

## Militant Atheism and Biblical Literalism: Comrades-in-Arms for Promotion of Disharmony between the Science and Theology of Creation

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**Abstract:** This article considers the extreme positions of anti-Christian protagonists of the science of creation and anti-scientific protagonists of a literal interpretation of the biblical account of creation. It points out the weaknesses of the arguments of both groups, and the use of these weaknesses by both protagonists in propaganda against each other. The underlying proposal is that moderate science and moderate theology of creation do not oppose each other.

FROM THE THEOLOGICAL VIEWPOINT, there are three critical events in creation: creation of the universe, contemporary life, and humanity. Science is gradually elucidating the processes involved. There should be harmony between the descriptions of the events from each perspective, and lack of harmony should lead to a reappraisal of both. In this article, I discuss two intellectual stances that are driving disharmony between the science and theology of creation.

Since the time of the Enlightenment, interpretations of creation by some groups within science and religion have been in conflict. Early conflicts revolved around the nature of the cosmos, and the reluctance of the Church to abandon a geocentric universe. More damaging was the questioning of the historicity of the Bible. In the nineteenth century, deeper understanding of geology resulted in questioning the chronology of the Bible. In addition, the theory of evolution, and the discovery of hominid fossils resulted in questioning the biblical accounts of the creation of life and humanity. Finally, in the twentieth century, cosmological studies revealed a time of creation of the universe much earlier than suggested by the Bible.

Much of the controversy between conventional science and those Christians who insist that the Bible is an accurate scientific and historical document still lingers today. One of the main fields of difference is the discrepancy between a literal interpretation of the accounts of creation in the first chapters of Genesis and the progressively increasing understanding of the origin of the universe, the age and geological history of the earth, and the origin of contemporary life forms, including humanity. No discrepancy exists if, on the one hand, we accept that the book of Genesis does not give an account of either history or science, and on the other, that science does not have a complete explanation of these three major events of creation.

Extremist groups within science and religion are unwilling to accept this moderate position. Militant atheists claim that science has solved the mysteries of these aspects of creation, and no invisible hand of God has been found. Biblical literalists, on the other hand, demand a literal interpretation of Genesis 1, leading to a denial, by the most extreme proponents, of the age of the universe, the creation of the chemical elements, and the evolution of life into contemporary life forms including humanity.

I have used the term “comrades-in-arms” in the title of this article because here, as in many other controversial topics, one extremist group uses denigration of the other extremist group’s more outlandish views in order to gain converts from the larger uncommitted group in the centre. Thus, militant atheists make claims of lies and distortions by biblical literalists, and use this to discredit religion generally. This is demonstrated in two recent popular books attacking religion: *The God Delusion* by Richard Dawkins<sup>1</sup> and *God is not Great: How Religion Poisons Everything* by Christopher Hitchens.<sup>2</sup> Both these books are naked, biased attacks on religion in general that use as ammunition the many excesses throughout the ages that have been done in the name of religion. In the field of science, Dawkins describes a scientist who forsook science because he found it to be incompatible with the Bible, and he preferred the certainty of the Bible.<sup>3</sup> Hitchens mocks the rejection of evolution by Christians who use an “argument from design” to prove their case – e.g., finding a watch implies that there has been a watchmaker.<sup>4</sup>

Biblical literalists, on the other hand, can influence moderate Christians to forsake established scientific truths by focussing attention on the general attacks on religion by atheistic scientists, such as

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1. Richard Dawkins, *The God Delusion* (London: Transworld Publishers, 2006).  
 2. Christopher Hitchens, *God is not Great: How Religion Poisons Everything* (Crows Nest: Allen and Unwin, 2007).  
 3. Dawkins, *The God Delusion*, 284-86.  
 4. Hitchens, *God is not Great*, 73-98.

mentioned above, and claiming to be the only real fighters for Christ in a secular society. They augment their attack by proposing superficially plausible alternative scenarios that are compatible with validity of the literal account of creation in Genesis. A person without specialised training in the particular fields of science does not have the knowledge to refute these plausible, but erroneous scenarios. However, biblical literalists are on safer ground when they attack scientific opinions that are not supported by proper data or theory, or capitalise on differences of opinion among scientists in the explanation of scientific data.

