



Michael N. Keas

# Darwinism, Fundamentalism, and R. A. Torrey

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*R. A. Torrey (1856–1928), a leading world evangelist at the turn of the twentieth century, played a prominent role in the emergence of fundamentalism, which aimed to defend Christianity against liberalism. The writers of The Fundamentals (1910–1915), including Torrey, proposed harmony between science and Christianity by accepting the standard geological ages and by offering some criticisms of Darwinism. Torrey advanced the work of The Fundamentals beyond 1915 through the monthly periodical of the Bible Institute of Los Angeles, The King’s Business (1910–1970). Although Torrey offered occasional criticism of Darwinism in The King’s Business and his other publications, he urged evangelicals and fundamentalists to focus on biblical inerrancy and a repudiation of naturalism more broadly. There is much to be emulated from early fundamentalism before it flung itself into the humiliation of the 1925 Scopes trial – a disastrous move that Torrey did not support. R. A. Torrey is worth remembering in 2010, the centennial year of The Fundamentals.*

**H**istorical and philosophical analysis of science and religion can improve our understanding of how science and religion *have* related and how they *should* relate. On the last page of his insightful book about American fundamentalism, historian George Marsden wrote,

Since God’s work appears to us in historical circumstances where imperfect humans are major agents, the actions of the Holy Spirit in the church are always intertwined with culturally conditioned factors.<sup>1</sup>

Following Marsden, I shall analyze some of the “culturally conditioned factors” of science and fundamentalism in the early twentieth century (how science and religion *have* related), largely leaving the matter of how they *should* relate to another study. Even so, historical knowledge can inform philosophical inquiry.

The Bible Institute of Los Angeles (hereafter, Biola) played a prominent role in the emergence of fundamentalism in the early twentieth century, particularly through the work of R. A. Torrey – Biola’s dean from 1912 to 1924. If the twenty-first-century reader can look beyond the harmful connotations of the term fundamentalism today and recognize its beneficial features before the 1925 Scopes trial, such reflection might inspire a better relationship between science and Christianity. Presbyterian

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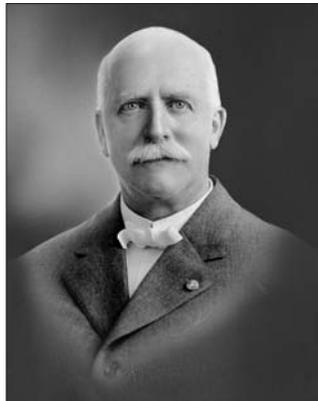
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millionaire Lyman Stewart (1840–1923) funded some important early steps of the fundamentalist renewal of evangelical Christianity, including founding Biola (1908)<sup>2</sup> and its monthly periodical *The King's Business* (1910), financing a series of pamphlets called *The Fundamentals* (1910–1915), and hiring Torrey to take up the editorial torch of these publications while serving as Biola's dean. To better understand early fundamentalism and its relationship to Darwinism, we will focus on the life of Torrey.<sup>3</sup>

### Evangelicalism's Scholarly Revivalist: Reuben Archer Torrey (1856–1928)

R. A. Torrey embodied the scholar-evangelist ideal of evangelical Christianity, though to a lesser degree than the principal American founding father of evangelicalism, Jonathan Edwards (1703–1758).<sup>4</sup>



**Reuben Archer Torrey (1856–1928).** Courtesy of Biola University Archives.

Torrey's first two years at Yale College (where Edwards had also attended) were devoted to the classical liberal arts. Yale juniors studied physics, astronomy, German or French, in addition to continuing their earlier work in mathematics, rhetoric, logic, Greek, and Latin. The eighteen or so required courses of Torrey's senior year included chemistry, physiology (four brief courses), as well as courses with Yale's conservative evangelical president Noah Porter (1811–1892). The studies under Porter consisted of Christian apologetics, natural theology, and three philosophy courses.<sup>5</sup> Torrey graduated in 1875 with a general BA degree.

Around the time Torrey began his studies at Yale in 1871, the daily chapel services were reportedly dreary and disliked by students. Compulsory chapel attendance at the Sunday afternoon service was lifted in 1872. "The intent was not to undermine the chapel, but to aid in its appeal. For the next seven years, the College President [Noah Porter] and various tutors filled the pulpit."<sup>6</sup> An Englishman visiting Yale in 1869 reported,

All the students are compelled to attend the daily morning service, which takes place at eight AM. The chapel is a frightful building fitted up in the coldest and meanest meeting-house style ... But cold and mean as is the chapel, the service is colder and meaner still. Any more heart-chilling and profane performance could scarcely be imagined. The students, on entering, either commenced a conversation with their friends, or applied themselves, with great diligence, to the subject-matter of the lectures which were to follow after the service. In no instance did any one engage in private prayer ... The air of utter carelessness and irreverence, which was universal, was chilling to witness. If the congregation had disbelieved in the existence of God, it could not have been worse. Such being the spiritual food which Puritanism has to offer to her sons in her own chosen home, who can wonder at the unbelief and unbounded immorality which is making New England a byword even in the United States?<sup>7</sup>

Although Porter worked hard to bolster Christianity at Yale after he became president in 1871, some of this depressing report probably describes what Torrey experienced in his years as a rowdy Yale undergraduate (1871–1875). In one of his published sermons, Torrey describes his Yale undergraduate experience, beginning "as a boy of fifteen," as a descent "into dissipation and sin," until

... one awful night [in the senior year], a mere boy still, with all hope gone, with life desolate and bare, life so barren that there was just one step between me and hell, in fact, that very night I started to take that awful step, to take my life by my own hand. I sprang out of bed and drew open a drawer to take out the instrument that would end my life. For some reason or other I could not find it. God did not let me find it, and I dropped upon my knees, and said, "Oh God, if you will take this awful burden from my heart, I will preach the Gospel"; and God not only removed the burden, I found a joy I had never dreamed of in this world, and all the years since it has gone on increasing, with the exception of a short time when I fell under the blighting power of scepticism and agnosticism; all the rest of the time all these years the joy has grown brighter, brighter, brighter every year.<sup>8</sup>

Porter, a pivotal figure in the history of American higher education,<sup>9</sup> played an important role in the formation of Torrey's worldview. Torrey likely heard President Porter's inaugural address, which he delivered in the fall of 1871, when Torrey was a freshman. In this address, the new college president argued that Christians do not need to fear modern science, which, at its best, is committed to an open inquiry that leads to truth.<sup>10</sup> Porter on other occasions warned of the "atheistic tendencies of much of modern science, literature, and culture." He included here a caution about the "ill-disguised materialism of Huxley" and the "evolutionism of Herbert Spencer, with its demonstrated impossibility of a positive theism."<sup>11</sup> Indeed, George Marsden tells a compelling story of *The Soul of the American University: From Protestant Establishment to Established Nonbelief* (Oxford University Press, 1994), in which Porter is one of the most important characters—attempting to protect American education from the universal acid of materialism. We hear echoes of President Porter in Torrey's work.

