

# Faith&Thought



Relating advances in knowledge to faith within society  
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## **In this issue:**

- **Darwinian Theological Insights: Evolutionary Theodicy and Evolutionary Psychology**  
- Denis Lamoureux
- **Skin Diseases in the Biblical World**  
- Terence Mitchell

# ***FAITH and THOUGHT***

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## Editorial

In this issue we are pleased to include the second part of Professor Lamoureux's article on Darwinian Theological Insights. The author admits that some of what he writes is controversial and challenges widely held views and will not necessarily be shared by Officers and Members of the Council of the Victoria Institute. However 'Faith and Thought' is meant not only to inform but also to stimulate thought and discussion and we welcome questions and comments on this and other articles to be included in future editions of the journal. The other article is by Terence Mitchell, a member of the Council, on the subject of skin diseases in the biblical world. 'Leprosy' features prominently in the Bible but the actual identification of the term has been a subject of endless debate. Mr. Mitchell brings his extensive knowledge of the ancient world and its languages in an attempt to resolve the issue.

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1. The essay should be factual not (science) fiction.
2. It can be scientific, theological, philosophical or a mixture of one or more of these.
3. Ethical issues should be addressed e.g. What is the purpose of designer babies? Who would benefit from their creation? Would it herald a better 'brave new world'? What about human rights, individuality and autonomy? Who would most benefit and how might potential misuses be avoided?

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**Darwinian Theological Insights:  
Toward an Intellectually Fulfilled Christian Theism  
Part II: Evolutionary Theodicy and Evolutionary Psychology**

**Denis O. Lamoureux**

In Part I of this paper, I presented historical evidence from Charles Darwin's vast literary collection of notes, letters, and books that dealt with divine creative action and intelligent design in nature in order to glean theological insights.<sup>1</sup> Inspired by the proclamation of Richard Dawkins that "Darwin made it possible to be an intellectually fulfilled atheist," I proposed the provocative thesis that Darwin makes it possible to be an intellectually fulfilled *Christian theist*.<sup>2</sup> Making no attempt whatsoever to "Christianize" Darwin, it was clear that he offers valuable concepts that are consonant with Christian theism; in particular, a Christian approach to evolution known as "evolutionary creation," which asserts the Father, Son, and Holy Spirit created the universe and life, including human life, through an ordained, sustained, and design-reflecting evolutionary process.<sup>3</sup>

In his two most famous books, *Origin of Species* (1859) and *Descent of Man* (1871), Darwin provides Christians a view of divine creative action that features a parallel between embryological development in the womb and evolutionary origins of all living organisms on earth.<sup>4</sup> In other words, this Darwinian insight assists Christian theists to understand that the Lord creates life through natural processes, and that there is no need to posit a tinkering and micro-managing god-of-the-gaps. Darwin also presents powerful evidence that throughout his life nature often impacted him powerfully, and this encounter led him toward the belief in intelligent design. Not to be confused with the current re-interpretive spin on the notion of design by the so-called "Intelligent Design Movement/Theory," Darwin experienced "this immense and wondrous universe" and was "compelled to look to a First Cause having an intelligent mind in some degree analogous to that of man."<sup>5</sup> For Darwin, design is not

<sup>1</sup> Denis O. Lamoureux, "Darwinian Theological Insights: Toward an Intellectually Fulfilled Christian Theism. Part I: Divine Creative Action and Intelligent Design in Nature" *Faith and Thought: Relating Advances in Knowledge to Faith within Society* 55 (October 2013), 2-17. Hereafter cited as Part I.

<sup>2</sup> Richard Dawkins, *The Blind Watchmaker* (London: Penguin Books, 1991 [1986]), 6.

<sup>3</sup> See Denis O. Lamoureux, *Evolutionary Creation: A Christian Approach to Evolution* (Eugene, OR: Wipf & Stock, 2009), Hereafter cited as *EC*; Denis O. Lamoureux, "Evolutionary Creation: Moving Beyond the Evolution Versus Creation Debate" *Christian Higher Education*, 9 (2010), 28-48.

<sup>4</sup> Charles R. Darwin, *On the Origin of Species. A Facsimile of the First Edition* Introduced by Ernst Mayr. (Cambridge: Harvard University Press, [1859] 1964), 488. Hereafter cited as *OS*. Charles Darwin, *The Descent of Man and Selection in Relation to Sex*, 2<sup>nd</sup> ed. (London: John Murray, 1874 [1871]), 613. Hereafter cited as *DM*.

<sup>5</sup> Charles Darwin, *The Autobiography of Charles Darwin, 1809-1882*. Nora Barlow, ed. (London: Collins, 1958), 92-93. Hereafter cited as *ACD*.

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rooted in purported “irreducibly complex” structures requiring interruptive acts of divine intervention for their origin. Instead, it was the overall beauty, complexity, and functionality in the world that struck him “with overwhelming force.”<sup>6</sup> Such a notion is consonant with the traditional Christian belief in natural revelation.

In this second part of the paper, I will examine two topics that Christian theists rarely entertain—evolutionary theodicy and evolutionary psychology. If we are to come to terms *fully* with biological evolution, then we need to deal directly with these foundational issues. And interestingly, Darwin offers us some valuable theological insights in order to begin their integration into our faith.

### Insights into an Evolutionary Theodicy

The problem of evil and suffering in the world is the greatest challenge to the belief in a personal God who is all-loving and all-powerful. As Hans Kung states, it is “the rock of atheism.”<sup>7</sup> In recent years, many have clamoured over the death of Darwin’s ten-year old daughter Annie in 1851 in order to find an event that destroyed any belief in God he may have had.<sup>8</sup> Indeed, the death of a child is one of the greatest traumas anyone can experience, and as Darwin records in his *Autobiography* (1876), “We have suffered only of very severe grief in the death of Annie.”<sup>9</sup> In addition, commentators like Richard Dawkins trip over themselves in appealing to Darwin’s 1856 remark to J.D. Hooker, “What a book a Devil’s chaplain might write on the clumsy, wasteful, blundering low & horridly cruel works of nature!”<sup>10</sup> In fact, Dawkins entitles a book of essays *A Devil’s Chaplain: Reflections on Hope, Lies, Science and Love* and opens with an essay with the same title.

But is Darwin’s approach to the problem of evil and suffering that simplistic? Did he see and experience evil and suffering in both his private life and the natural world, and then reject a personal God? As noted in Part I, Darwin records in his

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<sup>6</sup> Francis Darwin, ed., *The Life and Letters of Charles Darwin*, 3 vols. (London: John Murray, 1888), I:316. Hereafter cited as *LLD*.

<sup>7</sup> Hans Küng, *On Being a Christian*, translator Edward Quinn (Garden City, NY: Doubleday, 1976), 431.

<sup>8</sup> The belief that Darwin lost his faith in God because of Annie’s death has become a fashionable theme today, so much so that it completely skews (and spoils) director Jon Amiel’s movie *Creation* (2009). This distortion also appears in David Suzuki’s television series on Darwin in *The Nature of Things* (2009). Even leading Darwin scholars are not immune. Janet E. Browne writes, “His [Darwin’s] sense of God had virtually disappeared along with his daughter Anne. Man was nothing to him now except a more developed animal.” *Charles Darwin Voyaging: A Biography* (Princeton, NJ: University Press, 1995), 513. For more balanced approaches, see James R. Moore, “Of Love and Death: Why Darwin ‘Gave Up Christianity’” in James R. Moore, ed., *History, Humanity and Evolution: Essays for John C. Greene* (Cambridge: University Press, 1989), 195-229; Randal Keynes, *Annie’s Box: Charles Darwin, His Daughter and Human Evolution* (London: Fourth Estate, 2001).

<sup>9</sup> *ACD*, 97.

<sup>10</sup> Darwin to Hooker, 13 Jul 1865, Darwin Correspondence Project Letter 1924. Online at: <http://www.darwinproject.ac.uk/>. Accessed 11 Jan 2011. Hereafter cited as *DCP*.

*Autobiography* that he was a theist and that he embraced intelligent design while writing the *Origin of Species* in the late 1850s.<sup>11</sup> In other words, his theism post-dates the death of Annie and the Devil's chaplain comment to Hooker.<sup>12</sup> Thus, a more nuanced understanding of Darwin's approach to theodicy is in order. In particular, I have observed a pattern in his dealings with this issue in that he juxtaposes evil and suffering against intelligent design, leaving the impression that the latter trumps the former. I am not convinced that Darwin is fully cognizant that he is formulating a specific theodicy in these passages, but instead that he is simply reacting to the challenge that evil and suffering pose to his generalized or non-traditional theism.<sup>13</sup>

My first example of the juxtaposition of evil/suffering against design appears in Darwin's most famous book. In the last two sentences of the *Origin of Species*, he concludes,

Thus, from the war of nature, from famine and death, the most exalted object which we are capable of conceiving, namely, the production of higher animals, directly follows. There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone on cycling according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.<sup>14</sup>

Darwin does not cower from the reality of the violence and carnage in nature, but it seems to be tempered, or better justified, by the origin of "the most exalted object[s]" and "forms most beautiful and most wonderful." This language describing the fruits of evolution is clearly consonant with the notion of intelligent design. In fact, an early draft of this passage from the 35 page Sketch (1842) has Darwin include that "such laws should exalt our notion of the power of the omniscient Creator."<sup>15</sup> It is also notable that he changed "originally breathed" to "breathed by the Creator" in the second edition of the *Origin Species* in 1860, and this emendation runs through to the sixth edition in 1872. In other words, despite the reality of natural evil and suffering in the evolutionary process, a Creator remains firmly in place over Darwin's universe.

<sup>11</sup> *ACD*, 92-93.

<sup>12</sup> Another passage often cited by skeptics is Darwin's parenthetical comment to Hooker. "I am almost convinced (quite contrary to opinion I started with) that species are not (it is like confessing a murder) immutable." Darwin to Hooker, 11 Jan 1844, DCP Letter 729. If Darwin was referring to the murder of God, it was the tinkering God-of-the-gaps, and not the Creator, whom he definitely accepted in 1844. As Frank Burch Brown notes, "[T]he implied victim of the 'murder' was the God of orthodox theism." *The Evolution of Darwin's Religious Views* (Macon: GA, Mercer University Press, 1986), 19.

<sup>13</sup> Regarding Darwin's theism, see Part I, pages 13-14, footnote 21.

<sup>14</sup> *OS*, 490. This juxtaposition also appears in the concluding sentence of the fourth chapter entitled "Struggle for Existence." Darwin writes, "When we reflect on this struggle, we may console ourselves with the full belief, that the war of nature is not incessant, that no fear is felt, that death is generally prompt, and that the vigorous, the healthy, and the happy survive and multiply." *Ibid.*, 79.

<sup>15</sup> Francis Darwin, ed. *The Foundations for the Origin of Species. Two Essays in 1842 and 1844* (Cambridge: University Press, 1909), 52.