In this article, I review some of the extremist arguments used by each side to discredit the other, and demonstrate the flawed nature of both groups of arguments. I concentrate on the three major areas of creation mentioned above: creation of the universe, life, and humanity. Finally, I re-emphasise the harmony that should exist between a Science that does not exceed its own boundaries for knowledge and a Christianity that is not burdened with preconceived beliefs based on an unnecessarily literal interpretation of the Bible.

#### CREATION OF THE UNIVERSE AND THE EARTH

The earliest instants of the origin of the universe are still shrouded with uncertainty. There are proposed, competing scenarios, some of which include the possibility of the existence of parallel universes. After about  $10^{20}$  seconds, however, there is general agreement by cosmologists on the existence of a universe that has expanded from a tiny space and continues to expand. This event occurred about 13.7 billion years ago.<sup>5</sup> There is also agreement on other creation issues. The early galaxies did not contain heavy elements, and a complete cycle of star formation and destruction in supernovae was needed to create these heavier elements that are an integral part of our world and its life.<sup>6</sup>

The earth is about 4.5 billion years old.<sup>7</sup> This earth history is based largely on geological evidence and radio-isotope decay. The claims of six days of creation a few thousand years ago, followed after some time by the virtual extinction of all life in a universal flood are completely discredited. However, biblical literalists have published evidence claiming to discredit radioactivity-based and other chronology of the earth<sup>8</sup> and interpreting geological evidence as being

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5. Michael S. Turner, "The Universe", *Scientific American* (September, 2009) 22.

6. Turner, "The Universe", 25.

7. Lawrence Badash, "The Age of the Earth Debate", *Scientific American* (August 1989) 78-83.

8. John Woodmorappe, "Much-inflated Carbon-14 dates from Subfossil Trees: A New Mechanism", *Journal of Creation* 15.3 (2001) 43-44 at [http://www.creationontheweb.com/images/pdfs/tj/j15\\_3/j15\\_3\\_43-44.pdf](http://www.creationontheweb.com/images/pdfs/tj/j15_3/j15_3_43-44.pdf).

indicative of the relatively recent flood described in Genesis.<sup>9</sup> They do not publish in peer-reviewed scientific journals – though this is not a problem for their target audience – and they claim that attempts of scientific organisations to discredit them<sup>10</sup> is an “atheists’ outrage against God”.<sup>11</sup>

However, there is another claim concerning creation, made by Christians of all persuasions, that needs more careful consideration. It is fundamentally more in the realm of theology than science, and states that the history of creation gives evidence of the influence of divine guidance. It is based on the observation that in this universe there are various universal constants (e.g., the ratio of electromagnetic to gravitational force, the fraction of mass lost to energy when hydrogen fuses to helium), which, if they were slightly different, would lead to universes of quite different character. The difference would make the existence of our kind of universe – and as a consequence, humanity – impossible.<sup>12</sup> In addition, the precise sequence of events that have occurred after creation, resulting ultimately, after billions of years of unique random events, in the appearance of humanity on earth, is extremely unlikely. Consequently, it is claimed, we must infer the existence of divine control of the process.

This line of logic is referred to as the “anthropic principle”. A version of it was first proposed by Alfred Russel Wallace (the co-discoverer with Charles Darwin of natural selection) who stated in 1903:

In order to produce a world that should be precisely adapted in every detail for the orderly development of organic life culminating in man, such a vast and complex universe as that which we know exists around us, may have been absolutely required.<sup>13</sup>

Freeman Dyson labelled this principle “animism”, stating in his essay “The Argument from Design”: “I do not feel like an alien in this

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9. Emil Silvestru, “The Permian extinction: National Geographic comes close to the truth”, *Journal of Creation* 15.1 (2001) 6-8 at <http://www.creationontheweb.com/content/view/1833>. Tas Walker, “The Basement Rocks of the Brisbane Area: Where Do They Fit in the Creation Model?”, *CEN Technical Journal* 10 (1996) 241-57, [http://www.creationontheweb.com/images/pdfs/tj/j10\\_2/j10\\_2\\_241-257.pdf](http://www.creationontheweb.com/images/pdfs/tj/j10_2/j10_2_241-257.pdf).