Torrey returned to Yale in 1875 for three years of seminary education. During his final year at Yale, Torrey attended D. L. Moody's (1837–1899) campus and New Haven community revival meetings. He also volunteered for six weeks in Moody's "inquiry room," leading many people to Jesus.<sup>12</sup> Moody, the most influential revivalist of the late nineteenth century, had become one of Porter's strongest allies in the cause of distinctively Christian education in the face of attacks from liberal theology and scientific materialism. This was an about-face for Porter, who mid-century had uncritically assumed that higher education would inevitably advance Christianity, and who had downplayed the importance of campus-sponsored revivals.<sup>13</sup>

Porter's most controversial decision as a college president, which took place shortly after Torrey had graduated with his seminary degree in 1878, was to forbid Yale professor William Graham Sumner to adopt Herbert Spencer's textbook *The Study of Sociology*, especially because of this assessment of Spencer's book by Porter:

And so he ends this long discussion with the assumption with which he begins, that in social phenomena we can only recognize natural causation, because forsooth, if Sociology is a science it cannot admit any other agencies.<sup>14</sup>

Porter recognized that such methodological naturalism would distort the findings of sociology, because it would preclude the detection of divine agency in human affairs. Torrey demonstrated similar insight in his later work.

After four years of pastoral work in Ohio punctuated by occasional revivals, Torrey (accompanied by his wife Clara and infant daughter Edith) studied theology in Leipzig and Erlangen. Most of Torrey's German professors believed that the original manuscripts of the Bible contained errors—a view Torrey rejected at the end of his year in Germany.<sup>15</sup>

Torrey, whose sermons reflected a substantial Yale education and the influence of Moody, became one of the most influential evangelicals near the turn of the twentieth century. After returning from Germany and serving as pastor at several churches in Minneapolis, Torrey, in 1889, accepted Moody's invitation to become the first superintendent of the new Bible Institute of Chicago (later named Moody Bible Institute, hereafter, MBI). George Marsden has identified MBI as the leading Bible institute among the nearly dozen that had originated by 1910, particularly because of the leadership of Moody and Torrey.<sup>16</sup> Torrey worked under the uneducated (but gifted) Moody to create an exemplary Bible institute curriculum for common people to achieve biblical literacy and lay ministry skills—much of which Torrey later adapted for Biola. Marsden has concluded that early twentieth-century Bible institutes like MBI and Biola were at the leading edge of



The Bible Institute of Los Angeles (BIOLA) was housed in Los Angeles' tallest building when it was complete enough for students to occupy it in 1914.<sup>17</sup> This historic building was demolished in 1988.<sup>18</sup> Courtesy of Biola University Archives.

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a middle position among evangelicals in regard to the relationship between Christianity and culture. They advocated both revivalism centered on the message of the cross and social reform through urban ministry. “They should see in the cities not only their sin, but also their suffering, and attempt to eliminate both,” according to Marsden’s distillation of their rallying cry.<sup>19</sup> Although such a balanced perspective represented the typical evangelical orientation in the nineteenth century,<sup>20</sup> it had become increasingly rare after 1910. Liberals turned to the social gospel (including eugenics and its forced sterilization of the “feeble-minded”)<sup>21</sup> and conservative evangelicals paid little attention to the material needs of the poor.

As a leader within the balanced, historic evangelical tradition, Torrey spent most of his time at MBI developing and delivering curriculum for lay people to receive theological training, sometimes with attention to the methodological similarities between theology and science. He published his notes for a MBI (and later Biola) doctrine class in the 1898 textbook *What the Bible Teaches*. The preface explains that, in this book, “the methods of modern science are applied to Bible study—thorough analysis followed by careful synthesis.” His textbook was “an attempt at a careful, unbiased, systematic, thorough-going, *inductive* study and statement of Bible truth.”<sup>22</sup> Such a vision of the methodological similarities of theology and science, with an emphasis on a shared Baconian ideal of inductive inquiry, has been common among evangelicals over the past few centuries.<sup>23</sup>

Torrey’s characterization of the scientific method was similar to what Nobel Prize winner Robert Millikan (1868–1953) would write in 1923: “The purpose of science is to develop without prejudice or preconception of any kind a knowledge of the facts, the laws, and the processes of nature.”<sup>24</sup> Nevertheless, Torrey and Millikan saw religion quite differently. In the next sentence of the same pamphlet published by the University of Chicago Divinity School, Millikan wrote: “The even more important task of religion, on the other hand, is to develop the consciences, the ideals, and the aspirations of mankind.” Torrey was a critical realist in religious<sup>25</sup> (and scientific) matters, while Millikan—following the spirit of modernism—reduced religion to the culturally constructed yearnings of humanity. Historian Edward Davis has investigated this liberal

American way of reconciling science and religion in the 1920s. He has focused on the widely circulated series of Chicago pamphlets, including Millikan’s, which abandoned historic Christianity in the name of modernization.<sup>26</sup> Torrey, while defending Christianity, recognized common methodological ground between science and theology—provided that one rejects the naturalistic philosophy (miracle prohibition) assumed by many scientists and theological practitioners of higher criticism.<sup>27</sup>

While actual scientific practice contains more diverse methodological practices than either Torrey or Millikan articulated, they both recognized the ideal of objectivity that has inspired many scientists. Philosophers and historians of science since the 1950s have made it implausible to believe in a unique “scientific method” that almost always leads us closer to the truth. But, there is still reason to believe that we know much more about nature now than in the past. Most scientists are critical realists like Millikan (and Torrey), and actual scientific work reflects a variety of methodological orientations—most notably hypothetico-deductive approaches and the inductive procedure of “inference to the best explanation” (comparative explanatory and predictive power).<sup>28</sup>

Fundamentalist statements about scientific method were not that much different from what leading scientists like Millikan were expressing. Thus, we must rethink George Marsden’s often-repeated argument that twentieth-century fundamentalists were methodologically inferior relative to the scientists of their day, in that they invoked a naive Baconian-inductivist characterization of science.<sup>29</sup> A scientific argument should be evaluated evidentially, regardless of the methodological characterization offered by the argument’s proponent. Even so, a brief survey of prominent early twentieth-century statements about scientific methodology is instructive.

