

Darwin's Doctrine of Intelligent Design: Science and Religion Frank Leavitt ("Yeruham")

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ABSTRACT: *It is commonly believed that Darwin rejected God and Intelligent Design, and replaced them with Natural Selection based on Random Mutations. A study of the Origin of Species, however, reveals a different picture. Darwin rejected neither God nor intelligent design, but argued that natural selection was God's intelligent method of design. Natural selection did not work on random mutations, but on variations which appeared according to laws. Darwin's enemy in Origin was not intelligent design, but the doctrine of independent creation, according to which God created each species and variety independently of the others. This was un-intelligent design. Like every thinking person, Darwin changed his mind about some things as he grew older. Changes can be found in his Autobiography and in various notes and letters. He came to raise skeptical questions about God. But Origin was his great synthesis of field biology, plant and animal breeding, religion, philosophy of science. He carefully polished Origin through six editions. It is important to study the later writings, but they are not the painstakingly developed doctrine which he presented to the world. Although Verma's arguments, in the context of Darwin, against mixing science and religion, go against a long philosophical tradition, I conclude in Verma's favour, because such a mixture can unfairly weaken religion.*

Key words: Darwin, intelligent design, random mutation, laws of variation, chance, Lamarck.

I. INTRODUCTION:

It has been well noted, and perhaps much more often ignored, that Darwin in the *Origin of Species*¹ saw creation by means of natural selection as being noble, as endowing nature with much more grandeur, and as much more fitting for a Divine Being, than is the doctrine of the separate creation of each species and variety. Darwin believed that the doctrine of separate creation "makes the works of God a mere mockery and deception...." (JWB202. MP317) Stephen Dilley stated, giving useful references: "A number of scholars agree that Darwin used theology significantly in the *Origin*."²

¹ Charles Darwin M.A., *The Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. London, John Murray, 1859. I have checked all of the passages which I quote here, in Morse Peckham's *Variorum Text*, which lists changes which Darwin made from the 1859 first edition, through the 1878 sixth. In these particular passages I have found only stylistic changes, and almost no substantive ones, with the exception of the omission of a brief passage which I shall mention later. I will refer to sources in the *Origin* by means of page numbers in parentheses within my text. "JWB" followed by a number, refers to the page in JW Burrow's edition of the first edition, *The Origin of Species*, London etc., Penguin, 1968, 1985. "MP" refers to the page in Morse Peckham's *The Origin of Species, A Variorum Text*, Philadelphia, University of Pennsylvania Press, 1959, 2006.

² Dilley S. Charles Darwin's use of theology in the *Origin of Species*. *The British Journal for the History of Science* (2013) 46 (1) 1-28, 26. DOI: <http://dx.doi.org/10.1017/S0007087412000416>

It is also widely recognized that by 1887, when Darwin published his autobiography, he acknowledged that he had become an agnostic.³ This matter has been discussed and well-referenced by Dov Ospovat.⁴

All information about great people is interesting, including the fact that Darwin seems to have become an agnostic later in life. What people do late in life is not necessarily relevant to the accomplishments of their youth. Darwin did not integrate his late-life agnosticism with his *grand synthesis*. I'll explain my sense of *grand synthesis* in Section II.1

This paper is not much concerned with Darwin's theological development, but with the general question of the consistency or inconsistency of science and religion. I am particularly interested in K. K. Verma's position that it is undesirable to "overlap" scientific enquiry and religious faith.⁵ Verma's example is the conflict, or supposed conflict, between the Doctrine of Natural Selection, which Verma sees as belonging to scientific enquiry, and the Doctrine of Intelligent Design, which Verma sees as belonging to religious faith.

I shall first show that the Doctrine of Natural Selection, as it appears in the *Origin*, far from conflicting with the Doctrine of Intelligent Design, really shows how Darwin, at least at that time, conceived of Intelligent Design.

At the end of this paper, I shall briefly take up the general question of science and religion, in the philosophical-scientific tradition and in my religion, Judaism.