10. For example, The Geological Society of London, “Young Earth Creationism”, “Creation Science”, and “Intelligent Design”: A Statement by the Geological Society of London, [http://www.geolsoc.org.uk/gsl/views/policy\\_statements/page3635.html](http://www.geolsoc.org.uk/gsl/views/policy_statements/page3635.html).

11. Tas Walker, *The Geological Society of London uses bully tactics*, <http://creation.com/the-geological-society-of-london-uses-bully-tactics>.

12. Martin Rees, *Just Six Numbers: The Deep Forces that Shape the Universe* (London: Weidenfeld and Nicolson, 1999).

13. Alfred Russel Wallace, *Man’s Place in the Universe: a Study of the Results of Scientific Research in Relation to the Unity or Plurality of Worlds* (New York: McClure Phillips & Co., 1903) 306.

universe. The more I examine the universe and study the details of its architecture, the more evidence I find that the universe in some sense must have known that we were coming."<sup>14</sup> In "fundamentalist" Christian terms, this can be expressed as the following: the existence of humanity as the result of an extremely unlikely sequence of events is incontrovertible evidence that God (an "Intelligent Designer") designed the universe so that intelligent life would evolve within it. This argument of "Intelligent Design" can also be used to discredit the evolution of life forms.<sup>15</sup>

However, in terms of logic, this is a fallacious argument. No inference can be made about a guiding force of creation because one particular outcome that the observer considers a putative creator would desire, out of myriads of possible different ones, has actually occurred. In particular, it cannot be used as a proof of existence of God. Unfortunately, like many fallacious arguments, the anthropic principle is superficially attractive. Nonetheless, the temptation to use it must be resisted in any attempt to harmonise theology and science. Its use by Christians has been derided by their opponents,<sup>16</sup> thereby weakening the harmony of religion with science. However the statement of the Catholic International Theological Commission in "*Communion and Stewardship: Human Persons Created in the Image of God*" is completely reasonable in terms of both theology and science: "(T) rue contingency in the created order is not incompatible with a purposeful divine providence."<sup>17</sup>

#### CREATION OF LIFE

Life began at least two billion years ago with simple forms which became more complex over the ages. The mechanism of the origin of life is an area where science has great faith in the correctness of a general hypothesis to the effect that life emerged spontaneously from a "soup" of chemically synthesised organic and inorganic compounds by some sort of a polymerising process that became self-sustaining and self-replicating. However, the existence of more than twenty postulated mechanisms suggests that there is no defensible theoretical or experimental model for it. No mechanism has achieved universal acceptance. Whether life developed spontaneously or by intervention of God is irrelevant. The fact remains that the militant atheist believes

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14. Freeman Dyson, *Disturbing the Universe* (New York: Harper and Row, 1979) 250.

15. For example, Phillip E. Johnson, *Darwin on Trial* (Downer's Grove: Inter-Varsity Press, 1991).

16. For example, Dawkins, *The God Delusion*, 134-150.

17. International Theological Commission, *Communion and Stewardship: Human Persons Created in the Image of God*, 69 at [www.vatican.va/roman\\_curia/congregations/cfaith/cti\\_documents/rc\\_con\\_cfaith\\_doc\\_20040723\\_communion-stewardship\\_en.html](http://www.vatican.va/roman_curia/congregations/cfaith/cti_documents/rc_con_cfaith_doc_20040723_communion-stewardship_en.html).

in the spontaneous creation of life from a chemical milieu as an act of faith, not from a defensible scientific theory.