F. R. Moulton, known for coauthoring with geologist Thomas C. Chamberlin a “planetesimal” mechanism for the origin of our solar system that temporarily replaced Laplace’s nebular hypothesis, declared that astronomy “is a science” because “the facts which have been acquired by observations and experiments are classified on the basis of their essential relations to each other and to the facts and principles of other sciences.”<sup>30</sup> This resembles

Torrey's factual "analysis" followed by "synthesis." Moulton offered this characterization of scientific procedure in his 1906 astronomy textbook, which passed through several editions in the first quarter of the twentieth century. Moulton later summarized the triumph and methods of science in his lead essay of the general science textbook of 1926, which he coauthored with fifteen other University of Chicago science faculty. Moulton stated,

Within a few decades the world has been revolutionized by science and its applications. The successes of science invite attention to its methods. That science depends upon observations and experiments is known to everyone, but those who have not been engaged in its pursuit cannot fully realize the scrupulous care with which observations and experiments are made, the faithfulness with which they are recorded, the variety of conditions under which they are repeated, and the caution with which conclusions are drawn from them. Science does not bow down before precedent nor custom nor dogma; it exalts the truth and honestly seeks it. The fact that scientific theories have often been altered justifies no reproach to science, for they are simply the most coherent organizations of its data that are possible at a given time. The fact that changes are necessary means that knowledge has been increased. New discoveries do not contradict earlier truth, but include it as a special case, or as an imperfect statement of some larger truth.<sup>31</sup>

What were leading philosophers saying about the methods of science in the time of Torrey? The English economist and logician William Stanley Jevons (1835–1882) authored an influential assessment of scientific method that appeared in two editions and numerous reprints from 1874 (when Torrey was an undergraduate at Yale) to 1920. He wrote,

In a certain sense all knowledge is inductive. We can only learn the laws and relations of things in nature by observing those things. But the knowledge gained from the senses is knowledge only of particular facts, and we require some process of reasoning by which we may collect out of the facts the laws obeyed by them. Experience gives us the materials of knowledge: induction digests those materials, and yields us general knowledge.<sup>32</sup>

Philosopher Bertrand Russell (1872–1970) voiced an amusingly simplistic depiction of induction as the essence of scientific method in 1931:

The conflict between Galileo and the Inquisition is not merely the conflict between free thought and bigotry or between science and religion; it is a conflict between the spirit of induction and the spirit of deduction. Those who believe in deduction as the method of arriving at knowledge are compelled to find their premises somewhere, usually in a sacred book. Deduction from inspired books is the method of arriving at truth employed by jurists, Christians, Mohammedans, and Communists.<sup>33</sup>

Russell's viewpoint—including his faulty warfare view of science and religion—has influenced more recent science education. For example, Eric Rogers approvingly quotes Russell's naive methodological pronouncement in *Physics for the Inquiring Mind*, which was a physics textbook that emerged from a 1950s course at Princeton University.<sup>34</sup> Roger's work as a science educator was celebrated soon after his death in 1990, in a memorial publication.<sup>35</sup>

## R. A. Torrey: The Harmony of Science and Christianity in the Tradition of James Dwight Dana

If Torrey's characterization of scientific method shared much in common with the pronouncements of leading scientists, what about his opinion of biological evolution? "Whatever truth there may be in the doctrine of evolution as applied within limits to the animal world, it breaks down when applied to man," Torrey asserted in *What the Bible Teaches*.<sup>36</sup> Like many other evangelical leaders, he advocated what was later called progressive creationism—the view that God miraculously created new types of organisms at different times (interspersed with limited evolution and mass extinction) throughout millions of years in earth history.<sup>37</sup> Torrey probably acquired progressive creationism from his favorite Yale professor, geologist James Dwight Dana (1813–1895), who had advocated this view in various forms throughout his career as one of America's leading scientists.<sup>38</sup>

The Dana-Torrey alliance proved to be an important venue for promoting the harmony between science and Christianity near the turn of the twentieth century. Dana had the relevant scientific credentials

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and Torrey, a recognized theologian-evangelist, conveyed some of Dana's ideas to millions through revival sermons and related publications. A detailed look at Dana's subtle views about evolution and divine action will help us to understand Torrey's assessment of these issues. By the time Torrey studied under Dana in 1874, Dana had just announced, in print, that he had accepted a more evolutionary version of progressive creationism which he considered "most likely to be sustained by further research." He tentatively concluded that the "evolution of the system of life went forward through the derivation of species from species, according to natural methods not yet clearly understood, and with few occasions for supernatural intervention."<sup>39</sup>

From 1871 to 1890, Dana delivered a series of lectures on evolution at Yale College in which he concluded (in the lecture versions that he began to deliver in the late 1870s and early 1880s)<sup>40</sup> that Darwinian natural selection had only succeeded in explaining the *survival* of the fittest species, not the *origin* of species.<sup>41</sup> Dana recognized the explanatory power of natural selection in making sense of the geographical distribution of species in past and present floras and faunas—roughly what we now call biogeography and ecological succession. In his eighth and final lecture in this unpublished series, Dana wrote concerning Darwin's theory, "I see nothing here to sustain the view that *the survival of the fittest* satisfies our inquiry as to *the origin of the fittest*."<sup>42</sup> However, natural selection acting on variations might help explain some of the smaller "divergences like that of the horse and giraffe from other species," Dana granted. He continued his assessment of the limited efficacy of natural selection in the next paragraph:

But it explains only in part. The [sic] most of the higher subdivisions of animals were already developed very nearly as we now have them in Paleozoic time; all the grand subdivisions of Radiates & Mollusks and nearly all of Insects and Vertebrates; and many of these were out in complete display in the Cambrian [period of the Paleozoic era]; thus showing that in this development of the Kingdoms of Life there was some more profound cause at work than superficial natural selection.<sup>43</sup>