Up to this point, it may look as if I totally disagree with Verma. But it will transpire that we are much closer than it may appear. I will get to this point in good time.

³ Nora Barlow, ed., *The Autobiography of Charles Darwin* (New York: W. W. Norton, 1969 (92-94)

⁴ Ospovat D. God and Natural Selection: The Darwinian idea of design. *Journal of the History of Biology*. (1980) 169-194. 0022-5010/80/0132-0169.

⁵ Verma KK. Darwinism and the Church (2013). *Human Biology Review* (ISSN 2277 4424) 2 (1) 2013: 2: 42-45.

II.1. What is the Doctrine of Intelligent Design in Darwin's *Origins*?

In discussing the origins of the eye, Darwin mentions two competing kinds of explanation. The *first*, which is roughly that of a number of religious scientists, would compare the development of the eye to the development of the telescope. "It is scarcely possible", he says, "to avoid comparing the eye to a telescope. We know", he continues, "that this instrument has been perfected by the long-continued efforts of the highest human intellects; and we naturally infer that the eye has been formed [by God] by a somewhat analogous process". The *second* kind of explanation, which is Darwin's, would assume "slight variations" multiplied "almost infinitely", where "natural selection will pick out with unerring skill each improvement". After this process goes "on for millions on millions of years...may we not believe," Darwin asks, "that a living optical instrument might thus be formed as superior to one of glass, as the works of the Creator are to those of man?" (JWB 219, MP 343)

The validity of Darwin's argument here may be debated. He gives no reason for preferring the second method to the first other than that the first "inference" is "presumptuous". "Have we", he asks, "any right to assume that the Creator works by intellectual powers like those of man?" (JWB 219, MP 343)

It is clear that, at least in the *Origin of Species*, Darwin's argument was not against intelligent design but against the theory of independent creation. The idea that God created each species and variety independently would have been an idea of monstrously unintelligent design. Darwin believed that God created species and varieties intelligently, through variations and through Natural Selection. That the theory of independent creation was Darwin's main target of attack need not be established by page references because this point can be seen throughout the book.

II.2 The Question of Randomness.

It is widely believed today that Darwin believed that Natural Selection worked on random mutations. Darwin, however, does not use the word, "random". He talks about "chance". Nor does he talk about "mutation". He talks about "variation". I would say that "random" is just the idea of "chance" as refined by modern statistical thinking. And "mutation" is just the idea of "variation", as refined by modern biological thinking. I'll use Darwin's terminology, however, "variation" and "chance".

No matter what we call it, Darwin in the *Origin of Species* did not accept the notion of chance. Ospovat (See Ref. 4) has done Darwin scholarship a great service by painstakingly collecting passages in various manuscripts in which Darwin comes to accept the idea of chance. But I think it should be emphasized that a philosopher's, a scholar's and a scientist's unpublished writings and his published writings are on two very different levels. It is not as if he just didn't get around to publishing this, while he got around to publishing that. When you publish something you are putting your name on it, taking responsibility for what you say in the understanding that it may be read for generations. Note also that Darwin polished *The Origin of Species* in six editions. Even those who do not plan to take up Darwin scholarship might enjoy browsing a copy of Peckham's *Variorum Text* (See Ref.1), in order to get an impression of the labour which Darwin obviously put into every detail. While cognizant that Darwin held various opinions at various times, I am, in this paper, only interested in the published *Origin of Species*.

There is another reason for my restricting myself to the doctrines of *The Origin of Species*. This work is what philosophers have sometimes called a *Grand Synthesis*. Darwin combines and tries to synthesize field biology, plant and animal breeding, religion, philosophy of science, and perhaps more. This means that Darwin, right or wrong, thought at the time that his acceptance of God and his rejection of chance were both consistent with his grand synthesis. I respectfully suggest that today's so-called

"Darwinists", who reject God and accept chance, might at least consider Darwin's grand synthesis deeply before putting his name on their ideas.