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A second example of the theodicean juxtaposition appears in Darwin's well-known letter to Asa Gray, dated 22 May 1860. In response to claims that some deemed the *Origin of Species* an atheistic work, Darwin firmly asserts two times, "I had no intention to write atheistically. . . . Certainly I agree with you that my views are not at all necessarily atheistical."<sup>16</sup> With regard to evil and suffering in nature, Darwin laments,

But I own I cannot see, as plainly as others do, and as I should wish to do, evidence of design and beneficence on all sides of us. There seems to me too much misery in the world. *I cannot persuade myself that a beneficent and omnipotent God would have designedly created the Ichneumonidae with the express intention of their feeding within the bodies of Caterpillars, or that a cat should play with mice.* Not believing this, I see no necessity in the belief that the eye was expressly designed.<sup>17</sup>

Clearly, Darwin was still labouring under the influence of his Cambridge education and Paley's premises—design and beneficence are conflated together.<sup>18</sup> And it is also evident that his sensibilities were offended by the fact that a wasp laid its eggs in a caterpillar, and as the eggs develop, they gut the creature to its death. It is worth noting that if the italicised sentence above is ripped out of the letter and coupled with the Devil's chaplain comment, then one gets the impression that evil and suffering in nature led Darwin to reject design and God. And yes, of course, this is exactly the fundamentalist proof-texting "hermeneutic" that Richard Dawkins employs in his opening essay of *A Devil's Chaplain*.<sup>19</sup>

However, a judicious use of Darwin's 22 May 1860 letter to Gray reveals that immediately following the block quote above, in the very same paragraph, Darwin writes, "On the other hand, I cannot anyhow be contented to view this wonderful universe, and especially the nature of man, and to conclude that everything is the result of brute force."<sup>20</sup> In other words, Darwin is definitely *not* embracing the dysteleological worldview of Dawkins. And to repeat the observation of the Darwin Correspondence Project presented in Part I of this paper, "The popular view of Darwin as purely secularist, or even atheist, is based on a highly selective reading of the sources."<sup>21</sup> However, I am less charitable. This example of Dawkins misusing the words of Charles Darwin is not only shameful and incompetent; it is deceitful

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<sup>16</sup> Darwin to Gray, 22 May 1860, DCP Letter 2814. *LLD*, II: 311-312.

<sup>17</sup> *Ibid.* My italics.

<sup>18</sup> Regarding the conflation of Paley's categories, see Part I, pages, 8-9.

<sup>19</sup> Richard Dawkins, *A Devil's Chaplain: Reflections on Hope, Lies, Science and Love* (New York: Houghton Mifflin Company, 2003), 8. For a similar misused see Richard Dawkins, *River Out of Eden: A Darwinian View of Life* (New York: BasicBooks, 1995), 95.

<sup>20</sup> Darwin to Gray, 22 May 1860, DCP Letter 2814. *LLD*, II: 311-312.

<sup>21</sup> "Belief," DCP. Accessed 11 Jan 2011.

manipulation of Darwin's writings by a notorious polemicist preacher of an atheistic gospel.<sup>22</sup>

And there is more in this letter. Immediately following the sentence above ending with the words "brute force," and still in the same paragraph, Darwin states, "I am inclined to look at everything as resulting from designed laws, with the details, whether good or bad, left to the working out of what we may call chance. Not that this notion *at all* satisfies me."<sup>23</sup> Clearly, Darwin is juxtaposing the natural evil seen with the *Ichneumonidae* against his *experience* of design mediated through "this wonderful universe." His lack of satisfaction with this view of design is undoubtedly because he still *understands* design as Paleyan perfect adaptation in 1860.<sup>24</sup>

Darwin closes this letter to Gray with even another design model. He speculates,

The lightning kills a man, whether a good one or a bad one, owing to excessively complex action of natural laws. A child (who may turn out an idiot) is born by the action of even more complex laws, and I can see no reason why a man, or other animal, may not have been aboriginally produced by other laws, and that all these laws may have been expressly designed by an omniscient Creator, who foresaw every future event and consequence.<sup>25</sup>

The implication in this second approach to design is that humans fall short epistemologically and that design is only fully understood from the perspective of an all-knowing God.<sup>26</sup> In order to be fair to Darwin's views, it must be underlined that this letter to Gray is marked by frustration and confusion, as he closes, "But the more

<sup>22</sup> If readers find my comments out of order, then compare them with Dawkins' assessment of me: [www.ualberta.ca/damoure/dawkins\\_and\\_lamoureux](http://www.ualberta.ca/damoure/dawkins_and_lamoureux). Reviewer Paul Fayter adds, "This is a very important point to make about Dawkins. In his *God Delusion*, for instance, he routinely misquotes, misinterprets, and lifts texts out of contexts. It's so persuasive that I suspect it is deliberate."

<sup>23</sup> Darwin to Gray, 22 May 1860, DCP Letter 2814, italics original. *LLD*, II: 311-312.

<sup>24</sup> Regarding the Paley's category of perfect adaptation, see Part I, pages, 8-9.

<sup>25</sup> Darwin to Gray, 22 May 1860, DCP Letter 2814. *LLD*, II: 311-312.

<sup>26</sup> This epistemological argument could be seen as another element in Darwin's theodicy, which is later developed in the final pages of his *The Variation of Animals and Plants under Domestication*, 2 vols. (London: John Murray, 1868). In dealing with the character and origin of biological variations in evolution, Darwin acknowledges that "we know not the cause of each individual difference in the structure of each being," but nevertheless he dogmatically asserts that variations were not "intentionally order," "intentionally guided," or "intentionally and specially guided." *Ibid.*, 431-432. One of his justifications relates to theodicy. He contends that if "each particular variation was from the beginning of all time preordained" by the Creator, then the implication is that God would be responsible for a series of natural evils, such as the "many injurious deviations of structure, as well as the redundant power of reproduction which inevitably leads to a struggle for existence." *Ibid.*, 431. Yet not wanting to succumb to a view of biological variation that was entirely "accidental," Darwin simply proclaims his theistic faith and asserts human epistemological limitation, "On the other hand, as omnipotent and omniscient Creator ordains everything and foresees everything. Thus we are brought face to face with a difficulty as insoluble as is that of free will and predestination." *Ibid.*, 432.

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I think the more bewildered I become; as indeed I have probably shown by this letter.”<sup>27</sup> Yet my point remains—when dealing with natural evil, Darwin reacts by juxtaposing his experience of intelligent design in nature to this challenge.

Darwin’s approach to theodicy is further developed in the section entitled “Religious Belief” in the *Autobiography* (1876). He appeals to suffering in nature as argument against the existence of God.

A being so powerful and so full of knowledge as a God who could create the universe, is to our finite minds omnipotent and omniscient, and it revolts our understanding to suppose that his benevolence is not unbounded, for what advantage can there be in the suffering of millions of lower animals throughout almost endless time? This very old argument from the existence of suffering against the existence of an intelligent first cause seems to me a strong one.<sup>28</sup>

But following his pattern on the issue of theodicy, Darwin immediately juxtaposes this passage against his two design arguments—the “psychological” and “rational” design arguments, previously mentioned in Part I of this paper. In addition, Darwin puts natural evil and suffering in perspective. Countering those who “are so much impressed with the amount of suffering in the world,” he asserts,

According to my judgment *happiness* decidedly prevails . . . all sentient beings have been formed so as to enjoy, as a general rule, *happiness*. . . The sum of such pleasures as these, which are habitual or frequently recurrent, give, as I can hardly doubt, to most sentient beings an excess of *happiness* over misery, although many occasionally suffer much.<sup>29</sup>

Remarkably, Darwin offers a picture of the world that is far from the bleak and pitiless view embraced by dysteleological evolutionists like Dawkins. Though evil and suffering in nature certainly exist, Darwin concludes that overall “happiness decidedly prevails.”

In sum, coming to terms with theodicy is a never-ending process for the Christian theist, since new challenges always appear on the horizon. A common theological strategy for dealing with the problem of evil and suffering is to embrace an

<sup>27</sup> Darwin to Gray, 22 May 1860, DCP Letter 2814. *LLD*, II: 311-312.

<sup>28</sup> *ACD*, 90.

<sup>29</sup> *ACD*, 88, 89-90. My italics. Of course, reference to animals experiencing “happiness” strikes us as rather odd. But this is just another example of a Paleyan category from Darwin’s Cambridge education still operating in his mind late in life. For example, Paley concludes, “It is a happy world after all. The air, the earth, the water, teem with delighted existence. In a spring noon, or a summer evening, on whichever side I turn my eyes, myriads of happy beings crowd upon my view.” William Paley, *Natural Theology: or, Evidences of the Existence and Attributes of the Deity*. 12<sup>th</sup> ed. (London: J. Faulder, 1809 [1802]), 456. For other references to animals being happy, see pages 458 (twice), 459 (twice), 462, 463 (thrice), 464, and 466.

intellectual tension between *Deus revelatus* (Latin for God who reveals) and *Deus absconditus* (God who hides).<sup>30</sup> In other words, this is a world that points both toward God and away from Him. This insight is clearly implicit in Darwin's juxtaposition of natural evil and suffering against the reflection of intelligent design in nature. And since Darwin's rebuttal to his rational design argument of falls short because of circularity,<sup>31</sup> coupling his experience of design with his belief that "most sentient beings [enjoy] an excess of happiness over misery," leads to the conclusion that relationship between divine noticeability and divine concealment in nature leans markedly in the direction of a *Deus revelatus*. Such a belief is quite consonant with Christian natural theology.<sup>32</sup>

### Insights into Evolutionary Psychology

As noted in Part I, Darwin had fully accepted human evolution during his intensely productive two year period in the late 1830s when he outlined the theory of evolution. But he was cautious not to reveal his belief publicly. In an 1857 letter to A.R. Wallace, the co-discoverer of natural selection, he responds to the question of whether he would deal with human evolution in his forthcoming *Origin of Species*. "I think I shall avoid [the] whole subject, as [it is] so surrounded with prejudices, though I fully admit that it is the highest & most interesting problem for the naturalist."<sup>33</sup> Yet Darwin teased readers in his famed book, "In the distant future I see open fields for far more important researches. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history."<sup>34</sup>

To be sure, human evolution is the "highest & most interesting problem" for not only the scientist, but also for the theologian. The implications of evolutionary psychology for Christian theology are substantial. But regrettably few Christians enter this academic discipline, which is usually dripping with a nauseating dysteleological metaphysic and positivistic methodology. Take for example the father of evolutionary psychology, E.O. Wilson. He asks,

[T]he ultimate question: Do religion and moral reasoning also have a biological origin? Are they the products of evolution? So stated, the meaning of spiritual authority breaks into *two* competing possibilities, *two* competing hypotheses that now appear susceptible to empirical testing. *Either* humanity is guided by moral principles that were formulated outside human existence, in other words by divine will or natural law, *or* else humanity has evolved these

<sup>30</sup> For an introduction, see Daniel Howard-Snyder and Paul K. Moser, eds. *Divine Hiddenness: New Essays* (New York, NY: Cambridge University Press, 2002).

<sup>31</sup> See Part I, pages, 10-11.

<sup>32</sup> My approach to this issue is that "I am convinced that Divine noticeability overwhelms Divine hiddenness. Yet at the same time, *Deus absconditus* tempers *Deus revelatus* in order for faith to be an essential aspect of our life." *EC*, 381.

<sup>33</sup> Darwin to A.R. Wallace, 22 Dec 1857, DCP Letter 2192.

<sup>34</sup> *OS*, 488.

principles on its own during its long genetic and cultural history. . . . The naturalistic hypothesis arising from scientific knowledge holds that the powerful emotions of religious experience are entirely neurobiological, that they evolved as part of the programmed activity of the brain favoring survival of the tribe and individual.<sup>35</sup>

It is painful to see a world-class Harvard professor so deeply entrenched in a simplistic science vs. religion dichotomous ditch. Following a similar crude approach to the evolutionary psychology of religion, Richard Dawkins contends, “It is as if the human brain were specifically designed to misunderstand Darwinism and find it hard to believe.”<sup>36</sup>

However, is there not a middle ground? To recast the words of Dawkins, could Christian theists not argue, “It is as if the human brain were specifically designed *by God* [through a teleological evolutionary process] to *understand* Darwinism [more accurately, atheistic or dysteleological evolution] and find it hard to believe?”<sup>37</sup> In fact, Charles Darwin himself provides support for such a view. As seen previously in Part I, he asserts:

- I *cannot think* that the world, as we see it, is the result of chance.<sup>38</sup>
- The birth both of the species and of the individual are equally parts of that grand sequence of events, which *our minds refuse* to accept as the result of blind chance.<sup>39</sup>
- This follows from the extreme difficulty or rather *impossibility of conceiving* this immense and wondrous universe, including man with his capacity of looking backwards and far into futurity, as a result of blind chance or necessity.<sup>40</sup>

In light of these passages, it is once again painfully obvious that a world-class atheist seems to be unaware of the primary literature on Darwin’s beliefs. This time with simple terminology. The so-called “Darwinism” that Dawkins eisegetically forces upon Charles Darwin is not at all the view embraced by Darwin. The historical record is clear: Throughout his life, Darwin rejected the belief the world was the result of blind chance. Period.