Dana reaffirmed this conclusion in the last edition of his *Manual of Geology* (1895) shortly before his death,

while also observing that "the *origin* of variation is not considered" in Darwin's theory and that it is "for the most part throughout the Kingdoms of life," a phenomenon "without explanation."<sup>44</sup> In both his 1895 *Manual of Geology* and his earlier unpublished lectures, Dana maintained that "natural variations" originated by mechanisms that science had not yet adequately determined. He nevertheless considered such variation to be "natural," rather than miraculous "creative acts" of God, which Dana (correctly) recalled had been the view of Louis Agassiz (1807–1873)—America's leading zoologist, and friend of Dana.<sup>45</sup> Dana accepted an account of life's history that he called "*evolution by natural variation*."<sup>46</sup>

Before we examine this viewpoint, it is important to note Dana's advocacy of a few exceptions to this general story. He excluded human origins and a few other crucial points in life's history from "evolution by natural variation" because he thought such were instances of detectable intelligent causation of the sort advocated by Louis Agassiz ("intervention of an intellectual power," was Agassiz's expression).<sup>47</sup> In 1890, Dana published a lengthy Yale lecture (different from his eight-lecture evolution series) that surveyed evolution and related interpretive issues in Genesis. Here he specified two of the points of divine intervention in natural history prior to God's creation of humans:

There is, hence, reason for believing that the power which so controls and exalts chemical forces, raising them to the level required by the functions of a plant, cannot come from unaided chemical forces; and much less that which carries them to a still higher level, that of the living, sentient animal.<sup>48</sup>

Dana appears to refer to a power that is beyond the inherent capacities of unaided material nature. This is made somewhat clear by the context of the above passage. The origin of plants (a category that included microbes in Dana's terminology) represented the origin of first life, of which "science, as is universally admitted, has no explanation; for no experiments have resulted in making dead matter a living species."<sup>49</sup> So Dana argued that a special organizing power was needed to account for the origin of "plant" life, and yet again for the origin of "sentient animal" life.

This continued insistence upon at least some interventionist acts of God in prehuman natural

history, a view that Dana apparently held throughout his life, would itself be sufficient to regard him as a progressive creationist rather than a theistic evolutionist. However, there are additional reasons for this assessment. As for the bulk of life's history beyond such rare interventionist exceptions, Dana distinguished his own view—*evolution by natural variation*—from Darwinism in two respects. First, he rejected the suggestion that chance variation (coupled with natural selection) constitutes the engine of evolutionary change: "It is of no avail to speak of *chance* variations. The use of the word *chance* indicates personal ignorance. Chance has no place in nature's laws, and can have none in nature-science."<sup>50</sup> Dana's last assertion about the nature of nature in his 1895 *Manual of Geology* further illuminates what he meant by *natural* (but not random) variations, which he thought fueled evolutionary progress: "the whole Universe is not merely dependent on, but actually is, the Will of one Supreme Intelligence."<sup>51</sup> Put otherwise, Dana believed that God guided (usually in a noninterventionist manner) the production of the variations among organisms that constituted most of biological evolution. Second, Dana distinguished his understanding of evolution from Darwin's by arguing that natural variations make their initial appearance within the majority of a population, not the minority as Darwin had suggested. The few population members lacking such new beneficial variations would be eliminated by natural selection.<sup>52</sup> Natural selection is a conservative, not innovative, process in Dana's view of life's history.<sup>53</sup>

Dana considered the progressive appearance of increasingly complex life over millions of years to be "a fact, whether carried forward by Natural Causes under Divine power & guidance, or by Divine Intervention."<sup>54</sup> This is how he expressed it in the first of his eight Yale lectures on evolution, which he delivered to students episodically from 1871 to 1890. Dana's distinction here is between those cases in which God works through natural processes (without a role for "chance") to achieve his goals in nature, and those cases in which God's interventionist acts cause new entities to come into existence by momentarily suspending natural law, as in the case of the first appearance of plants, animals, and humans.<sup>55</sup>

Dana's subtle views on biological origins have not been captured adequately by recent secondary

sources,<sup>56</sup> which is a point worth emphasizing before we return to Torrey's acceptance of Dana's views. Here is how historian Ronald Numbers summarizes Dana's viewpoint:

Came to accept theistic evolution in the 1870s but continued to insist that "a creative act" was necessary for the origin of humans; leaned more toward neo-Lamarckian than Darwinian mechanisms.<sup>57</sup>

Contrary to this assessment, Dana also insisted upon at least two interventionist acts of God in prehuman history, and he considered the origin of variation to be largely "without explanation," at least more so than Lamarckian or Darwinian in character. Historian David Livingstone even claims (with only minor qualification) that by 1883 "Dana had clearly accepted the Darwinian cornerstone of evolution—namely, natural selection."<sup>58</sup>

We have seen that Dana considered natural selection to be more helpful in explaining biogeography and ecological succession, rather than in explaining the origin of radically new life forms (which alone would give it "cornerstone" status in the Darwinian sense). Although Dana sometimes appeared to be one of "Darwin's forgotten defenders" (the title of Livingstone's book), Dana more often proclaimed the congruence of his views with those of progressive creationists like Louis Agassiz (1807–1873) and Arnold Guyot (1807–1884).<sup>59</sup> Although Dana believed in fewer interventionist acts of God in natural history than either Agassiz or Guyot, he agreed with them that God guided the progressive appearance of fundamentally new types of organisms. The origin of the major groups of species had nothing to do with chance and almost nothing to do with natural selection, Dana concluded. Dana was not a theistic evolutionist, at least not in the most common and recent senses of this term.<sup>60</sup>

Torrey's assessment of Darwinism was strikingly similar to Dana's. Recall what Torrey wrote in 1898: "Whatever truth there may be in the doctrine of evolution as applied within limits to the animal world, it breaks down when applied to man." In fact, Torrey's diary suggests vaguely *how* Darwin's theory "breaks down when applied to man."<sup>61</sup> In a dozen diary entries dated July through September of 1882, Torrey reports reading Darwin's *Descent of Man* (which first appeared in 1871—the year Torrey began his Yale studies and the year Dana began his

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Yale evolution lectures). On July 17, he remarks, "Darwin's argument on the development of the moral faculty seems extremely weak." The next day he writes,