Such dependence on faith in matters scientific leaves the scientific faithful open to devastating criticism from those wishing to undermine science, a criticism from which current scientific “spontaneous origin of life” theories have not been spared at the hands of biblical literalist opponents. A well-researched and well-written review in the creationist journal *CEN Technical Journal* (CEN is the acronym for “creation [sic] ex nihilo”) has painstakingly analysed the various theories and documented the refutation of each of these theories within the orthodox scientific literature itself, highlighting the major extrapolations from experimental results and theoretical knowledge that need to be made to accommodate the theories.<sup>18</sup> A recent scientific review on the origin of life affords no substantive improvement on the theories proposed in earlier scientific papers, and does not refute the critique in the creationist journal.<sup>19</sup>

The term “evolution” indicates the process of change from one life form to another, and is the scientifically accepted mechanism for the development of contemporary life forms from earlier ones. It does not describe the mechanism for that change. The mechanism of evolution has been unambiguously documented throughout its various components. It is initiated by random mutations of various kinds in DNA which may change some aspect of the mutated gene, thereby affecting the gene product. In a small percentage of cases this results in a gene product, and thus an organism, which is better suited to the existing environmental circumstances, reproduces more effectively, and so becomes predominant. This is the basis of “natural selection”, the driving force of the evolution of new species. When Darwin and Wallace described the process of natural selection the mechanism was entirely unknown. Indeed, their postulated mechanisms were incorrect, although the fundamental proposals remain intact. The intricacies of the mechanism are still being elucidated, with competing theories in a number of areas (e.g., “punctuated equilibrium” as a mechanism for rapid changes in the geological record is controversial).<sup>20</sup> Thus, implications of the word “evolution” are reasonably complex, and there is a temptation to reject it for that reason.

The demonstration of evolution relies heavily on the fossil record, which has been extensively investigated and validated. This has not

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18. Swee-Eng Aw, “The Origin of Life: A Critique of Current Scientific Models”, *CEN Technical Journal* 10 (1996) 300-14 at [http://www.creationontheweb.com/images/pdfs/tj/tjv10n3\\_origin\\_life.pdf](http://www.creationontheweb.com/images/pdfs/tj/tjv10n3_origin_life.pdf).

19. Alonso Ricardo and Jack W. Szostak, “Life on Earth”, *Scientific American* (September, 2009) 38-45.

20. Niles Eldredge and Stephen Jay Gould, “Punctuated Equilibria: An Alternative to Phyletic Gradualism”, in T. J. M. Schopf (ed.), *Models in Paleobiology* (San Francisco: Freeman Cooper, 1972) 82-115.

prevented biblical literalists from challenging the interpretation of the data. One of the earliest challenges was made by a famous nineteenth century English naturalist, Philip Henry Gosse, in his book *Omphalos: An Attempt to Untie the Geological Knot*.<sup>21</sup> The title explains the hypothesis: at creation, God gave Adam a navel to give the illusory appearance of continuity with non-existent previous times. Likewise the sequence of fossils, including the presence of worn teeth on some fossils (indicating prior life of a “fossil” that had never really lived at all, but was created as such at the time of creation), and other geological evidence of old age of the earth were incorporated into the recent event of creation by God to give the appearance of old age of the earth. He described these artefacts as “prochronic” and real historical events as “diachronic”. The hypothesis is neither provable nor unprovable, and the whole proposal was derided at the time.<sup>22</sup>

More recently, biblical literalists have attacked not only interpretation of geological fossil evidence supporting evolution,<sup>23</sup> but also the biological evidence for it. Their main *modus operandi* has been to discuss new findings whose significance is still controversial, then offer alternative explanations which they claim to be compatible with a literal interpretation of the Bible.<sup>24</sup> They then extrapolate their claim in an attempt to discredit evolution generally.

Regarding evolution there are two misconceptions, existing in both the moderate and biblical literalist groups of Christians, that may encourage moderate Christians to accept biblical literalists’ claims. The first misconception is that evolution offers an explanation for the origin of life. In reality, evolution comes into play only when life already exists. It offers no mechanism for the origin of life. Thus to call the origin of life “the evolution of life” is a misnomer. Those who wish to ascribe the origin of life to divine intervention should have no concern for the truth of evolution on that basis. Evolution may intervene at an early stage, however. In the well-accepted but still hypothetical scenario that early life used RNA for transmission of hereditary characteristics, the change to the more stable DNA would have been an evolutionary event driven by natural selection of the fitter life form.<sup>25</sup>

The second misconception is that the continual discovery of new aspects of the mechanism of evolution, and the healthy competition of

21. Originally published London: J. Van Voorst, 1857.

22. Stephen Jay Gould, “Adam’s Navel”, in *The Flamingo’s Smile: Reflections in Natural History* (New York: W. W. Norton, 1985) 99-113.