So far is Darwin from believing that variations are due to chance, that his Chapter V is called "Laws of Variation." He begins the chapter with the words: "I HAVE hitherto sometimes spoken as if the variations – so common and multiform in organic beings under domestication, and in a lesser degree in those in a state of nature – had been due to chance. This, of course, is a wholly incorrect expression, but it serves to acknowledge plainly our ignorance of the cause of each particular variation." (JWB 173, MP 275)

Darwin's doctrine seems to be that there is no such thing as chance. Everything is governed by knowable causes. But when we don't know the causes, we like to say that "chance" is at work. This interpretation is proved by his example of the feathers: "Throw up a handful of feathers and all must fall to the ground according to definite laws: but how simple is this problem compared to the action and reaction of the innumerable plants and animals which have determined, in the course of centuries, the proportional numbers and kinds of trees now growing on the old Indian ruins!" (JWB 126, MP 158) Darwin is saying that the action and reaction of the countless members of what we call today an "ecosystem", and the countless laws governing these actions and reactions, are too complex for us to predict or explain very much. But this does not negate the fact that these activities are governed by laws, not by "chance".

I have run through Darwin's 72 uses of the word "chance" in an online edition of the 6th edition of the *Origin*.⁶ But I have found nothing to contradict Darwin's statement, quoted above, that this is: "a wholly incorrect expression" which serves to acknowledge our ignorance of causes.

⁶ *The Project Gutenberg EBook of On the Origin of Species, by Charles Darwin. Produced by Sue Asscher, and David Widger.* <http://www.gutenberg.org/files/2009/2009-h/2009-h.htm> (Accessed 1st June 2013)

I was therefore surprised to read in Dilley's excellent paper, from which I have learned so much about Darwin's use of theology, the statement, in reference to *Origin*: "The process of natural selection acting upon random variations lies at the centre of Darwin's theory." (See Ref. 2)

II.3 Laws of Variation:

What Darwin calls "Laws" are so rough and informal that they little resemble what would be expected of scientific laws today. One example will illustrate his way of speaking about "laws": "*Correlation of Growth*. I mean by this expression that the whole organism is so tied together during its growth and development, that when slight variations in any one part occur, and are accumulated through natural selection, other parts become modified. This is a very important subject, most imperfectly understood." (JWB 182, MP290) And a little later: "The nature of the bond of correlation is very frequently quite obscure." (JWB 183, MP 291) It might seem ridiculous to some today that a scientist should call something a *law*, and then admit that he understands it "most imperfectly" and that he finds it "frequently quite obscure". But let us not forget that Darwin is one of the foundation stones of modern science. We couldn't have got to where we are without Darwin.

It should be mentioned that biostatistics was in its infancy in Darwin's day. It would be an interesting project for a doctoral student to try to see whether sophistication about biostatistics could have introduced more order and clarity into Darwin's chapter on Laws of Variation.

In statements which some might expect more of Lamarck than of Darwin, Darwin gives what he calls "Conditions of Life" a very important role in his discussion of Laws of Variation. Among the causes of inheritable variations are: "Effects of Use and Disuse" (JWB 175, MP280) "Acclimatisation" (JWB 179, MP286), and "habit or custom" (JWB 181, MP289, etc.)

To put it briefly and bluntly, Darwin believed that acquired characteristics may be inherited, but not in a simple way. Darwin, however, is not very clear about exactly how "conditions of life" have

inheritable effects. In the first edition, he wrote, "Indirectly, as already remarked, they [the conditions of life] seem to play an important role in affecting the reproductive system, and in thus inducing variability; and natural selection will then accumulate all profitable variations, however slight, until they become plainly developed and appreciable by us. (JWB175) But this sentence was omitted in the fifth edition (MP279), and Darwin never seems to give a really clear explanation of how conditions of life produce inheritable effects. Be that as it may, and in spite of the vagueness of Darwin's laws, it cannot be denied that Darwin believed that variations appear according to laws and not randomly.