Read in Darwin's "Descent of Man" & Mivart's criticism of Darwin on Language, Duty & Pleasure in "Lesson from Nature." Mivart points out [two illegible words] facts in Darwin's theory, which Darwin did not sufficiently notice or seem to apprehend in his later editions. This portion of Darwin's work lacks the acuteness and discrimination of other parts.<sup>62</sup>

Torrey appears to have recognized the force of St. George Jackson Mivart's argument against Darwin's theory of the origin of morality by means of natural selection. "Perceptions of right and wrong, and of our power of choice, and consequently responsibility, are universally diffused amongst mankind, and constitute an absolute character separating man from all other animals," declared Mivart in his thesis statement placed at the head of his chapter on "Duty and Pleasure,"<sup>63</sup>—a chapter Torrey apparently finished reading on July 18, 1882. Although Mivart, a prominent Catholic theistic evolutionist, acknowledged "altruistic habits can be explained by 'natural selection,'" he maintained that this is beside the main point at issue, namely,

No amount of benevolent habits tend even in the remotest degree to account for the intellectual perception of "right" and "duty." Such habits may make the doing of beneficial acts pleasant, and their omission painful; but such feelings have essentially nothing whatever to do with the perception of "right" and "wrong," nor will the faintest incipient state of the perception be accounted for by the strongest development of such sympathetic feelings. Liking to do acts which happened to be good is one thing; seeing that actions are good, whether we or others like them or not, is quite another.

Mr. Darwin's account of the moral sense is very different from the above. It may be expressed most briefly by saying that it is the prevalence of more enduring instincts over less persistent ones—the former being social instincts, the latter personal ones. ...

Mr. Darwin then means by "the moral sense" an instinct, and adds, truly enough, that

"the very essence of an instinct is, that it is followed independently of reason" ([*Descent of Man*,] vol. i, p. 100). But the very essence of moral action is that it is not followed independently of reason.<sup>64</sup>

Torrey's evaluation of Darwin's *Descent of Man* and Mivart's *Lessons from Nature* appears to have been cut short by the appearance of what later became known as "The Great September Comet of 1882." Torrey reports in his diary that he viewed a comet in early October after having read (on September 14, 21, and 28) a book on observational astronomy by H. W. Warren.<sup>65</sup> Soon after viewing the comet, the Torrey family spent a year in Germany—apparently leaving Darwin's and Mivart's books behind. Torrey's enjoyment of scientific literature spurred him to even read aloud to his wife Clara from R. A. Proctor's *Light Science for Leisure Hours*.<sup>66</sup>

Torrey, who read widely on evolution, was somewhat ambivalent about evolutionary theory and its relation to Christianity. In a sermon used during his 1902–1905 revival tour, Torrey presented scientific arguments against universal common descent, but then presented a backup greater-God evolutionary design argument (in case universal common descent were ever proven).<sup>67</sup> In October 1925 (shortly after the Scopes trial), Torrey recalled in a letter to his friend James Gray, editor of the *Moody Bible Institute Monthly*,

Even after I came to believe thoroughly in the Bible, and in its exact interpretation, I was, to a certain extent, an evolutionist. I later, with more thorough study, was led to give up the evolutionary hypothesis for purely scientific reasons.<sup>68</sup>

In that same published letter, Torrey indicated that a fundamentalist could be an evolutionist in at least some sense of the term:

While I am not an evolutionist in any sense, I have known men intimately who were as sound on the Scriptures and on all fundamental doctrines of our faith as I am who were at the same time evolutionists. I think they are mistaken, but I can see how a man can believe thoroughly in the absolute infallibility of the Bible and still be an evolutionist of a certain type.<sup>69</sup>

The Moody editors inserted a footnote at this point that read:

The “evolutionist” in mind evidently, is not he who denies the supernatural, but who employs the term in the simple sense of growth, progress, development from the lower to the higher in the history of the universe of man.<sup>70</sup>

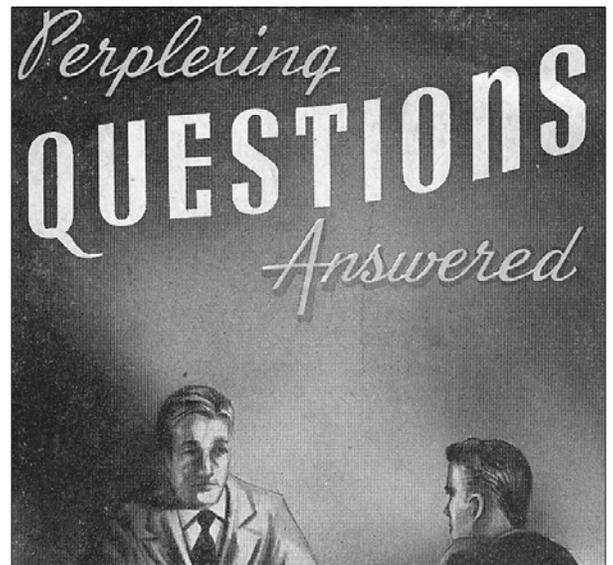
During the period in which Torrey collaborated with *The Fundamentals* publication project (1910–1915), he promoted a book by the British criminal law practitioner and amateur theologian Sir Robert Anderson (1841–1918), *A Doubter’s Doubts about Science and Religion*.<sup>71</sup> Torrey included this book within the “Montrose Library,” which was a collection of recommended books routinely promoted in Biola’s organizational monthly, *The King’s Business*.<sup>72</sup> Anderson’s book thus gives us additional insight into Torrey’s own views about science and religion.

After discussing the meager evidence in favor of Darwin’s theory of the origin of species, Anderson suggested that “the first and greatest question relates, not to the phenomena of life, but to its origin.”<sup>73</sup> Interacting with some of the published remarks of Charles Darwin, T. H. Huxley, and Herbert Spencer, Anderson argued that no theory of the origin of life enjoyed significant support at that time. Even so, Huxley is quoted as saying that “at some time or other abiogenesis must have taken place. If the hypothesis of evolution be true, living matter must have arisen from non-living matter.”<sup>74</sup> Such a conclusion, however, merely assumes the very naturalistic philosophy in question. Anderson aptly characterizes Huxley’s abiogenesis assertion as “boundless credulity.”<sup>75</sup>

Returning to Darwin’s theory proper, which pertains to the origin of species, not the origin of life, Anderson comments that “it claims a hearing on its merits. And viewed in this light, no one need denounce it as necessarily irreligious.” He then argues that intelligently guided human evolution would be “a far more amazing act of creative power than the Mosaic account of the genesis of man supposes.”<sup>76</sup> But “base materialism” is powerless to explain the origin of human religious consciousness.<sup>77</sup> In the end, Anderson concludes that the available evidence does not substantially support Darwinian evolution. It is “merely a philosophical theory” that is “unnecessary, except of course with those scientists who cling to any plank that will save them from having to acknowledge God.”<sup>78</sup> Anderson’s analysis of Darwinism and naturalistic

philosophy is reflected in Torrey’s occasional remarks on the subject, including his earlier diary entries analyzed above.