23. For example, Tas Walker, “Australian Crocodile Fossil Rewrites Evolution”, *Journal of Creation* 21.1 (2007) 6-7 at [http://www.creationontheweb.com/images/pdfs/tj/j21\\_1/j21\\_1\\_6-7.pdf](http://www.creationontheweb.com/images/pdfs/tj/j21_1/j21_1_6-7.pdf).

24. For example, Philip B. Bell, “Pattern of Programmed Cell Death in Bat Wing Membrane – Support for Evolution?”, *Journal of Creation* 21.1 (2007) 3-4 at [http://www.creationontheweb.com/images/pdfs/tj/j21\\_1/j21\\_1\\_8-9.pdf](http://www.creationontheweb.com/images/pdfs/tj/j21_1/j21_1_8-9.pdf).

25. Walter Gilbert, “Origin of Life: The RNA World”, *Nature* 319 (1986) 618.

different explanations of observed phenomena indicate that scientists are uncertain about the fundamental truth of the “theory” of evolution. This has also presented the opportunity for biblical literalists to claim that evolution is unproven because scientists cannot agree on it.<sup>26</sup> This can only be described as erroneous propaganda.

#### CREATION OF HUMANS

The emergence of the hominid line from its common ancestor with the great apes is extensively supported by the fossil record in Africa. Although the fact that humanity shares over 98% of our DNA sequence with our closest living relative, the chimpanzee, has been used to indicate the closeness of our relationship with the great apes, this is a meaningless canard, as it offers no information on the crucial functional sequences that establish differences in appearance and behaviour. Sequence investigation has revealed that the genomes differ by a significant fraction of their gene content with myriad sub-microscopic rearrangements.<sup>27</sup> Using more specific data such as this, biblical literalists have discredited the use of raw DNA data by scientists attempting to emphasise the closeness of humans to great apes.<sup>28</sup>

Humans show both quantitative and qualitative differences in intellectual potential from contemporary great apes. There are two areas of this intellectual potential that deserve specific mention as they have a direct impact on human ability to know God and an innate propensity to obey the second great commandment of Christianity: to love one’s neighbour as oneself. The functions have been shown to have a critical reliance on anatomical structures in the brain which are much more developed in humans than any other animal.

The prefrontal cortex of the brain is more prominent in humans than any other animal. It is in this region that a major element of humanity’s capacity for abstract thought is centred,<sup>29</sup> and abstract thought is essential for an ability to understand the concept of God. Another cerebral entity that is very well developed in humans, but present in a much simpler form in contemporary great apes, is the group of nerve cells known as “mirror neurons”. These are a group of

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26. Jerry Bergman, “The Aquatic Ape Theory: Challenge to the Orthodox Theory of Human Evolution”, *Journal of Creation* 21 (2007) 111-118 at [http://www.creationontheweb.com/images/pdfs/tj/j21\\_1/j21\\_1\\_111-118.pdf](http://www.creationontheweb.com/images/pdfs/tj/j21_1/j21_1_111-118.pdf).

27. H. Kehrer-Sawatzski and D. H. Cooper, “Structural Divergence Between the Human and Chimpanzee Genomes”, *Human Genetics* 120 (2007) 759-78.

28. Peter Borger and Royal Truman, “Ultraconserved Sequences pose Megaproblems for Evolutionary Theory”, *Journal of Creation* 21.2 (2007) 8-9 at [http://www.creationontheweb.com/images/pdfs/tj/j21\\_2/j21\\_2\\_8-9.pdf](http://www.creationontheweb.com/images/pdfs/tj/j21_2/j21_2_8-9.pdf).