In sharp contrast to Wilson and Dawkins, Darwin offers some intriguing insights into the origin of religion from the perspective of evolutionary psychology. In the M

<sup>35</sup> E.O. Wilson, “Hardwired for God: Is Our Search for Divinity Merely a By-product of Evolution?” *Forbes ASAP* (4 Oct 1999), 132, 134. My italics. Of course, the “naturalistic hypothesis” embraced by Wilson is metaphysical naturalism.

<sup>36</sup> Dawkins, *Blind Watchmaker*, xv.

<sup>37</sup> My italics and insertions.

<sup>38</sup> Darwin to Gray, 26 Nov 1860, DCP Letter 2998; *LLD*, II:353. My italics.

<sup>39</sup> *DM*, 613. My italics.

<sup>40</sup> *ACD*, 92. My italics.

Notebook, he accepted that “the innate knowledge of creator” was “a necessary integrant part of his [the Creator’s] most magnificent laws.”<sup>41</sup> Following this approach, it could be argued that natural theology originated through a teleological evolutionary process. But Darwin later modified this position in the *Descent Man*. In section entitled “Belief in God—Religion,” he asserts, “There is no evidence that man was aboriginally endowed with the ennobling belief in the existence of an Omnipotent God.”<sup>42</sup> Instead, he contends,

If, however, we include under the term “religion” the belief in unseen or spiritual agencies, the case is wholly different; for it seems to be universal with the less civilized races. Nor is it difficult to comprehend how it arose. As soon as the important faculties of the imagination, wonder, and curiosity, together with some power of reasoning, had become partially developed, man would naturally crave to understand what was passing around him, and would have vaguely speculated on his own existence. . . . The belief in spiritual agencies would easily pass into the belief in the existence of one or more gods.<sup>43</sup>

In other words, instead of humans being endowed directly with the *actual belief in God*, they were gifted indirectly with the *capability to come to the belief in God*.<sup>44</sup> Such an evolutionary approach is still consistent with the Christian notion of natural revelation.

Darwin’s evolutionary psychology also extended to human morality. During the late 1830s, he speculated in the M Notebook about the origin of evil human behavior. In a fascinating entry, he records,

<sup>41</sup> M Notebook (Jul 1838 to Oct 1838), 136. The Complete Work of Charles Darwin Online at: <http://www.darwin-online.org.uk>. Accessed 11 Jan 2011. Hereafter cited as WCD. Caution is in order when reading Darwin’s notebooks. They include remarks which could be misinterpreted for Darwin being a dysteleologist. For example, he writes, “Though (or desires more properly) being heredity it is difficult to imagine it anything but structure of brain heredity . . . love of deity the effect of organization, oh you materialist!” C Notebook (Feb 1838 to Jul 1838), 166, WCD. Because of comments like this one, Silvan Schweber asserts that Darwin was “an utter materialist” and “certainly as agnostic (and possibly an atheist)” by 1839. “The Origin of *The Origin Revisited*” *Journal of the History of Biology* 10 (1977), 233, 310. However, Darwin defines the term materialism, “By materialism, I mean, merely the intimate connection of kind of thought with form of brain.—Like kind of attraction with nature of element.” In other words, Darwin was a methodological naturalist, not a metaphysical naturalist. Howard E. Gruber and Paul H. Barrett note that Darwin’s thinking “was not absolutely incompatible with the idea of a designing Creator who had intended the brain to act as the organ of thought.” *Darwin on Man: A Psychological Study of Scientific Creativity* (New York: E.P. Dutton and Company, 1974), 104; also Neal C. Gillespie, *Charles Darwin and the Problem of Creation* (Chicago: University Press, 1979), 139-140.

<sup>42</sup> *DM*, 93. See also 612.

<sup>43</sup> *DM*, 94-95. See also 612.

<sup>44</sup> As Justin L. Barrett notes, “Operating largely without our awareness, mental ‘tools’ encourage us to think similarly about many banal features of the world around us. These mental tools also encourage people to think about and believe in gods, the Judeo-Christian God enjoying particular treatment.” *Why Would Anyone Believe in God?* (Lanham, MD: AltaMira Press, 2004), vii-viii.

Our descent, then, is the origin of our evil passions!! The Devil under the form of Baboon is our grandfather!<sup>45</sup>

Darwin's use of the theological category of "The Devil" invites the intriguing notion that the traditional doctrine of original sin might be reformulated within an evolutionary context. More specifically, the incessant human compulsion to sin, which as traditionally understood is passed down through the generations, may well have its roots in the evolutionary history of men and women. However, Darwin balanced these "lower impulses or desires" with what he termed were "the social instincts," and which he believed were behind human conscience and moral sense. In the *Descent of Man*, he argues that the social instincts "no doubt were acquired by man as by the lower animals for the good of the community," and that they would "have served him at a very early period as a rude rule of right and wrong."<sup>46</sup> With the gradual advance of "active intellectual powers and the effects of habit," the social instincts would "naturally lead to the golden rule, 'As ye would that men should do to you, do ye to them likewise' and this lies at the foundation of morality."<sup>47</sup> From this perspective, the apostle Paul's references to human "conscience" and the "law written on the hearts of men" (Rom 2:15) could be seen as arising through teleological evolution. In other words, moral natural revelation might be the result of a natural process that was ordained and sustained by the Lord.

Another significant Pauline passage may also be explained by a Darwinian theological insight. Darwin recognized that humans have both "social instincts" and "lower impulses and desires," and the interaction of these inevitably leads to conflict. In the *Descent of Man*, he notes, "It is not surprising that there should be a *struggle* in man between his social instincts, with their derived virtues, and his lower, though momentary stronger, impulses or desires."<sup>48</sup> Of course, Christians will be quick to know where I am heading—Paul's struggle with his flesh in Rom 7.<sup>49</sup>

I do not understand what I do. For what I want to do, I do not do; but what I hate, I do. And if I do what I do not want to do, I agree that the law is good. As it is, it is no longer I myself who do it, but it is sin living in me. I know that nothing good lives in me, that is, in my sinful nature [Greek *sarx*: flesh]. . . . So I find this law at work: When I want to do good, evil is right there with me.

<sup>45</sup> M Notebook, 123.

<sup>46</sup> *DM*, 124.

<sup>47</sup> *DM*, 126. The biblical verse is from Luke 6:31.

<sup>48</sup> *DM*, 125. My italics.

<sup>49</sup> I am mindful that there are two basic ways to deal with this passage. Many early church fathers viewed Paul as speaking as a Jew under the Law. Others, including Augustine later in life, see it as the struggle Paul experienced as a Christian. For the most part, I embraced the latter position. I believe the asceticism of the early fathers skewed their reading of Rom 7. It must be pointed out that following this route does not necessitate Pelagianism. Instead, it is possible to hold Arminian and Calvinist approaches in a dynamic intellectual tension. In disagreement with me, see Kenton L. Sparks, *God's Words in Human Words: An Evangelical Appropriation of Critical Biblical Scholarship* (Grand Rapids, MI: Baker Academic, 2008), 272-77.

For in my inner being I delight in God's law; but I see another law at work in the members of my body, waging war against the law of my mind and making me a prisoner of the law of sin at work with my members. What a wrecked man I am! Who will rescue me from this body of death? . . . So then, I myself in my mind am a slave to God's law, but in the sinful nature [Greek *sarx*: flesh] a slave to the law of sin.

Rom 7:15-18a, 21-24, 25b (NIV)

From a Darwinian perspective, Paul's struggle with flesh clearly points to the "lower impulses and desires" of his evolutionary heritage still encased within him.<sup>50</sup> At the same time, the apostle recognizes another internal component, his "mind" and "inner being," which align well with Darwin's notion of the "social instincts, with their derived virtues." Though Paul had no idea of his evolutionary past, he nevertheless experienced the reality of these conflicting instincts at a phenomenological level. Such is the human condition. But who will rescue us from our evolutionary past? Paul answers, "Thanks be to God—through Jesus Christ our Lord!" (Rom 7:25). More specifically, the apostle admonishes, "Clothe yourselves with the Lord Jesus Christ, and do not think about how to gratify the desires of the sinful nature [Greek *sarx*: flesh]" (Rom 13:14).<sup>51</sup>

## Discussion & Conclusion

Charles Darwin offers Christian theists numerous theological insights. First and foremost, he never viewed biological evolution as a dysteleological process that was the "result of by blind chance or necessity."<sup>52</sup> The Darwin of Richard Dawkins is clearly not the Darwin of history, but a Darwin created in the image of Dawkins. As well, Darwin's embryology-evolutionary analogy, found in his two most important books, the *Origin of Species* (1859) and the *Descent of Man* (1871), is particularly helpful to Christian theists in their coming to terms with evolution.<sup>53</sup> I know this is case both personally in my own voyage from young earth creation to evolutionary creation,<sup>54</sup> and professionally with Christian students in my science-religion courses at a major public university. Moreover, this analogy can be extended to the origin of human spiritual realities. For example, when does an individual first bear the Image of God? Or when does one first become a sinner? I doubt that this occurs at fertilization

<sup>50</sup> I am certainly not advocating a concordist hermeneutic here, whereby Paul was revealing ahead of time evolutionary psychology. Instead, Paul is describing accurately his spiritual/psychological state. In other words, he is offering his phenomenological perspective, without having any idea of its evolutionary roots.

<sup>51</sup> In the light neurological research supporting the plasticity of the brain, Paul's admonition—Do not conform any longer to the pattern of this world, but be transformed by the renewing of our mind (Rom 12:2)—could include a remodelling of negative evolutionary behavioural patterns.

<sup>52</sup> *ACD*, 92.

<sup>53</sup> Reviewer Paul Fayter cautions that this embryology-evolution analogy is not to be confused with Ernst Haeckel's "biogenetic law" in that "ontogeny recapitulate phylogeny."

<sup>54</sup> See my "Coming to Terms with Evolution: A Personal Story" in *EC*, 332-366.

and entails a punctiliar interventionistic event. Rather, I suspect that though it occurs, it is ultimately mysterious and beyond human comprehension. So too with the entrance into the world of the Image of God and human sinfulness during human evolution—both occur gradually and mysteriously.<sup>55</sup>

Darwin's wonderful candour in *Descent of Man* with regard to his overstating the power of natural selection, coupled with his openness late in life to the possibility of an unknown "innate tendency to perfectibility,"<sup>56</sup> invites a re-evaluation of the all too common view that human evolution is dysteleological. The late Stephen Jay Gould famously stated, "[O]ur origin is the product of massive historical contingency, and we would probably never arise again even if the life's [video] tape could be replayed a thousand times."<sup>57</sup> However, an equally competent paleontologist, Simon Conway Morris, defends that the ubiquity of convergent evolution points toward "the emergence of something like ourselves a near-inevitability."<sup>58</sup> Stated another way, it is as if the laws of nature were loaded from the beginning for humans to evolve, pointing toward Someone who set up this natural process.