Despite his partial uncertainty about evolution, Torrey consistently advocated the design argument in his sermons and publications. His clearest exposition of the basic structure of the design inference surfaced in his book *Practical and Perplexing Questions Answered*.<sup>79</sup> Here he describes a conversation with an “inquirer” that he would redirect by pulling out his watch. A series of questions would help the inquirer recognize his own ability to make the design inference without having seen either the act of design or the designing intelligence. The first peak of this conversation comes in this sentence: “The watch shows the marks of intelligent design, thus proving it had an intelligent maker.” Torrey would then inquire, “What about your own eye? Is it not as wonderful a piece of mechanism as a watch? Did it not then have a Maker?” He would apply this insight to other features of the universe that display “symmetry, order, beauty, law, [and] adaptation of means to an end,” which “prove the existence of an intelligent Creator and Designer.” This is the classic teleological argument for God’s existence. Evolution, “even if true, would not take away any of the force of the argument from design in nature,” because of the need for a “power of development” imposed on nature by a designer. Here is an echo of Dana, Torrey’s geology professor, whose Yale lectures contained similar perspectives.

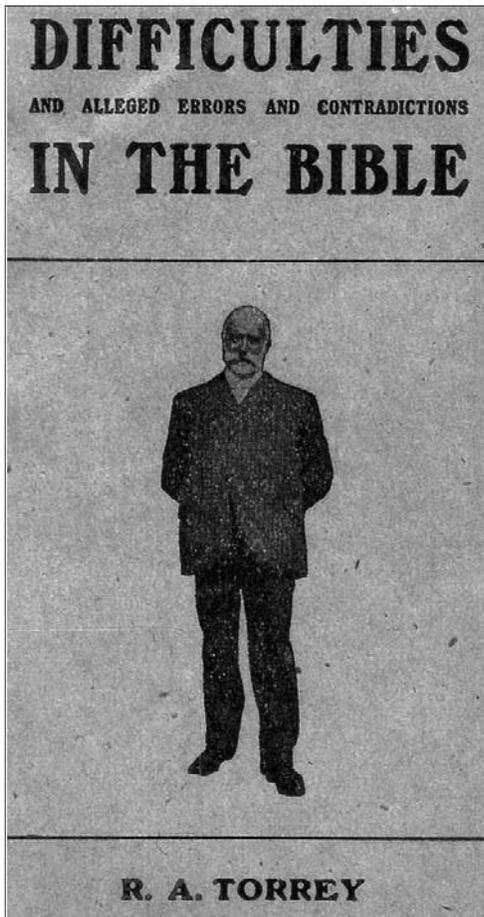


A portion of the cover of R. A. Torrey, *Practical and Perplexing Questions Answered* (Chicago: Moody Press, 1908).

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Prepared by a Yale and German theological and liberal arts education, by several decades of pastoral and Bible institute leadership, and by a number of prayer-bathed revivals in America, Torrey was eager for revival on a larger scale. From 1902 to 1905, Torrey and singer Charles Alexander (1867–1920) saw nearly 100,000 conversions in meetings held in Japan, China, Australia, India, and Great Britain.<sup>80</sup> Upon returning to America, Torrey turned increasingly to full-time evangelistic work (leaving MBI in 1908), until he accepted the call to Biola's deanship in 1912, having preached to a total of about 15 million people on four continents.<sup>81</sup> Within three years after the completion of his unprecedented evangelistic crusades in 1905, Torrey had published his main apologetic works,<sup>82</sup> which included many of his musings on evolution and intelligent design. Beginning in 1909, he joined forces with other evangelicals in a joint publication project, *The Fundamentals*, which helped identify a new breed of evangelicals: the fundamentalists.



The cover of R. A. Torrey, *Difficulties and Alleged Errors and Contradictions in the Bible* (Chicago, IL: The Bible Institute Colportage Association, 1907).

## Evangelicalism, Fundamentalism, and Christian Worldview Thinking: 1889–1915

Besides his role as a leading turn-of-the-century evangelical revivalist, Torrey was one of the editors and authors of *The Fundamentals* (1910–1915). This publication series not only helped define fundamentalism, but it also disseminated James Orr's explicit articulation of Christianity as a "worldview"—a project Orr had begun in about 1889 (the same year Torrey began writing Bible institute curricula).<sup>83</sup> We will focus on how Torrey and Orr contributed to the sort of Christian worldview analysis that informed early fundamentalism in regard to science and Christianity.

What are evangelicalism, fundamentalism, and Christian "worldview" thinking? Evangelicals are best defined as Christians affected by the eighteenth-century revivals led by people such as Jonathan Edwards and John and Charles Wesley, who were committed to biblical authority, Christ's substitutionary atonement (and a few other major doctrines), a conversion experience, and transformation of the world through evangelism and social action.<sup>84</sup> Christian fundamentalism has been a movement within evangelicalism since the early twentieth century. It opposed liberalism and defended the truths of Christianity more actively than many evangelicals had done previously. Christian worldview thinking (explicitly using the term "worldview" or *Weltanschauung*) has been a project, within both evangelicalism and the Reformed tradition since the late nineteenth-century, to develop a comprehensive account of reality that is rooted in the Bible and clearly distinguished from non-Christian views of the world. This project was largely initiated in about 1889 by the Scottish Presbyterian theologian James Orr (1844–1913)—who was also a leading author of *The Fundamentals*—and (in the mid-1890s) by the Dutch Reformed polymath Abraham Kuyper (1837–1920).<sup>85</sup>

When Moody died in 1899, Torrey succeeded him as a leading world evangelist. Torrey later became a central figure in the fundamentalist movement. Moody himself had been a proto-fundamentalist, according to Marsden.<sup>86</sup> The main fundamentalist ingredient that Moody lacked—the passion and educational background to fight liberalism—Torrey possessed in abundance. In fact, Torrey's chief

disagreement with Moody was precisely concerning this issue of fighting the intellectual idols of the age. "Christ and His ... disciples ... attacked error," Torrey wrote. It is not enough to "simply teach the truth," he argued in 1899, delineating his position in contrast to that of Moody.<sup>87</sup> Although the term "fundamentalist" did not appear in print until 1920,<sup>88</sup> fundamentalism had been in the works for at least a few decades prior. The worldwide dispersal of the pamphlets called *The Fundamentals* provided the root of the name and some of the momentum that gave fundamentalism its public face.