29. Eduardo Mercado III, “Neural and Cognitive Plasticity: From Maps to Minds”, *Psychological Bulletin* 134 (2008) 109-137.

cells, analogous to motor neurons, that are activated when we sense an event occurring and have the effect of putting the person sensing the event into the place of the person involved in the event, and so empathising with that person, even though there is no personal evolutionary advantage to do so.<sup>30</sup> It gives humans the altruistic ability to love mentioned above. Great apes do not do this because they lack the ability to do so.

Clearly, these cerebral structures are not unique to humanity, but they have immensely greater capacity in humans than in any other animal. How they evolved is a matter for conjecture, but they have occurred with great rapidity in an evolutionary timescale. Climatic changes causing changes in food availability and thus challenges to survival have been suggested as important for human evolution, but it is impossible to exclude (or prove) divine guidance. However, while the origin of humanity from hominids is clear, so also is the uniqueness of human possession of capacities for knowledge and love of God, and a generalised love of fellow human beings. Quantitative differences between the brain of humans and other animals give rise to a qualitative difference in potential behaviour. These large qualitative differences can be inferred – if not yet proven – to have arisen from classical evolutionary processes, and it is reasonable for scientists to make this inference. However, from a non-scientific, religious perspective, direct intervention of God has not yet been excluded. The danger of inserting God into this particular “gap” is obvious. The consequences of this uncertainty are that it is quite easy to criticise groups who take one or other of the options for the origins of humanity as proven. Each group can attempt to cover up the weaknesses in their own arguments by focussing on the weaknesses in the arguments of their opponents.

There have been mistakes and forgeries in the scientific literature in all aspects of evolution, but the most notable of them relate to the purported discovery of hominids. In 1912, a bizarre skeleton was unearthed in a Piltdown quarry. It had a human skeleton with an ape-like jaw. It was hailed as a “missing link” in human evolution, and called *Eoanthropus dawsoni* or “Piltdown man”. Unfortunately it was a forgery created by the eponymous Dawson, and although its authenticity was fairly rapidly questioned, the forgery was not proven until 1953. In 1922, a hominid-like tooth was discovered in Nebraska, the first evidence of hominids in America. It was called *Hesperopithecus* (the western ape). Further investigation revealed it to be from an

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30. Lindsay M. Oberman and Vilayanur S. Ramachandran, “The Simulating Social Mind: The Role of the Mirror Neuron System and Simulation in the Social and Communicative Deficits of Autism Spectrum Disorders”, *Psychological Reviews* 133 (2007) 310-327. David Premack, “Human and Animal Cognition: Continuity and Discontinuity”, *Proceedings of the National Academy of Sciences of the USA* 104 (2007) 13861-13867.

extinct peccary.<sup>31</sup> Detractors of evolution still use these errors as evidence for the fallacy of evolution.<sup>32</sup> In reality, they show the robustness of scientific enquiry to self correction, a feature sadly lacking in contemporary “creation science” based on Genesis.

Another unsavoury aspect of the history of evolutionary theory is the use of “survival of the fittest” ideology in the early decades of the twentieth century in pursuit of eugenic policies. The very word “eugenics” was coined in 1883 by Sir Francis Galton, the cousin of Charles Darwin. Such policies could be given a theological justification by the ten commandments in the Old Testament:“(F)or I the Lord your God am a jealous God, punishing children for the iniquity of parents, to the third and fourth generation of those who reject me, but showing steadfast love to the thousandth generation of those who love me and keep my commandments” (Exod 20:5-7).

Genetics, an underlying mechanism establishing the changes that create the “fittest” who then survive when the less fit succumb, was taken up with enthusiasm by many who considered themselves to belong in the “fittest” category, and used to justify legal introduction of overt eugenic policies against the “less fit”. The victims were the defenceless: the poor, the illiterate, the mentally retarded, the mentally ill, minority racial groups.