Intelligent design in nature is without a doubt one of the most dominant themes in Darwin's religious thinking. From his earliest musings on the topic on board HMS Beagle to the last year of his life, Darwin could not free himself from viewing "endless forms most beautiful and most wonderful" as reflecting the design of "a First Cause having an intelligent mind in some degree analogous to that of man."<sup>59</sup> Moreover, Darwin did not succumb to the false dichotomy of design vs. evolution, the central dogma propagandised by the Intelligent Design Movement. Instead, he offers to Christian theists the insight that evolution may well reflect design. Recently, world class scholars who explore this provocative notion include: Michael Denton in *Nature's Destiny: How the Laws of Biology Reveal Purpose in the Universe* (1998), the twenty-five contributors of papers in John D. Barrow, Simon Conway Morris, Stephen J. Freeland, Charles L. Harper, Jr., eds., *Fitness of the Cosmos for Life: Biochemistry and Fine-Tuning* (2008), and Alister McGrath in this 2009 Gifford Lectures, published as *A Fine-Tuned Universe: The Quest for God in Science and Theology* (2009). It is important to qualify that none of these authors claim the exquisite laws in nature provide a *proof* for the existence of a Creator. Rather, evolutionary processes point to, argue for, or are at least resonate with the *belief* in an Intelligent Designer.

<sup>55</sup> *EC*, 283-293.

<sup>56</sup> Darwin to H.N. Ridley, 28 November 1878, DCP Letter 11766.

<sup>57</sup> Stephen Jay Gould, *Wonderful Life: The Burgess Shale and the Nature of History* (New York: W.W. Norton and Company, 1989), 233-34. Also see 45-52.

<sup>58</sup> Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge: University Press, 2003), 328. Convergent evolution is the phenomenon that similar structures evolve in separate evolutionary lines. For example, the eye has appeared independently 40 times and the camera-like eye 6 times. Morris lists over 400 other examples of convergence in his book.

<sup>59</sup> *OS*, 490; *ACD*, 93.

However, I extend the intelligent design argument further than these authors, to include human accountability and sinfulness in my design model.<sup>60</sup> Impacted by the “without excuse” clauses in both Romans 1:20 and the apocryphal Wisdom of Solomon 13:8, I contend that the creation provides a more than sufficient revelation for the existence of God, and that humans are more than proficient in understanding this non-verbal revelation that is woven into the very fabric of the universe. To update the language of Wisdom 13:9, “For if they had the power to know so much that they could investigate the world, *including even the ability even to open the cell to see its breath-taking ‘complex elegance’ and ‘elegant efficiency,’* how did they fail to find sooner the Lord of these things?”<sup>61</sup> My answer to this question is simple: sinfulness.<sup>62</sup> Similar to the picture of Jesus knocking at the door in Rev 3:20, the non-verbal (wordless) revelation in nature knocks at the door of our mind. And even if the knocking “comes with overwhelming force,” to quote Darwin late in life,<sup>63</sup> the Lord has gifted us with the freedom to decide whether or not we open that door, and to come in to sup with the Designer.

Darwin’s approach to theodicy is intriguing. As I suggested, it seems to me that he was not fully cognisant that he was actually formulating a theodicy when he juxtaposed evil and suffering in the world against intelligent design. This appears to be simply a reactionary move on his part. Nevertheless, this Darwinian insight thrust me back to the Book of Job.<sup>64</sup> This masterfully crafted literary piece is structured on a similar juxtaposition. The opening chapters see Job lose his livestock, his children killed, and him stricken by a debilitating disease. From chapters 3 to 37 his friends attempt *ad nauseum* to present a theodicy justifying his situation. Then in chapters 38-41 God speaks. This discourse could certainly be classified as an intelligent design argument, whereby the Creator simply points out to Job the marvels of the creation. It is significant to note that God never gives Job a verbal theodicy. Instead, He offers a non-verbal response, which was already inscribed in nature. And that response can be

<sup>60</sup> See “Toward an Intelligent Design Model,” in *EC*, 69-81.

<sup>61</sup> The italicized clause is my insertion, and the terms “complex elegance” and “elegant efficiency” are from Dawkins, *Blind Watchmaker*, xiii, xvi. It is worth noting that famed atheist and philosopher Antony Flew came to embrace deism late in life because of the amazing complexity of the cell. Antony Flew, *There Is a God: How the World’s Most Notorious Atheist Changed His Mind*. With Roy A. Varghese (New York: HarperOne, 2008).

<sup>62</sup> Pope John Paul II acknowledges that sin is operative factor in dealing with natural revelation. He writes, “This is to recognize as a first stage of divine revelation the marvellous ‘book of nature,’ which, when read with the proper tools of human reason, can lead to knowledge of the Creator. If human beings with their intelligence fail to recognize God as Creator of all, it is not because they lack the means to do so, but because their free will and their sinfulness place an impediment in the way.” Pope John Paul II, “*Fides et Ratio*” *Origins: CNS Documentary Service* 28 (15 October 1998), 324. See also Chapter 7 “Sin and Its Cognitive Consequences” in Alvin Plantinga, *Warranted Christian Belief* (New York: Oxford University Press, 2000), 199-240.

<sup>63</sup> *LLD*, I:316.

<sup>64</sup> A similar approach appears in William E. Phipps, *Darwin’s Religious Odyssey* (Harrisburg: Trinity Press International, 2002), 185-86.

verbalized with God stating, “I am the Creator of the world and I am Lord over everything, including your pain and suffering.”

Charles Darwin was no stranger to personal pain and suffering. In May of 1838 he fell ill and for most of his life endured gastrointestinal problems, including spasmodic flatulence day and night as well as chronic vomiting.<sup>65</sup> In a touching letter from his devoutly religious wife Emma written around 1861, she consoles, “I am sure you know I love you well enough to believe that I mind your suffering nearly as much as I should my own and I find the only relief to my mind is to take it as from God’s hand, and to try to believe that all suffering and illness is meant to help us to exalt our minds and to look forward with hope to a future state.”<sup>66</sup> At the bottom of this letter is written, “God Bless you. C.D. 1861.” There is no record of any further conversation between Emma and Charles on this issue, but it suffices to state that the Lord sent a messenger, or if one wishes, an angel, who revealed to Charles a message of hope consistent with that of the apostle Paul to the Romans: “We also rejoice in our sufferings, because we know that suffering produces perseverance; perseverance produces character; character produces hope” (Rom 5:3).<sup>67</sup>

The most intriguing theological insights come from Darwin’s evolutionary psychology. Generations of Christians have speculated about the origin of evil, often pointing to a cosmic conflict before to the creation of the world with Satan and his angels being thrown out of heaven. But the Bible is actually silent about such an event. At best, the first evidence of evil in Scripture appears in the Garden of Eden with the serpent, who “was more crafty than any of the wild animals the *Lord God had made*” (Gen 3:1; my italics). In other words, it seems that temptation, or better, situations to test humans on whether or not they would follow divine ordinances, was a component of God’s “very good” created order (Gen 1:31). The first appearance of

<sup>65</sup> Medical doctor and historian Raph Colp Jr. argues persuasively that Darwin contracted Chagas’ disease in South America during the Beagle voyage. In 1834, Darwin records being bitten by *Triatoma infestans* bugs, which are carriers of *Trypanosoma cruzi* protozoa and the cause this disease. Colp contends that “Darwin had an active infection of his stomach and intestine that became arrested after inflicting permanent injuries (to parasympathetic nerves). As a result of these injuries, his sensitivity to becoming ill from various mental stresses, including stresses from his evolutionary ideas, was greatly increased.” *Darwin’s Illness* (Gainville, FA: University Press of Florida, 2008), 179.

<sup>66</sup> Emma Darwin to Charles in *ACD*, 238.

<sup>67</sup> I have no trouble postulating that late in life Darwin encountered another angel who demonstrated to him the power of God. Drunkenness was a problem in the late 1880s, and the Darwin family had converted an old schoolroom into a temperance reading room. Evangelist and rescue worker James Fegan approached Darwin and asked if he could use the room to conduct religious services. Darwin’s reply is telling. “You ought not to have to write me for permission to use the Reading Room. You have far more right to it than we have, for your services have done more for the village [Downe] in a few months than all our efforts for many years. *We have never been able to reclaim a drunkard* but through your services I do not know that there is a drunkard left in the village. Now may I have the pleasure of handing the Reading Room over to you?” Quote in David Herbert, *Charles Darwin’s Religious Views: From Creationist to Evolutionist* (London, ON: Hersil Publishing, 1990), 96. My italics. See also James R. Moore, *The Darwin Legend* (Grand Rapids, MI: Baker Books, 1994), 86-88.

the word “sin” in Scripture is found with the Lord admonishing Cain, “Sin is crouching at your door; it desires to have you, but you must master it” (Gen 4:7). And the human compulsion to sin is first acknowledged with the statement that “every inclination of his [man’s] heart is evil from childhood” (Gen 8:21). Viewing these three passages from Darwin’s perspective in the M Notebook, we could suggest that “our evil passions” are not just crouching at our door, but they are deeply embedded in our brain because of our evolutionary heritage. And just like the account of Adam and Eve in the garden, we have the God-give freedom to follow the inner voice of “the Devil under the form of Baboon” inside us, or to resist it.<sup>68</sup> Of course, what I am proposing here is a reconsideration of the long-standing Augustinian doctrine of original sin.

Justification to challenge the most towering father of the Western Church and fifteen hundred years of Christian tradition is not only daunting, but can be viewed as outright hubris. However, it begins with recognising that theology is intimately connected to and often expressed through the scientific paradigms-of-the-day.<sup>69</sup> For example, St. Augustine in his major theological works, *Literal Meaning of Genesis* (415) and *City of God* (426), embraced commonly held notions of the 5<sup>th</sup> century—geocentricity, a global flood, and even spontaneous generation.<sup>70</sup> Unsurprisingly, he also accepted the *de novo* (quick and complete) creation Adam.<sup>71</sup> But surprising to our modern scientific generation, St. Augustine accepted preformatist embryology (so-called “1-seed theory”)<sup>72</sup> and believed that every human was at one time inside of Adam’s reproductive organs. He asserts, “Hence, when the first couple were punished by the judgment of God, the whole human race, which was to become Adam’s posterity through the first woman, was present in the first man. . . . For, we all existed in that one man, since, taken together, we were the one man who fell into sin.”<sup>73</sup> Commenting on Heb 7:11 and the idea with Levi was in the “body” Abraham, Augustine claims, “Levi, being in the loins of Abraham according to the flesh . . . was there according to the seminal reason [or seed principle] by which he was destined to enter his mother on the occasion of carnal union.”<sup>74</sup> However, these ancient biological

<sup>68</sup> M Notebook, 123.

<sup>69</sup> Fredrick Ferré observes, “[T]here is an important two-way influence between general theories of nature and an epoch’s conception of the deity.” Fredrick Ferré, ed. *Concepts of Nature and God* (Athens, GA: University of Georgia, Department of Philosophy, 1989), vii.

<sup>70</sup> St. Augustine, *Literal Meaning of Genesis*, J.H. Taylor, trans. 2 vols. (New York, NY: Newman, 1982), I:58-61; St. Augustine, *City of God* (16.7); Gerald G. Walsh, Demetrius B. Zema, Grace Monahan, and Daniel J. Honan, translators (New York, NY: Doubleday Image Book, 1958), 364.

<sup>71</sup> *Literal Meaning*, I:177-207; *City of God*, (7.26-28; 8.1-3), 265-269.

<sup>72</sup> For a brief introduction on the history of preformation, see Ernst Mayr, *The Growth of Biological Thought: Diversity, Evolution, and Inheritance* (Cambridge, MA: Belknap Press, 1982), 106, 645.