III. Religion and Science

Verma stated that: "Intermixing the two only produces a state of confusion". Throughout the history of science and philosophy, however, there have been many attempts to reconcile religion with the science of the day. Among the well-known philosophers and scientists who tried to achieve this reconciliation was Aristotle (384 BC - c. 322 BC) who discussed the similarity of his astronomical doctrines with the ancient idea that the heavenly bodies are gods.⁷ In medieval times, the great Rabbi, physician and philosopher, Moshe Maimonides (1135-1204), in his *Guide of the Perplexed*, attempted to prove God's existence using Aristotelian concepts. He also dealt with Biblical statements which seemed to conflict with scientific or philosophical thinking, by interpreting as metaphor much of the language which the Bible uses to describe God. Thomas Aquinas (c.1225-1274) also used Aristotelian concepts to try to prove God's existence in his *Summa Theologica*. Descartes (1596-1650), a pioneer in mathematics, physiology and optics, used in his *Meditations on First Philosophy*, and in his *Discourse on Method*, a combination of Aristotelian concepts and his own original ideas to prove God's existence and that the soul and the body are distinct substances.

Darwin differed from these, his predecessors, in that he didn't try to prove God's existence. But he resembled them in that he used his

⁷ Aristotle, *Metaphysics*, WD Ross, tr. In *The Basic Works of Aristotle*, Richard McKeon, ed., New York, Random House, 1941, XII,8. 1074b1-15.

scientific concepts, the laws of variation and his doctrine of natural selection, to interpret a religious concept: divine creation.

So far I may seem to be totally in opposition to Verma. I not only have shown, in the footsteps of such distinguished Darwin scholars as Dilley and Ospovat, that Darwin himself "intermixed" science and religion. I have also placed Darwin in the context of a great and ancient tradition of reconciling science and religion. Verma, however, has touched some reflections which have vexed me for some time, some misgivings about whether such greats as Aristotle, Maimonides, Aquinas, Descartes and Darwin, really did us any service by attempting their reconciliations.

If religion is true, then there should be something in it which is eternally true. Of course, religions do develop, mature and change in their details. My religion, Judaism, is a religion of debate and discussion, sometimes involving deep disagreement. We take this in stride. Debate is an essential part of our process of learning. But we believe that there is a basic core that does not change. This includes such beliefs as that God exists and created the universe, that He gave prophesy to mankind, that He is one. Science and philosophy, however, go through major changes. Important doctrines, such as that Euclidian geometry is absolutely true, and that the planets travel in perfect circles, are rejected and replaced. If we interpret the basic core teachings of religion in terms of the science and philosophy of the day, then we are exposing these teachings to the possibility of radical change. Even Immanuel Kant's (1724-1804) well known attempt to restrict reason in order to make room for faith, fails to protect faith because once his complex philosophical edifice is brought into question, faith loses its immunity from philosophical criticism.

Although I was educated in the philosophical-scientific tradition, I have been wondering over the past few years whether there are not better ways to reach spiritual enlightenment. Proofs of God's existence, and interpreting religious texts in terms of philosophy and science, do not seem to be extremely popular in the East. Closeness to God is achieved by meditation, yoga, divine martial art, and – if I have managed to understand something of Sikhism – living a simple, moral life of hard

work and helping the needy. These approaches may have achieved a kind of faith which is immune to scientific and philosophical revolutions.

Although Judaism, as I have indicated, is a religion of logical, scientific and philosophical debate, it is open to other approaches. There is a growing movement now in Israel, of followers of Rabbi Nachman of Breslov (1772-1810), who was not very interested in philosophical and scientific interpretations of religion. He taught about secluding oneself in quiet, lonely places, like mountain tops, preferably around midnight, to pour out one's soul in crying and weeping before God. Only about an hour per day of outpouring of the soul is necessary. One can then spend the rest of his day in joy, greeting everyone with a smile, cheerfully helping those in need. I am at present studying the possibility that approaches like these, which do not mix science and philosophy with religion, might be preferable to the intermixture in which I was educated. In this way, I think that Verma and I may not be too far apart.

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