Some of the earliest nineteenth century supporters of eugenics in the USA were liberal, post-millennialist Protestants who believed that their own efforts in pursuit of a “social Christianity” would help create a “Kingdom of God on earth” and usher in the thousand year reign of Christ predicted in the Book of Revelation (20:1-7).<sup>33</sup> The prevention of breeding by the intellectually, morally or socially unfit would ultimately give rise to a superior race that would be fit for the millennium. In 1925, the year of the “Scopes monkey trial”, one of the largest standing committees of the American Eugenics Society was the Committee on Cooperation with Clergymen.<sup>34</sup>

Conservative Protestants were usually premillennialist Evangelicals, who did not believe that the millennium would come as a result of human attempts at improvement, and were concerned about the challenge of evolution to biblical inerrancy. William Jennings Bryan, a conservative Evangelical, was a strong supporter of human rights. It is not paradoxical that his driving force for acting as prosecutor in the “Scopes monkey trial”, for which he has been vilified by history, was concern that teaching of evolution in schools would result in

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31. Stephen Jay Gould, “An Essay on a Pig Roast”, in *Bully for Brontosaurus: Reflections in Natural History* (New York: W. W. Norton, 1992) 432-47.

32. Andrew Sibley, “A Fresh Look at Nebraska Man”, *Journal of Creation* 22 (2008) 108-113.

33. Christine Rosen, *Preaching Eugenics: Religious Leaders and the American Eugenics Movement* (New York: Oxford University Press, 2004) 14-17.

34. Rosen, *Preaching Eugenics*, 9.

justification in the community for exploitation of the powerless poor by the rich. He had written "It was Darwinism that was at the basis of that damnable doctrine that might makes right that had spread over Germany."<sup>35</sup>

Catholic leaders, including liberal ones, did not in general support the means employed by eugenics, although some supported the goals. Pope Pius X condemned "Modernism" in his 1907 encyclical, "On the Doctrines of the Modernists", *Pascendi Dominici Gregis*.<sup>36</sup> It was devoted to the condemnation of the Modernist approaches to theology, and condemned the evolution of doctrine (*Pascendi* 26-28) and the "vital evolution" of Scripture (*Pascendi* 34), but did not comment on evolution of life forms. However, Pius emphatically condemned faith being made subject to science, stating that this would "make the head the tail and force the queen to serve the servant" (*Pascendi* 17). In his 1930 encyclical *Casti Connubii*, Pope Pius XI specifically condemned eugenics in these terms: "[I]t is wrong to brand men with the stigma of crime because they contract marriage, on the grounds that...they will give birth only to defective children."<sup>37</sup>

The mechanisms used by governments practising eugenics were compulsory sterilisation and execution. In the USA, thirty states passed laws authorising sterilisation for a variety of reasons, mostly "feeble-mindedness", and this was inflicted on 20,000 victims by the state. Sweden sterilised 63,000 people for "antisocial behaviour", including most of their gypsies. With the so-called *Erbgesundheitsrecht* (genetic health courts) Nazi Germany went further and had sterilised 375,000 by the start of World War II. In the Nazi holocaust, racially inferior Jews and other groups of undesirables (e.g., gypsies, homosexuals) were killed, some being used for genetic and other medical experiments as well. In all countries, scientists at the highest level provided strong support for the policies.<sup>38</sup> With this background, the shameful association of scientists with eugenics has been used by biblical literalists to discredit evolution and "survival of the fittest".<sup>39</sup>

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35. Stephen Jay Gould, "William Jennings Bryan's Last Campaign", in *Bully for Brontosaurus*, 416-31.

36. Pope Pius X, "On the Doctrines of the Modernists", *Pascendi Dominici Gregis* at [www.vatican.va/.../hf\\_p-x\\_enc\\_19070908\\_pascendi-dominici-gregis\\_en.html](http://www.vatican.va/.../hf_p-x_enc_19070908_pascendi-dominici-gregis_en.html).

37. Pope Pius XI, "On Christian Marriage", *Casti Connubii*, 69 at [www.vatican.va/holy\\_father/pius\\_xi/encyclicals/documents/hf\\_p-xi\\_enc\\_31121930\\_casti-connubii\\_en.html](http://www.vatican.va/holy_father/pius_xi/encyclicals/documents/hf_p-xi_enc_31121930_casti-connubii_en.html).