<sup>73</sup> *City of God* (8.3), 271, 279.

<sup>74</sup> *Literal Meaning*, II:123. Augustine’s notion of “seminal reason” or “seed principles” (Latin *rationales seminales* or the Greek Stoic term *logos spermatikos*) claimed that God had “seeded” the creation with “principles” that later would “grow” into fully formed creatures. Accordingly, “in a seed there are both the visible corporeal germ and the invisible formative principle.” Ibid. See also Kenneth

notions of human origins and embryology have been conflated to the inerrant Message of Faith that all humans are inherently sinful. Stated another way, an ancient scientific concept (the *de novo* creation of Adam, and his very existence) has regrettably become a doctrinal tenet throughout most of church history. This is the equivalent to asserting that the creation and existence of the firmament in Gen 1:6-8 are core beliefs that are essential to the Christian faith.<sup>75</sup>

Of course, Augustine was led by a concordist hermeneutic to these conclusions about the physical world, like nearly everyone else throughout most of Church history.<sup>76</sup> But these notions are ultimately rooted in an ancient Near Eastern understanding of nature found in the Word of God.<sup>77</sup> Consequently, it is vital to separate, and not conflate, the *ancient* phenomenological perspective of nature found in Scripture from the inerrant Messages of Faith.<sup>78</sup> With regard to human origins, the *de novo* creation of Adam is an ancient origins science based on the retrojection of an ancient phenomenological perspective of taxonomy. Stated more precisely, ancient people saw living organisms always reproducing after their kinds (e.g., as stated 10 times in Gen 1). By reversing the “genealogical videotape,” they logically returned to the first or original representative/s of a kind. In the case of humans in Scripture, this was Adam. And like the ancient astronomical notion of the firmament, which no one today believes exists overhead, Adam never existed either.<sup>79</sup> Instead, Adam is an incidental ancient vessel

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J. Howell, “Natural Knowledge and Textual Meaning in Augustine’s Interpretation of Genesis: The Three Functions of Natural Philosophy” in Jitse M. van der Meer and Scott Mandelbrote, eds., *Nature and Scripture in the Abrahamic Religions: Up to 1700* vol. 36:1 (Leiden, Netherlands: Koninklijke Brill NV, 2008), 136-140.

<sup>75</sup> See Paul H. Seely, “The Firmament and the Water Above. Part I: The Meaning of *raqia’* in Gen 1:6-8” *Westminster Theological Journal* 53 (1991), 227-240; Denis O. Lamoureux, “Lessons from the Heavens: On Scripture, Science, and Inerrancy” 60:1 (2008) *Perspectives on Science and Christian Faith*, 4-15.

<sup>76</sup> Stanley L. Jaki cogently argues that the “spectre of concordism” was common in both protestant and catholic circles up until the 20<sup>th</sup> century. *Genesis 1 through the Ages* (London: Thomas More Press, 1992). Though I might add, considering the information that ancient people had, their conclusions about nature were quite reasonable. We would have held the same views.

<sup>77</sup> For the ancient science in Scripture, see John H. Walton, *Ancient Near Eastern Thought and the Old Testament: Introducing the Conceptual World of the Hebrew Bible* (Grand Rapids: Baker Academic, 2006), 165-199; Kenton L. Sparks, *Ancient Texts for the Study of the Hebrew Bible* (Peabody, MA: Hendrickson Publishers, 2005), 305-343; *EC*, 105-147.

<sup>78</sup> Regrettably, many evangelical Christians today confuse and conflate their *modern* phenomenological perspective with that of the Bible and ancient people. For example, the ancients truly believed that the sun literally and actually moved across the sky daily. This belief lasted up to the 1600s and was a central issue of the Galileo affair. However, we today recognise that the sun’s “movement” is only a visual effect. See *EC*, 107-110.

<sup>79</sup> Of course, I am mindful of the struggle my evangelical tradition experiences over the historicity of Adam. Recent works written by mostly scientists continue in a variety of novel ways to tack on an Adam at the tail end to evolution. However, in many of these new concordist approaches, it is painful obvious that the authors have little to no training in Old Testament scholarship. See Darrel R. Falk, *Coming to Peace with Science: Bridging the Worlds between Faith and Biology* (Downers Grove, IL: InterVarsity Press, 2004), Denis Alexander, *Creation or Evolution: Do We Have to Choose?* (Oxford:

that delivers the inerrant spiritual truth that plagues all of us—we are all sinners. In moving beyond Adam and Augustine, the door opens for a modern scientific vessel, in this case evolutionary psychology, to present a more complete Christian account of anthropology, including an evolutionary reformulation of the doctrine of original sin.<sup>80</sup>

Should this ever occur, conservative Christians will thank Darwin for the “light [he has] thrown on the origin of man and his history.”<sup>81</sup> And we will be even more appreciative for his *Descent of Man* (1871) and its theological insights. Coupled with the well-known final sentence in Darwin’s former book, we will also become quite familiar with the last sentence of the latter and the dual proclivities of human nature; blessed bearers of the Image of God and notorious sinners consumed by selfishness. Writes Darwin,

I have given the evidence to the best of my ability; and we must, however, acknowledge, as it seems to me, that man with all his noble qualities, with sympathy which feels for the most debased, with benevolence which he extends not only to other men but to the humblest living creature, with his god-like intellect which has penetrated into the movements and constitution of the solar system—with all these exalted powers—Man still bears in his bodily frame the indelible stamp of his lowly origin.<sup>82</sup>

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Finally, I must close with a pastoral concern. As I read the primary literature on the life of Charles Darwin, the question arose in my mind, “Were leading 19<sup>th</sup> century evangelical Christians a stumbling block between Darwin and the Lord?” They gave him an anti-evolutionary model of biological origins—progressive creation—which

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Monarch Books, 2008), R.J. Berry and T.A. Noble, eds. *Darwin, Creation and the Fall: Theological Challenges* (Nottingham, UK: Apollos, 2009). Regrettably, evangelical academics are often chained to concordist interpretations of Adam because of intellectually and spiritually oppressive mission statements. For example, one of the most important evangelical colleges in the world forces professors to embrace: “WE BELIEVE that God *directly created* Adam and Eve, *the historical parents of the entire human race*; and that they were created in His own image, distinct from all other living creatures, and in a state of original righteousness.” Wheaton College Mission Statement; my italics. [http://www.wheaton.edu/welcome/aboutus\\_mission.html](http://www.wheaton.edu/welcome/aboutus_mission.html). Accessed 10 Jan 2011.

<sup>80</sup> Daryl P. Domning roots original sin in evolutionary selfishness. His work is valuable, but would have benefited by balancing “original selfishness” with an evolutionary origin of natural revelation. *Original Selfishness: Original Sin and Evil in the Light of Evolution*, with commentary by Monika K. Hellwig (Aldershot, UK: Ashgate, 2006). For example, evolutionary psychological insights could be drawn from Frans De Waal and cast within a Christian paradigm. De Waal writes, “We walk on two legs: a social and a selfish one. . . . We have a deeply ingrained sense of fairness, which derives from our long history as egalitarians.” *The Age of Empathy: Nature’s Lessons for a Kinder Society* (New York: Harmony, 2009), 159. I am grateful to Callee Soltys for introducing me to this work. Patricia W. Williams also offers some helpful insights, but her reactionary anti-evangelical rhetoric distorts her views. *Doing without Adam: Sociobiology and Original Sin* (Minneapolis, MN: Fortress Press, 2001).

<sup>81</sup> OS, 488.

<sup>82</sup> Charles Darwin, *The Descent of Man and Selection in Relation to Sex*, 1<sup>st</sup> ed., 2 volumes (London: John Murray, 1874 [1871]), II:405.

was erroneous. As well, evangelicals indoctrinated him with a static understanding of intelligent design in nature—William Paley’s perfect adaptation—which again was erroneous. For those of us who are evangelicals and trained in evolutionary biology, we see history repeating itself through the anti-evolutionisms of Henry Morris, Ken Ham, Hugh Ross, and others; and also with the static concept of irreducibly complex design being proclaimed by the Intelligent Design Movement. Evangelical students in public universities are leaving the faith in record numbers. One central issue is origins. Clearly, our schools and churches are not preparing them for when they encounter the overwhelming evidence for evolution (Lk 17:1-2). And equally disturbing, many of the well-intended evangelical para-church organizations on secular campuses disqualify themselves in the eyes of those seeking the Lord Jesus once our tradition’s anti-scientific views become evident (2 Cor 6:2-3). To the surprise of most, theological insights from Charles Darwin himself might prove valuable in removing stumbling blocks for both believers and unbelievers.

## Skin Diseases in the Biblical World

T.C. Mitchell

Information obtained by DNA analysis from a tomb near Jerusalem has provided clear evidence of the presence of leprosy (*Mycobacterium leprae*), known as Hansen’s disease. This evidence comes from skeletal remains and associated textiles, which were found in 2000 by S. Gibson in a rock-cut tomb, dating from about the 1st century A.D., the Roman period, located in a large cemetery at Akeldama south of Jerusalem.<sup>83</sup>

This discovery has introduced a new element into the long-standing debate about the actual nature of the disease referred to as ‘leprosy’ in the Authorised (King James) and some later English Versions of the Bible,<sup>84</sup> so it may be appropriate to summarise the Biblical evidence, and survey some of the related indications from extra-Biblical sources. Hitherto, one reasonably well informed opinion has been that the available evidence has ‘showed no signs of the disease until the sixth century A.D.’<sup>85</sup>

<sup>83</sup> S. Gibson, *The Final Days of Jesus* (London, 2009), pp. 35-36, 139-147. This discovery was noted by Prof Duncan Vere, in ‘Death and the outcast; a new discovery relevant to biblical studies?’ in *Faith and Thought Bulletin* 38 (October 2005), pp.32-33.

<sup>84</sup> This translation was used already in the 1526 *New Testament* of William Tyndale, spelled in various ways including ‘lypper’, ‘lepre’, ‘leprosy’.

<sup>85</sup> W.H. McNeill, *Plagues and Peoples* (Oxford, 1977), pp.144-45, citing V. Müller-Christensen, ‘Evidence of Leprosy in Earlier People’, in D.R. Brothwell and AT Sandison (eds), *Diseases in Antiquity* (Springfield, Illinois, 1967), pp.295-306, specifically 305; on the effect of leprosy in skeletal remains see *ibid.*, pp.295-300; and D. Brothwell, *Digging up Bones* (London, 1963), pp.137-38 and pl.9.

## Palestine

In the Greek New Testament the disease in question is referred to as *lepra*, and those suffering from it by the term *lepros* (plural *leproi*). The main passages in which these words are found concern (a) contacts between Jesus and *leproi* or those suffering from *lepra* (Matthew 8:2-3 = Mark 1:40,42 = Luke 5:12-13; Luke 17:12); (b) words of Jesus to the disciples of John the Baptist citing the cleansing of *leproi* as one of the evidences of his ministry (Matt 11:5 = Luke 7:22); and (c) the injunction to the twelve to heal/cleanse *leprous* [accusative plural of *lepros*] (Matt 10:8). In addition to these, there is (d) the designation of Simon the Leper (*lepros*) (Matt 26:6 = Mark 14:3) in whose home Jesus was a visitor; and (e) in one other passage (Luke 4:27) where Jesus uses the word *lepros* in referring to Naaman the Syrian (2 Kings 5).

The most recent New Testament Greek lexicon, Danker's revision of Bauer-Arndt-Gingrich, proposes the following definitions: *lepra*, 'serious skin disease', *lepraō* (itself not found in the New Testament), 'suffer from a skin disorder', *lepros*, 'with a bad skin disease'<sup>86</sup> These three forms, *lepra*, *lepraō* and *lepros*, also occurred in contemporary Greek sources outside the New Testament,<sup>87</sup>

The evidence from the Akeldama burial shows that one or other of these New Testament references could have involved Hansen's disease, but since none of the contexts gives essential diagnostic information about symptoms, it is not possible to say which if any does refer to it.