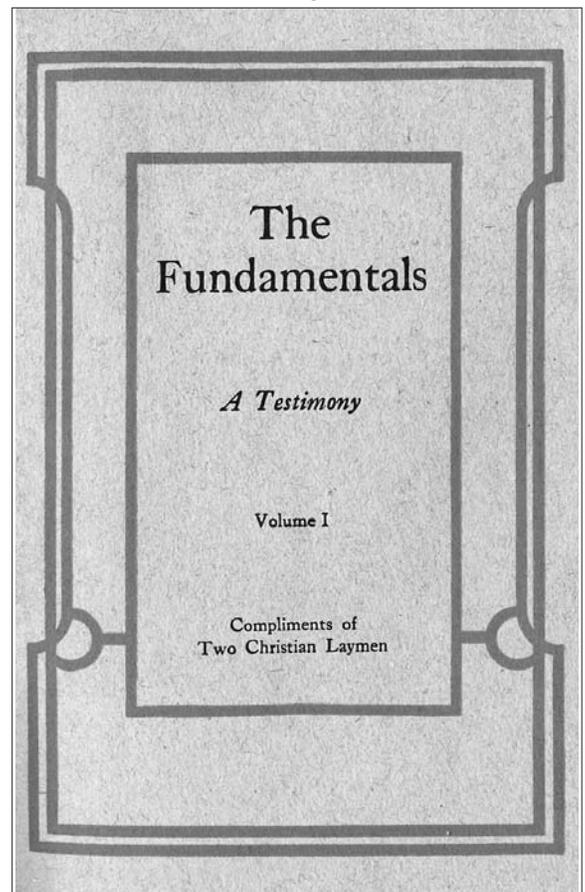
What initiated *The Fundamentals* project in 1909? Oil prospector Lyman Stewart had long dreamed of funding the wide circulation of a scholarly defense of mere evangelical Christianity with a minimum of sectarian content.<sup>89</sup> Soon after his Union Oil Company of California had multiplied its worth five times between 1900 and 1908,<sup>90</sup> Lyman and his brother Milton decided to advance God's kingdom anonymously with a proclamation of basic Christianity. They were the "two Christian laymen" on the title page of each of the undated twelve volumes of *The Fundamentals* that appeared from 1910 to 1915. The preface to the last volume states that "over 2,500,000 copies of the twelve volumes have been published and circulated,"<sup>91</sup> leading some to believe that this referred to the number of copies of *each* volume. The *total* copies of *all* twelve volumes is what the preface actually intended to report, a number that grew to nearly three million according to the next sentence of the preface (this included reprints of back copies).

Orr was one of the most influential essayists in *The Fundamentals*, particularly because he had already established his reputation as a founding father of Christian "worldview" thinking.<sup>92</sup> In his magnum opus, *The Christian View of God and the World as Centering in the Incarnation* (1897), he had declared,

The opposition which Christianity has to encounter is no longer confined to special doctrines or to points of supposed conflict with the natural sciences—for example, the relations of Genesis and geology—but extends to the whole manner of conceiving of the world, and of man's place in it, the manner of conceiving of the entire system of things, natural and moral, of which we form a part. It is no longer

an opposition of detail, but of principle. The circumstance necessitates an equal extension of the line of defense. It is the Christian view of things in general which is attacked, and it is by an exposition and vindication of the Christian view of things as a whole that the attack can most successfully be met.<sup>93</sup>

Orr's participation in *The Fundamentals* promoted this sort of Christian worldview analysis on a massive scale (owing to the large distribution of those volumes). Orr expresses his views about science and Christian worldview thinking in his essay "Science and Christian Faith" (vol. 4). He declares that natural law "in the Bible is never regarded as having an independent existence. It is always regarded as an expression of the power or wisdom of God." This clarification undercuts a class of arguments later known as "god of the gaps," according to which God is implicated in nature only when we fail to explain something by means of natural laws and natural events. Orr also argued that when someone



*The Fundamentals* (1910–1915) were issued as twelve separate volumes (about two per year). Nearly three million of these volumes (about 250,000 of *each* volume) were mailed around the world.

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lifts their arm, they do not “abolish the law of gravitation but counteract or overrule its purely natural action by the introduction of a new spiritual [non-material] force.”<sup>94</sup> What scientific materialists would need to justify in their approach, Orr suggests, is “not simply that natural causes operate uniformly, but that no other than natural causes exist ...”