38. European Molecular Biology Organization, "In the Name of Science: The Role of Biologists in Nazi Atrocities: Lessons for Today's Scientists", *EMBO Reports* 2 (2001) 871-875 at <http://www.nature.com/embo/journal/v2/n10/pdf/embor304.pdf>.

39. Jerry Bergman, "Darwinism and the Nazi race Holocaust", *Technical Journal* 13.2 (1999) 101-111 at [http://www.creationontheweb.com/images/pdfs/tj/j13\\_2/j13\\_2\\_101-111.pdf](http://www.creationontheweb.com/images/pdfs/tj/j13_2/j13_2_101-111.pdf). The same author also wrote an article documenting the significant influence of Darwin on Communist leaders – Marx, Engels, Lenin and Stalin: see Jerry Bergman, "The

Historically, Christianity has sponsored science throughout its existence. Religious institutions were the main guardians of knowledge throughout the Dark Ages. The arrival of the Enlightenment was presaged by religious philosophers who questioned some erroneous views of Aristotle that impeded scientific progress (e.g., Jean Buridan [c. 1300-1358] questioned Aristotle's theory of dynamics and his view of the cosmos).<sup>40</sup> Roger Bacon (c. 1214-1294) promoted use of the experimental method.<sup>41</sup> Desiderius Erasmus, a committed Christian, was instrumental in introducing scientific biblical research using the original Greek texts.<sup>42</sup>

### CONCLUSION

In this article, I have argued that theories concerning the process of creation have created a rancorous division between militant atheists who believe that science has disproven the Genesis account of creation, thereby undermining the authority of the whole of the Bible and Christianity itself, on the one hand, and biblical literalists who believe that the Bible, being inspired by God, has a higher level of authority and reliability than science, on the other. The excessive claims made by both sides in support of their beliefs leave both open to criticism, and, in this setting of mutual antipathy, disparagement of each other becomes commonplace. Both represent a significant threat to the acceptance of the mainstream science of creation by mainstream Christians. Unprejudiced science can have no objections to the existence of a God as the creator of the universe, life and humanity, because the existence of such a being is not amenable to scientific proof or disproof. It should admit to areas where knowledge of the creation process is incomplete. *Prima facie*, it can reject unsubstantiated accounts of phenomena contrary to natural laws, but should be open to investigating them in good faith. Religion, on the other hand, should be wary of approaching science with demands to accept such anomalous phenomena and incorporate them into scientific theory on the basis of scriptural authority.

The Enlightenment uncovered in Christianity the functional weaknesses affecting powerful institutions that lack checks and balances. Christian churches had difficulty coping with scientific research that questioned traditional biblical understanding (and thus

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Darwinian Foundation of Communism", *Technical Journal* 15.2 (2001) 89-95 at [http://www.creationontheweb.com/images/pdfs/tj/j15\\_2/j15\\_2\\_89-95.pdf](http://www.creationontheweb.com/images/pdfs/tj/j15_2/j15_2_89-95.pdf).

40. Jack Zupko, "Jean Buridan", in *Stanford Encyclopedia of Philosophy* (2006) at <http://www.seop.leeds.ac.uk/entries/buridan/>.

41. Jeremiah Hackett, "Roger Bacon", in *Stanford Encyclopedia of Philosophy* (2007) at <http://www.seop.leeds.ac.uk/entries/roger-bacon/>.

42. David Bentley-Taylor, *My Dear Erasmus: The Forgotten Reformer* (Ross-shire: Christian Focus Publications, 2002) 63-70.

could affect adversely their power base), and, as a consequence, retreated into denial and attempted suppression. Moderate, mainstream Christian churches have now had time to reassess the situation and do not see science as an existential threat and implacable enemy. Science and Christianity are partners, but in different fields, in the quest for equality and justice for humanity. The Christian churches can take up with enthusiasm and without fear the promise of John 8:32 "Then you will know the truth, and the truth will set you free."