In the Old Testament,<sup>88</sup> the Hebrew word *šāra'at*, which was usually translated 'leprosy' in earlier English Versions, occurs 35 times, most frequently (29 times) in Leviticus 13-14, chapters which give instructions to the Israelites: (a) on how to deal with skin diseases (13:2,3,8,9,11,12,13,15,20,25,27, 30,42,43; 14:3,7,32,54), an instruction repeated in Deuteronomy (24:8); and (b) on how to deal with 'mildew' (NIV) on clothes and in buildings (Leviticus 13:47,49,51,52,59; 14:34,44,55).

The remaining five occurrences are found: (c) in 2 Kings 5:3,6,7,27 concerning the condition of Naaman the Syrian, from which he was cured (5:3,6,7), and which was transferred to Gehazi the servant of Elisha, (5:27); and (d) in 2 Chronicles 26:19

<sup>86</sup> W. Bauer, *A Greek-English Lexicon of the New Testament and Other Early Christian Literature* (translated and edited by W.F. Arndt and F.W. Gingrich; 3rd ed. revised and edited F.W. Danker; Chicago and London, 2000), p.592.

<sup>87</sup> References to these extra-Biblical passages are given with bibliography in Bauer-Danker, *Greek-English Lexicon* (3rd ed.; 2000), p.592; and also in the previous edition, less up to date, and not so systematically revised (2nd ed.; 1979), pp.471-72; see also useful comments in J.A. Fitzmyer, *The Gospel According to Luke I-IX* [Anchor Bible 28] (Garden City New York, 1981), pp.573-74 (on Luke 5:12-13).

<sup>88</sup> The Old Testament evidence is conveniently summarised by T. Seidl in the standard article 'šāra'at' in G.J. Botterweck, H. Ringgren and H.-J. Fabry (eds), *Theological Dictionary of the Old Testament*, XII (Grand Rapids and Cambridge UK, 2003), pp.468-75, with full bibliography (pp.468-69).

concerning the disability of Uzziah (Azariah) the king of Judah who suffered from this disease until his death, and was obliged to live in a separate house.

The related verb, *šāra* 'at', 'to be infected by *šāra* 'at', probably derived from the noun, occurs five times as a simple passive participle (*šārūā*, 'one infected by *šāra* 'at'): (a) in the same main passage in Leviticus (13:44,45; 14:3); as well as (b) in similar contexts in Leviticus 22:4 and Numbers 5:2. The verb also occurs 15 times in the form *mēšōrā*, a passive participle in the pu'al stem of the verb with the sense 'one made to be infected by *šāra* 'at':<sup>89</sup> (a) again in Leviticus 14:2; and also (b) in Exodus 4:6 concerning Aaron in his contest with the Egyptian magicians; (c) in Numbers 12:10 concerning Miriam; (d) in 2 Samuel 3:29 concerning Joab; (e) in 2 Kings 5:1,11,27 concerning Naaman (5:1,11), and Gehazi (5:27); (f) in 2 Kings 7:3,8 concerning four unnamed men; and (g) in 2 Kings 15:5 with 2 Chronicles 26:20,21,23 concerning Azariah/Uzziah.

The evidence of the Septuagint is conveniently summarised in the recent lexicon of Lust, Eynikel and Hauspie: *lepra* 'stereotypical rendition of *šr*'t; skin disease which makes the skin scaly, leprosy? (Lev 13:2,3,8,9,11)'; with related forms *lepron*, 'leprosy (2 Ki 5:11)'; *lepros*, 'leprous (Lev 14:44,45; 14:2,3; Num 5:2)'; *leproomai*, 'to become leprous (2 Ki 5:1,27; 15:5)'; *lepraō*, 'to have leprosy (Lev 22:4; Num 12:10)'.<sup>90</sup>

The Septuagint translation of *šāra* 'at as *lepra* together with the regular occurrence of *lepra* in the New Testament is mirrored in the Latin Vulgate rendering as *lepra*, and this presumably led to its association in the Middle Ages with the incurable *elephantiasis Graecorum*, and in consequence to the translation 'leprosy' in the earlier English Versions (as affecting both humans and inanimate objects). When the Norwegian doctor G.H.A. Hansen identified the *Mycobacterium leprae* organism in 1868, and published his description of it in 1874, this presumed equivalence with Biblical *lepra* continued the association of the Biblical references with what came to be known as Hansen's disease.

In an attempt to clarify the meaning of *šāra* 'at, earlier Hebrew lexicons cited a possible connection with the Arabic verb *šara* 'a, 'to cast down, to throw to ground',<sup>91</sup>

<sup>89</sup> The pu'al (strictly pu'al) stem, is the passive of the pi'el (pi'el), which had a factitive, resultative sense, 'one made to be infected by *šāra* 'at'; discussion of this stem in B. Waltke and M. O'Connor, *An Introduction to Biblical Hebrew Syntax* (Winona Lake, 1990), pp.418-423.

<sup>90</sup> J. Lust, E. Eynikel, K. Hauspie, *A Greek-English Lexicon of the Septuagint*, II (Stuttgart, 1996), p.280; details also in E. Hatch and H.A. Redpath, *A Concordance to the Septuagint*, II (Oxford, 1897), coll.873-74.

<sup>91</sup> E.g. F.Brown, S.R. Driver and C.A. Briggs, *A Hebrew and English Lexicon of the Old Testament* (Oxford, 1907), p.863, 'cf. perh. Arabic *šara* 'a, "throw down, prostrate"'. The relatively recent lexicon, H. Wehr, *A Dictionary of Modern Written Arabic* (trans. and ed. by J.M. Cowan; Wiesbaden, 1961), pp.511-12, gives the meanings 'to throw down, bring to the ground' for the verb *šara* 'a, and 'thrown to the ground, epileptic' etc. for *šarī*', but these have nothing to do with leprosy.

but this does not contribute anything helpful,<sup>92</sup> and this kind of speculation was only necessary when Arabic was the main source of comparative evidence for illuminating Hebrew vocabulary.<sup>93</sup> It is not usually necessary to turn to Arabic today when the resources of ancient Near Eastern languages are available.

In medical diagnosis the evidence coming from these various sources is seldom sufficiently precise for the diseases described in them to be identified with certainty. This was already a conclusion expressed before the First World War by E.W.G. Masterman,<sup>94</sup> and similarly in the 1940s by J. Lowe who concluded that ‘nowhere in the Bible is there any clinical description corresponding with leprosy as we know it today, no mention of numbness and loss of skin sensation, or of the manifestations of leprosy of the ‘nodular’ type such as are found in the ancient literature of India.’<sup>95</sup>

More recently E.V. Hulse has argued that ‘As no single disease fulfils all the characteristics of *šāra’at* the term would be best translated by a descriptive phrase such as “a repulsive scaly skin disease”’,<sup>96</sup> and S.G. Browne concluded that ‘both *šāra’at* and *lepra* present such a wide range of meaning that they are virtually untranslatable’.<sup>97</sup> The conclusion of Seidl in his *Theological Dictionary* entry concerning *šāra’at*, is that ‘at the level of OT usage it must . . . be viewed as a collective term for various curable skin anomalies (a view concurring with the Hippocratic meaning of *lepra*).’<sup>98</sup>

<sup>92</sup> J.F.A. Sawyer plausibly dismisses any etymological connection between Arabic *šara’a* and Hebrew *šāra’at*, in ‘A Note on the Etymology of *šāra’at*’, *Vetus Testamentum* 26 (1976), pp.241-245, principally 241-42, with further discussion, 242-45.

<sup>93</sup> The main Arabic words for leprosy, *baraṣ*, *juḏām*, and *waḏaḥ*, were used in reference to conditions in pre-Islamic times in Arabia (M. Ullmann, *Islamic Medicine* [Islamic Surveys 11] (Edinburgh, 1978), p.1), but the terminology was probably imprecise, *juḏām* also referring to elephantiasis (Ullmann, *Medicine*, p.88), and though Wehr defines *baraṣ* and *juḏām*, as ‘leprosy’, (*Dictionary of Modern Written Arabic*, pp.53 and 117), he has *waḏaḥ* as ‘light, brightness, etc’ (p.1076) perhaps in some contexts referring to the appearance of the infection. This Arabic vocabulary refers in any case to later periods.

<sup>94</sup> E.W.G. Masterman, *Medical Officer at the English Mission Hospital, Jerusalem, in the period before the first World War (Hygiene and Disease in Palestine in Modern and in Biblical Times* (London, n.d., c.1919), pp.41-42.

<sup>95</sup> J. Low, ‘Comments on the History of Leprosy’, *Leprosy Review* 18 (1947), pp.54-64, specifically 57-58.

<sup>96</sup> E.V. Hulse [of the Medical Research Council, Radiobiology Unit, Harwell] ‘The Nature of Biblical Leprosy and the Use of Alternative Medical Terms in Modern Translations of the Bible’, *Palestine Exploration Quarterly* 107 (1975), pp.87-105, specifically pp.103 and 104.

<sup>97</sup> S.G. Browne [C.M.G., O.B.E., F.R.C.P., F.R.C.S., former Secretary, International Leprosy Association, and Consultant Adviser in Leprosy, Department of Health and Social Security] in B. Palmer (ed.), *Medicine and the Bible* (Exeter, 1986), Chapter 4 (pp.101-125), specifically p.124. This conclusion is supported by D.J. Wiseman in relation to *šāra’at* (p.32 in Chapter 1 of the same volume on the Old Testament material), and by C.J. Hemer in relation to *lepra* and *lepros* (p.52 in Chapter 2 on the New Testament material).

<sup>98</sup> Seidl, *TDOT*, XII (2003), p.473. The standard Hebrew lexicon, L. Koehler, W. Baumgartner et al., trans. and ed. by M.E.J. Richardson, *The Hebrew and Aramaic Lexicon of the Old Testament. Study*

In the light of this clarification, some more recent Bible translations have broken away from the translation 'leprosy': NEB (1970) with 'infectious skin disease'; Today's English Version (Good News Bible) (1976) 'dreaded skin disease'; NIV (1979) 'infectious skin disease'; REB (1989) 'virulent skin disease'; though the *English Standard Version* (2001) has 'leprous disease', with a footnote, 'Leprosy was a term for several skin diseases', but rather misleadingly has shoulder headings to Leviticus 13 and 14 as 'Laws About Leprosy' and 'Laws for Cleansing Lepers' respectively.

In sum, the Old Testament passages provide descriptions of diagnostic symptoms, but none sufficient to make identification possible, and such major changes took place in the ancient world in the Hellenistic and Roman periods that the presence of Hansen's disease in Palestine in the Roman period cannot safely be projected back to the time of the monarchy. It might have been present at the earlier time, but scientific evidence would be needed to establish this.

