self-sacrifices does not have to know how genetics works (174-5). (See S. Conway-Morris *Life’s Solution*, Cambridge University Press, 2003, 314-5.)

This presentation of science rests on an implicit empiricist criterion of meaning that has been studied, scrutinized by an army of philosophers of science, and found wanting. C.’s own narrative rests on a myth, that of a science entirely subservient to facts mindlessly recorded in material and behavioural systems. In fact, it seems that the same feeling is sought by religious people, and by a *mature* state of the sciences. The impediments to science’s progress have not come, as in the legend around Galileo, from backward-looking churchmen only, but had a lot to do with backdoor manoeuvring among jealous fellow academics, as Stillman Drake’s lifework has shown.

What is more, C. constantly writes as though it was at all times possible to put one foot firmly into the field of “science,” and from there see the irrationality of everything else. This presupposes that we can tell good science from bad or pseudo-science. In fact, we cannot. The grand demarcation criteria, be they those of Popper, of Lakatos, or more neo-positivistic-inspired ones, have all been found wanting and defective. In the present situation, as Larry Laudan has convincingly argued, we do not have an extrinsic criterion that would tell us if we are doing good science (see “The Demise of the Demarcation Problem,” *But Is It Science?*, M. Ruse [Ed.], New York, Prometheus, 1988, 337-350). The best approach we can make is to come up

with a rating of “scientificness – finding independent criteria that are desirable – but they will all still be merely sufficient and not necessary conditions for calling something science. Saying, as C. does, that we ought to give science the only credibility in knowledge worth having, and then saying that one still undergoes normal human emotion just won’t do, as it is simply irrelevant. It comes from a failure to have distinguished science as *process* from science as *product*. Repeating on and on that scientists who become better experts also lose faith, might mean that indeed the critical sense of inquiry leads them to some erosion of the simple trust in things, but then no one continues his/her life on these terms outside the lab. This amounts to an invitation to double-thinking. Here C. is found guilty of that which he has indicted all believers for doing.

Christianity makes definite truth-claims, and often they have been compelling science. I mean truth-claims like in the case of Boltzmann: “there are atoms”; it is by pointing to a substantial order of this kind, while theories will come and go, that science has made progress. Genes are such an intelligible network, that we trust to deliver something not entirely mapped out. Yet those claims of existence are not visible, they come from eliminating conflicting accounts of problematic behaviours. This sort of “truth” amounts to progressively strengthening the framework on which science is built, and it yields a coherence theory of truth.

C. defines science to be something you can predict and find with success – which, incidentally, is just what cannot be achieved in evolutionary theorizing. He adds in the preface that, should we sometimes fall short of this requirement, we will have to define science more broadly. As commented above how we rule in good science and rule out bad science can get tricky, since the heuristics of science require that any source of potential insight and inspiration be kept in. The wildest mystical dreams belong to the picture, as long as something testable can come from whatever proposal is generated in their wake; there is thus no real “don’t go there” that one can utter. It is simply preposterous to say that whatever religious statement one could consider, it could never have a heuristic positive effect. If C. claims that religions say contradictory things (which he would have to substantiate since, in virtue of his cherished principle due to Hitchens, these gratuitous affirmations could be denied every time since they are for the most part lacking in cases in point), then how can all religions be bundled together in such a lazy fashion, since given the fact that they contradict, one would expect at least some of them to state the same things as the worldview one gets from assembling the “truths” of science?

As Whitehead argued in 1926, religions can indeed become forces of darkness, when they cement a group of people together through enthusiastic and frenzied limit-experiences, and these give rise to rituality, except that

there also is an inevitable movement within religious dynamics that will aim at rationalization, that will universalize the value of individual experience. Religion then becomes the affair of the individual and of one's own destiny, situating one in the face of radical origin and ultimate destiny; in light of this, C.'s statistics literally mean nothing whatsoever, they are beside the point. Religion is about questions that the human mind will ask itself, and to repress them as C. does has no justification.

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