It has been possible to detect the disease in a modern excavation such as that at Akeldama, though the discovery of evidence for Hansen's disease there was incidental to the main purpose of the excavation, and in general there has been little analysis of excavated skeletal remains in pre-Roman Palestine. One study was made over half a century ago of the remains of some 600 individuals out of the jumbled bones of about 1500 which had been piled into three rock cut tombs at Tell ed-Duweir, ancient Lachish. Potsherds mixed with these bones point to a date around the 8th-7th century B.C. There was evidence of disease in a few of these individuals, but no indication of leprosy.<sup>99</sup>

### Mesopotamia

Turning to other ancient cultures, the recent publication by J. Scurlock and B.R. Andersen, *Diagnoses in Assyrian and Babylonian Medicine*,<sup>100</sup> provides discussion of relevant texts from ancient Mesopotamia. This volume is the work of an Assyriologist

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*Edition* (Leiden, 2001), II, pp.1056 and 1057, is similarly cautious, defining *šāra* 'at as 'skin disease', *šārū* 'as 'afflicted with a rash' and *mēšārā* 'as 'afflicted with a rash, with a skin disease'; and more recently H. Donner (ed.), *Wilhelm Gesenius, Hebräisches und Aramäisches Handwörterbuch über das Alte Testament*, (18th ed.; Berlin, Heidelberg), 5 (2009), p.1139, has 'eine äußere Anomalie, herk. [ömmlich] Aussatz, kult. Verunreinigend', (a) [concerning humans] 'unbest.[immt] Hautkrankheit m. weißen od. weißrötlichen Flecken (nicht Lepra, viell.[eicht] Schechthaut, *Vitiligo alba*, od. Schuppenflechte, *Pesoriasis*' etc., with extensive bibliography.

<sup>99</sup> D.L. Risdon, 'A Study of the Cranial and other Human Remains from Palestine Excavated at Tell Duweir (Lachish) by the Wellcome-Marston Archaeological Research Expedition', *Biometrika* 31 (1939), pp.99-162, specifically 115 (possible osteomyelitis, achondroplasia and pathological lesion), 159-160 (abscesses and cyst); mentioned by Müller-Christensen in Brothwell and Sandison, *Diseases in Antiquity*, p.302.

<sup>100</sup> J. Scurlock and B.R. Andersen, *Diagnoses in Assyrian and Babylonian Medicine. Ancient Sources, Translations, and Modern Medical Analysis* (Urbana and Chicago, 2005).

(Scurlock) and, a medical doctor (Andersen), with checking of parts of the text by others with medical qualifications. In a section on Hansen's Disease (Leprosy) the authors quote passages from cuneiform texts describing possibly relevant symptoms: (a) 'without (his) having eaten, his flesh is continually thickened, the smell of garlic bothers him (and) the tips of his fingers and his toes made to dissolve. . .'; (b) '[the finger]s of his hands are rubbed off [. . .]'; (c) '(the pupils of) his eyes are continually constricted [. . .]'; (d) '(the patient has) yellow and red *saḥaršubbû*'; (e) (the patient has) 'red, white, and black *saḥaršubbû*'; (f) "'stinking disease" means *garābu*, *bu šānu*, (or) "stinking"''.<sup>101</sup> The authors suggest that these 'references would seem to indicate that at least some of the cases of *saḥaršubbû* must have been Hansen's disease, since only leprosy (and not tuberculosis or syphilis, or indeed any of the other diseases that have been proposed for *saḥaršubbû*) has nerve involvement and would produce this type of insensitivity'.<sup>102</sup> In the last resort, however, such a judgement remains subjective.

The standard publication the *Chicago Assyrian Dictionary* defines two of the words mentioned above as representing 'leprosy'. These are *saḥaršubbû/saḥaršuppû*, and *garābu*. The word *saḥaršubbû*, a loanword from Sumerian where it had the literal meaning 'covered with dust',<sup>103</sup> occurs in texts from the second half of the second millennium B.C. onwards, and the Dictionary quotes a number of instances of its use in contexts such as (a) 'if *saḥaršubbû* appears on a man's body' in a medical text, or (b) 'may Sin [a god] clothe his whole body in *saḥaršubbû* which will never lift' in a curse on someone who had moved a boundary stone, and (c) other similar passages. These references do not add anything to those dealt with by Scurlock and Andersen. *Garābu* is found in texts from the early second millennium B.C. onwards,<sup>104</sup> probably the most relevant passage occurring in a medical text of the early first millennium B.C. which runs 'if (there appears) on the body of a man a white *pindû* which one calls *garābu*'.<sup>105</sup> Usage of the word *pindû* in other passages suggests that it had such meanings as 'a semi-precious reddish stone', and 'a red berry',<sup>106</sup> so on this basis it is defined speculatively in this medical context as a 'red mole, blemish'. It is questionable whether either of these two meanings need indicate more than an infectious skin disease. It is very unlikely that leprosy would have been present as early as the second millennium B.C., and even if words found in early texts might

<sup>101</sup> Scurlock and Andersen, *Diagnoses in Assyrian and Babylonian Medicine*, pp.70-73.

<sup>102</sup> Scurlock and Andersen, *Diagnoses in Assyrian and Babylonian Medicine*, p.72; and further page references to 'bothered by garlick smell, constriction of pupils, loss of eyebrows, loss of fingers and toes (resorption), skin lesions' and others in the Index s.v. Hansen's disease (p.841).

<sup>103</sup> *CAD*, 15, S, (1984), pp.36-37.

<sup>104</sup> *CAD*, 5, G, (1956), p.46; covered also in Scurlock and Andersen, *Diagnoses in Assyrian and Babylonian Medicine*, pp.231-32.

<sup>105</sup> Cited in *CAD*, 5, G, p.46 (where 'AMT' refers to R. Campbell Thompson, *Assyrian Medical Texts*).

<sup>106</sup> *CAD*, 12, P (2005), pp.323-24; and brief discussion in Scurlock and Andersen, *Diagnoses in Assyrian and Babylonian Medicine*, p.231.

have come to have different meanings later, it is doubtful whether there is any reference to Hansen's disease in these Babylonian and Assyrian texts.<sup>107</sup>

### Egypt

A similar situation obtains with the evidence from ancient Egypt. J.F. Nunn reports that no definite trace of *Mycobacterium leprae* has been found in mummies of the Pharaonic period, and he suggests that reference in the Ebers papyrus (16th century B.C.) to tumours ('*ʒt* and '*nwt*') which some have seen as referring to leprosy could 'equally well relate to cancer, bubonic plague or even neurofibromatosis'.<sup>108</sup> A further view on this evidence may be seen in the definitions offered in a recent lexicon of Egyptian, namely '*ʒt*, 'Geschwulst'; and '*nwt*, 'Schwellung'.<sup>109</sup>

### Beyond the Near East

The evidence from Akeldama shows that Hansen's Disease was present in the Near East in the Roman period, and, since there is no earlier evidence for it from the well-investigated west, it is possible that it originated in the East. With some caution, therefore, since it is outside my own specialization, it may be appropriate to refer to discussion of material from that direction.

### India

Of the two other great literary civilization of antiquity, India and China, India is the most likely immediate source from which leprosy might have come to the Near East. It has been suggested that there is evidence of its presence there as early as the 6<sup>th</sup>

<sup>107</sup> Earlier stages of the discussion are given in the other main Akkadian lexicon, W. von Soden, *Akkadisches Handwörterbuch*, (Wiesbaden), which includes *Aussatz* (leprosy, scab, mange) in the definitions of both *saḥaršubbū* (II (1972), p.1005) and *garābu* (I (2nd ed.; 1985), p.280); and by J.V. Kinnier Wilson, in 'Leprosy in Ancient Mesopotamia', *Revue d'Assyriologie* 60 (1966), pp.47-58; and in a brief discussion (pp.206-207) in his paper, 'Organic Diseases in Ancient Mesopotamia' in Brothwell and Sandison, *Diseases in Antiquity*, pp.191-208. Seidl, in his *Theological Dictionary* article on *šāra'at* suggests a connection of the root *sr'* with Akkadian (Babylonian) *šennītu*, "skin disease", which is also found in the variant spellings, *šennittu* and *šernittu*, (*TDOT*, XII, pp.470-471), but even assuming this to be a valid connection, the contexts in which these forms occur do not contribute to precise definition, and there is no indication that they could refer to Hansen's disease (see *The Assyrian Dictionary*, 16, Š, (Chicago, 1962), p.127, where individual passages are quoted); see also J. Scurlock and B.R. Andersen, *Diagnoses in Assyrian and Babylonian Medicine* (Urbana and Chicago, 2005), p.229.

<sup>108</sup> J.F. Nunn, *Ancient Egyptian Medicine* (British Museum; London, 1996), pp.74-75 (citing '*ʒt* as *anut*' and '*nwt* as *anut*').

<sup>109</sup> R. Hannig, *Die Sprache der Pharaonen. Grosses Handwörterbuch Ägyptisch-Deutsch (2800-950 v.Chr.)* (Mainz, 1995), pp.128 ('*ʒt*, Geschwulst, \*Tumor [where \* = unknown, unclear]; and 143 ('*nwt*, Schwellung).

century B.C.<sup>110</sup> This view, accepted by S.G. Browne,<sup>111</sup> derives from a judgement, expressed for instance by J. Lowe, that the Indian medical text known as the *Suśruta Samhita*, or 'Compendium of Suśruta', which he dates to c.600 B.C., contains references which unlike any other ancient text may reasonably be seen as referring to leprosy.<sup>112</sup> Typical descriptions of symptoms in it include 'contractions of the skin, local anaesthesia, a copious flow of perspiration, swelling and piercing or cutting pain in the affected part, together with a deformity of the limbs and hoarseness' and the condition 'presumed from suppuration of the affected part, from the breaking of local skin, from the falling off of the fingers, from the sinking of the nose and ears, from the redness of the eyes and from the germination of parasites in the incidental ulcer, itching, discolouration and swelling of the affected part which become heavy and exudes the characteristic secretion'.<sup>113</sup>

I am not competent to judge the value of this Indian evidence, but cite it as material to be taken into account. It is relevant to note, however, that the date of these descriptions is a significant issue. They come from a medical compendium which probably incorporates observations going back to a physician named Suśruta who may have lived about 600 B.C., but it is likely that the text was recast in about the 1st century A.D., perhaps by another physician of the same name,<sup>114</sup> and indeed some would date its present form to about the 4th century A.D.<sup>115</sup> In view of this, it cannot be assumed that the description of these symptoms dates from earlier than the Christian Era.

## China

It is suggested also that there is textual evidence of early leprosy in China. L. Gwei-Djen and J. Needham cite a statement to the effect that a disciple of Confucius (c.6th century B.C.) suffered from a disease known as *o chi*, and they quote the author Hsü Shen (c.100 A.D.) as saying that *o chi* was to be identified as a disease called *lai*, while a 7th century A.D. source identifies *o chi* with *ta fêng*, the modern term for leprosy. Gwei-Djen and Needham also cite a c.2nd century B.C. medical compendium

<sup>110</sup> Fitzmyer, *Luke I-IX*, p.574, where he writes concerning Hansen's disease that 'it was known in antiquity, appearing at least in the sixth century B.C. in India (to judge from literary descriptions of it), but known by a different name.' He does not cite a specific authority for this, but refers in general L. Goldman, et al., 'White Spots in Biblical Times' in *Archives of Dermatology* 93 (1966), pp.744-753.

<sup>111</sup> Browne in Palmer, *Medicine and the Bible* (1986), p.110.

<sup>112</sup> J. Lowe, in a discussion of the evidence of leprosy in ancient Egypt, in Biblical texts, in India and in China and Japan ('Comments on the History of Leprosy', *Indian Medical Gazette* 77 (1942), p.180 = *Leprosy Review* 18 (1947), pp.54-64), concluded that this is the only source that includes descriptions of symptoms which can be identified as those of leprosy. He characterises them as the 'most accurate and complete of ancient descriptions' of leprosy (pp.55-56).

<sup>113</sup> K.L. Bhishagratna, *Sushruta Samhitā. English Translation* [Chowkhamba Sanskrit Studies XXX] (3rd ed.; Varanasi, 1981), II, p.40 (in Chapter V, Nidanam of Kushtham (cutaneous affections in general, pp.35-42)).

<sup>114</sup> S.K. Ramachandra Rao, *Encyclopaedia of Indian Medicine* (Bombay, 1985), pp.94-98.

<sup>115</sup> A.L. Basham, *The Wonder that was India* (3rd ed.; London, 1967), pp.500-501.

known as the *Nei Ching Su Wên* which describes the erosion of the nose and break down of skin as symptoms of a disease called *lai*.<sup>116</sup> In other words, working backwards from later and more sure to earlier and less sure evidence: if (a) *ta fêng = o chi* = leprosy in the 7th century A.D.; if (b) *lai* = leprosy in the 2nd century B.C.-2nd century A.D.; and if (c) *o chi = lai* in the 1st-2nd century A.D., then (d) *o chi* = leprosy in the 6th century B.C. This depends, of course, on the validity of the statement that a disciple of Confucius suffered from a disease known as *o chi*. Again, I am not competent to judge the value of this evidence, but bring it forward for consideration and discussion.

The relevance of this evidence from India and China depends on the dating of early documents quoted in later sources. If Hansen's Disease was actually present in India and/or China as early as the 6th century B.C., though this would not necessarily support the identification of it in any of the Old Testament references, it would certainly suggest that it could have been well established in the Near East by the Graeco-Roman period.

The Jerusalem tomb provides the earliest precise evidence of leprosy (Hansen's disease) available, but by the 1st century A.D. there had been wide international contact since at least the 5th century B.C., and there would have been ample occasion for such an infection to become widespread. Concerning its identification from references in ancient written sources, it would not be unreasonable to say that when it comes to the interpretation of the different words, *šāra'at*, *lepra*, and those in other languages, the opinion of anyone appropriately qualified in medicine is as good as any other in concluding whether or not a passage refers to Hansen's disease.

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### Book Reviews

**Kenneth R. Miller** *Finding Darwin's God – A Scientist's search for common ground between God and Evolution*

New York Harpur Perrenial edition 2002 338pp.hb. \$14.99 ISBN 0-06-017593-1

**Kenneth R. Miller** *Only a Theory – Evolution and the Battle for America's Soul*

New York Penguin Group 2008 235pp. \$16.00 ISBN 978-0-14-311566-3

Kenneth Miller does not appear to be as well known on the Eastern side of the Atlantic as his work deserves. These two books are reviewed together because, though different, and both well worth reading, they present not only Miller's clear grasp of the biological research relating to evolution but also of the special battle ground in America between Creationism, together with the more recent Intelligent Design movement and Darwinian Evolution and all its later supporting science. Miller is at the centre of this debate as a professor of Brown University and active research scientist in the life sciences. He has also co-authored a text book which has drawn him into the legal and political controversies which are a special characteristic of the USA. His direct involvement in this debate both as a research worker in a relevant subject area and his personal appearances in the law suits make the books especially interesting and clearly show the struggles that the subject constantly generates. Throughout all he holds firmly to his Christian faith and shows how such a position has been taken by others especially noteworthy the author of "Vestiges". This author, Robert Chambers, outlined the whole process of evolution (but without the support for the argument given by the mechanism of natural selection) fourteen years before Darwin's "On the Origin of Species." Miller encouragingly resurrects this work which, despite its weaknesses, is a pioneer in the field showing that the Christian faith is not necessarily weakened by the discovery of evolution. Chambers envisaged the whole process though he did not use the term evolution itself. (The Vestiges of the

Natural History of Creation, Robert Chambers 1844, initially published anonymously.) Miller argues from the concluding paragraph that appeared in many of the earlier editions of "On the Origin of Species" that Charles Darwin could see a role for a "creator" in the whole scheme of things that he outlined in that work. Miller, like Darwin, in that final statement does not regard atheism as an inevitable consequence of the acceptance of evolution, but even as an enrichment of the concept of a creator.

Kenneth Miller keeps his books alive with personal biographical material relating to his interaction with students and his academic activities. But further to this he has engaged in the legal battles in the USA that have surrounded the controversy. His reference to a judge taking careful notes during one of his appearances seemed a bit like a role reversal where he had the part of lecturer and the judge the student. Such personal involvement makes Miller highly qualified to write on the whole area of the current debate. He has a particular interest in showing how the Intelligent Design movement has arisen and its evolution from the narrower versions of creationism. He has accepted its challenge head on and by careful and thorough analysis of the arguments and best examples uncovers fatal flaws. His particular work in fundamental research on cells gives him full control of his position and he shows how the best of the I.D. arguments and special examples of so called "irreducible complexity" just do not hold up to careful examination. Time and again he shows how newer research simply fills the "gaps" in this newer "God of the gaps" type of argument.

One of Miller's chief concerns, which from the perspective of the British scene seems possibly overplayed, is that the future success and leading position of the total American scientific enterprise is being put at risk by the widespread acceptance of non-scientific attitudes over evolution. Miller's two books will serve as milestones in the continuing debate. They are undoubtedly a serious challenge to the I.D. movement but not one that is likely to finish the debate, for its protagonists have proved to adapt their position in the face of new data. However the next generation will be saved from being misled by the apparent certainties of the I.D. position by these books and will see that their arguments are not as scientific as they are made out to be. If progress in science is made through the testing of potentially falsifiable hypotheses and then their falsification Miller has helped to make progress by his testing of some of the main claims of the I.D. hypothesis and showing them false. Miller acknowledges that the "battle over evolution will continue for years" but he has made a valuable contribution through these two books by clearing away some of the unscientific stances that stand in the way of a truer understanding of the natural world.

What is equally or more important in this refutation is the affirmation of his Christian faith. It is this which needs to be emphasised in the churches, that good science and real faith can go hand in hand. This is a position that is held to be impossible by many on both sides of the debate. The publicity given to the atheistic stance of some

evolutionists is not going to be counteracted by poor science or bad arguments. It is right that everyone knows that scientists like Miller exist and that the extremes of creationism and atheism do not represent the only choice. In fact some churches by not giving enough attention to this matter have almost by default handed the argument to the two extremes. Miller's works need to find their way onto church book stalls and to the shelves of scientific libraries and to be brought before those in the media who like to present the debate as a simple argument between extremists where only one holds real scientific credibility.

These two books are very readable, for Miller has an easy style and weaves in lively biographical material. It can but be hoped that they will bring all Christians on both sides of the Atlantic and throughout the world closer together in promoting the cause of truth.

Reviewed by Dr. E Gwyn Jordan

Although these two books were published some time ago they are readily available in both Britain and the U.S.A.

**Robert F.Cochrane Jr. & David VanDrunen** *Law and the Bible: Justice, Mercy and Legal Institutions* Nottingham IVP Apollos 2013 269pp. Pb. £16.99 ISBN 978.1.84474.923.2

Throughout the centuries Christians have taken the Bible to be their guide in both moral and legal matters. But what is the position now in our secular and multicultural societies? The purpose of this volume is to find ways to make biblical teaching an effective vehicle for the critique and reform of our post-modern legal systems. The book was written for an American readership but much of it could apply equally to other legal systems. Each chapter is written by both a theologian and a lawyer and the book spans the contents of the entire Bible with chapters covering Genesis, the Torah, Historical books, Wisdom literature, Gospels, Acts, Epistles and Revelation. The authors are conscious that the Bible is not a complete legal textbook and that it is important to view biblical laws and precepts both in their original context and in the light of the rest of the Bible. There is also a recognition that there are recurring themes running through the Bible like creation, fall, redemption and God's faithfulness.

Inevitably, because each chapter is written by different authors and the content varies, there are considerable differences of emphasis. Each chapter contains biblical exposition and the relevance of any legal material to a modern society. The first chapter sets the scene with God as creator, legislator and ruler who designates Adam (mankind) to exercise legal authority on His behalf. But because the Fall has corrupted human institutions, we must not put too much trust in them. The chapter on the Torah, understandably, has more to say about law and its relevance. The laws must

be understood in the context of Israel as God's covenant people but, nevertheless, they can still apply to us. Not only the Ten Commandments but also the Jubilee laws could be applied to bankruptcy and debt relief and laws concerning widows and orphans to refugees and asylum seekers. In the survey of the historical books the authors rightly point out that the instructions to wipe out the nations in the promised land relates specifically to Israel as a theocracy and cannot be used to justify 'holy wars' like the Crusades. Similarly the establishment of the monarchy in Israel neither justifies nor criticises any form of government but again stresses that God is the sovereign and whoever governs does so as His representative.

Some chapters, like those relating to the wisdom and the apocalyptic literature, seem to have little to contribute to the legal debate although, interestingly, the book of Job is presented as a legal drama with Job's suffering representing the pre-trial investigation. Besides detailing failed attempts to find fulfilment of prophecies in Daniel and Revelation in the past and the present political and legal institutions the authors view the apocalyptic books as examples of political resistance literature which challenges the Church and society to use its power with justice. The best example of applying the legal material to both its contemporary and its modern contexts is the section dealing with the New Testament letters. By a detailed study of the controversial teaching of Romans 13 on submission to authorities and 1 Corinthians 6 concerning Christians going to the courts against each other the authors were able to show that Paul was addressing a minority group living under an unjust and oppressive power where justice could only be obtained by the rich and powerful through bullying and bribery. They then apply this to their own societies – Christians living in the Malaysian Islamic State and in the USA.

This volume presents us with a useful introduction to an important subject but for those wanting a detailed discussion of the issues raised will need to read some of the literature referred to in the footnotes.

Reviewed by Reg.Luhman

**Sir John Houghton with Jill Tavner** *The Eye of the Storm* Oxford Lion Books 2013  
303pp Pb £9.99 ISBN 978 0 7459 5584 1

This volume is subtitled "The autobiography of John Houghton with Jill Tavner". The latter expresses her gratitude at being allowed to assist Sir John with this work of organising his life story. Making it a readable account involved many hours of listening to recorded interviews and searching through boxes of literature. She is to be congratulated on the success of her efforts, bearing in mind Sir John's guiding thoughts "it has to be absolutely true". This emphasis on truth recurs often in the book in many situations.

Sir John himself trusts and prays that “the book may not only describe a particular piece of scientific history, but that it may stimulate individuals, communities, and the world’s nations to take action to combat the threat of severe damage to our world from human-induced climate change”.

The early chapters outline Sir John’s scientific career and early interest in the atmosphere. This led him to know Robert Boyd and Donald McKay and to join the Research Scientists Christian Fellowship, all of which the reviewer also shared. As the April 2014 issue of this journal reports, Sir John served a number of years as President of the Victoria Institute and only recently retired. (Faith and Thought April 2014, no.56)

The book consists of 26 chapters and four appendices and contains a wealth of experiences from his early life, his interest in scientific life at Oxford University and then in the area of climate as Director of the Met Office and the institution of the Inter-governmental Panel on Climate Change. In his work in the Met Office he was closely linked to Farnborough RAF Station and discovered he was an Air Marshall! Many honours and awards followed Sir John: FRS, Japan Prize and a shared Nobel Prize.

During his career it was often difficult to awaken others to the threat of climate change, whether that was from a loss of ozone or an accumulation of CO<sub>2</sub> – both human-induced. Many political discussions followed this pathway and it is to Sir John’s credit that he has persisted in warning the world what would follow if these warnings were ignored.

Throughout his life, Sir John has been a strong Christian believer, even though it was a challenge sometimes to see how faith and science can work together. This of course has always been a challenge to Christian scientists. Sir John’s integrity shines through his book in many places and with many people – not least the politicians. It has been a pleasure to read his autobiography which I recommend to all, whether scientist or not.

Reviewed by Dr.A B Robins

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The Journal *Science & Christian Belief* is published jointly for VI and CIS. It replaced the CIS (previously RSCF) *Newsletter* and the VI journal *Faith & Thought*, the final number of which was volume 114 No. 2 - October 1988.

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