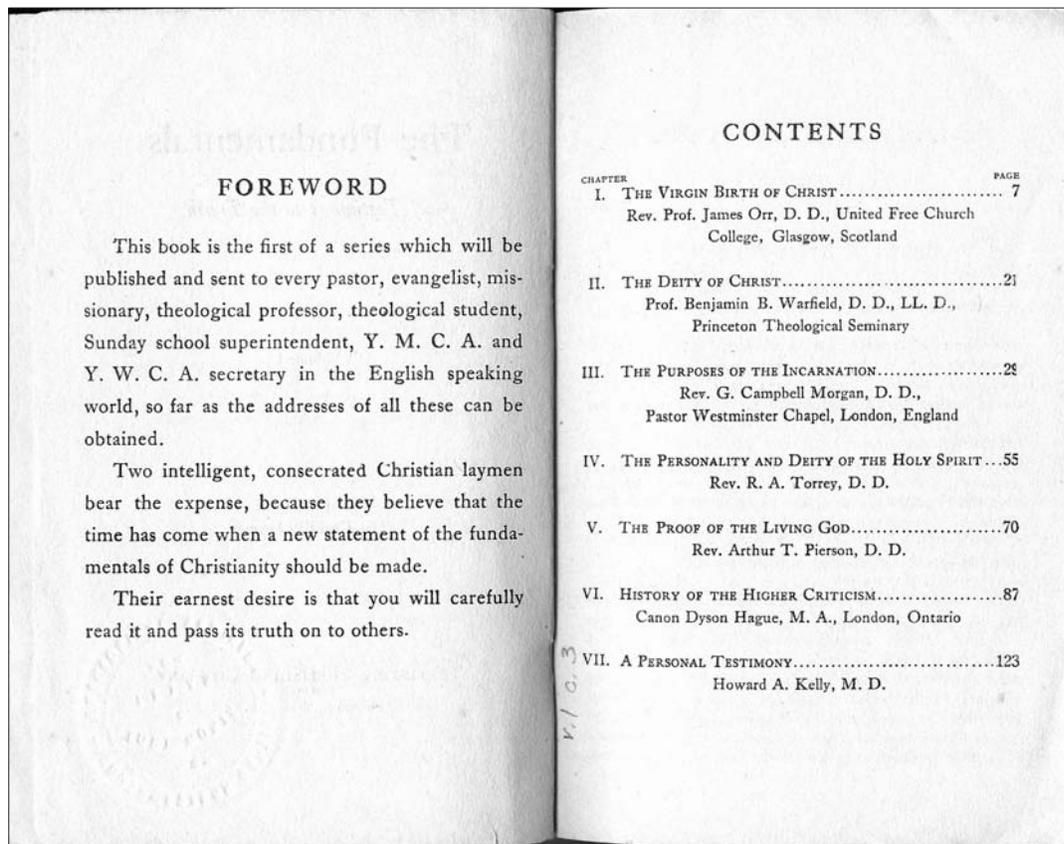
Digging yet deeper into the worldview level of analysis, Orr concluded,

The real question at issue in miracle is not natural law, but *Theism*. It is to be recognized at once that miracle can only profitably be discussed on the basis of a theistic view of the universe. It is not disputed that there are views of the universe which exclude miracle.<sup>95</sup>

He mentions atheism, pantheism, and deism as examples of worldviews that preclude miracles. But then he “marvels” at those theists (especially theistic evolutionists) who presume that “for the highest and holiest ends in His personal relations with His creatures, God can work only within the limits which nature imposes; that He cannot act without and above nature’s order if it pleases Him to do so.”

He concludes, “Miracles stand or fall by their evidence, but the attempt to rule them out by any a priori dictum as to the uniformity of natural law must inevitably fail.”<sup>96</sup> Orr skillfully avoids both extreme presuppositionalism and exclusive evidentialism in his articulation of a Christian worldview as compared with rival worldviews.

In this same essay, Orr dismantled the Draper-White<sup>97</sup> warfare thesis of science and Christianity by means of the overall harmony that is evident in the history of science and Christianity. Historians of science, particularly since World War II, have resoundingly discredited the warfare thesis along similar lines (but to little effect as the warfare image still has popular currency). Furthermore, Orr displays a remarkably accurate grasp of the limited extent to which conflict *has* appeared in the history of science and Christianity, namely when either nature or Scripture was misinterpreted. For example, Orr—echoing Augustine, Calvin, Galileo, and many others—observes that the Bible is not a scientific textbook, but is written using the common language of how things appear from earth.<sup>98</sup> Admittedly, “Galileo was imprisoned by the church,” but “truth



*The Fundamentals*, volume 1 (1910). R. A. Torrey served as a writer and one of the editors of the project.

prevailed, and it was soon perceived that the Bible, using the language of appearances, was no more committed to the literal moving of the sun round the earth than are our modern almanacs, which employ the same forms of speech [e.g., 'sunrise']." Similarly, Orr argues that the "great divine 'week' of work" is itself part of the "symbolic setting of the picture" in Genesis 1, and not intended to teach creation in six solar days.<sup>99</sup> In fact, none of the essays in *The Fundamentals* advocated a young earth. Orr also concluded that Noah's flood was anthropologically universal, but geographically local.<sup>100</sup> Many of the errors of fundamentalism became pervasive only later in the history of the movement, after the influence of giants like Orr had faded.

After the demise of fundamentalism among most evangelicals in the generation after the Scopes trial, some aspects of its earlier strengths were later revived. For example, Carl F. H. Henry (who was born in 1913, the year Orr died) read Orr's *The Christian View of God and the World* in a Wheaton College senior course on theism, which (Henry later recalled) "did the most to give me a cogently comprehensive view of reality and life in a Christian context."<sup>101</sup> Henry revived careful Christian worldview analysis in the tradition of Orr, but he and his Wheaton classmate Billy Graham also shed the tainted "fundamentalist" label in their intellectual and revivalist renewal of evangelicalism during the second half of the twentieth century.

In his "Science and Christian Faith" essay, Orr also proposed a resolution to the apparent conflict between biological evolution and the Bible. Significant evidence points to "some form of evolutionary origin of species – that is some genetic connection of higher with lower forms," but he thought that this change was limited (without specifying *how* limited).<sup>102</sup> He also argued that God directs the mechanisms of evolution toward purposeful ends. "Evolution," he concludes, "is coming to be recognized as but a new name for 'creation' ..." Orr also asserts that the origin of life is inexplicable by "purely mechanical and chemical agencies" and that the origin of traits such as consciousness and morality similarly require the operation of "spiritual powers" or a "special act of the Creator."<sup>103</sup> Orr's views here are in line with the Dana-Torrey trajectory analyzed earlier.

*The Fundamentals* (1910–1915) displayed a range of opinion on evolution that did not become focused

political resistance among fundamentalists until the 1920s. Although some essayists in *The Fundamentals* clearly rejected universal common ancestry, others accepted it (with the exclusion of the special case of humans). The most qualified author on evolution among the essayists was theologian (and amateur geologist) George Frederick Wright (1838–1921), who was professor of the "Harmony of Science and Revelation" at Oberlin College in Ohio. Wright argued that "modern evolutionary speculations have not made much real progress over those of the ancients." He especially noted the lack of success of Darwin's proposed mechanism of natural selection acting on random variations, which, indeed, historians of late have shown to have been temporarily eclipsed by neo-Lamarckian and other goal-directed mechanisms around the turn of the twentieth century.<sup>104</sup> Wright concluded that "design" is still detectable in evolutionary change, but he was vague about how much common ancestry he deemed to be well documented (he also changed his mind about this subject a few times during his career).<sup>105</sup>

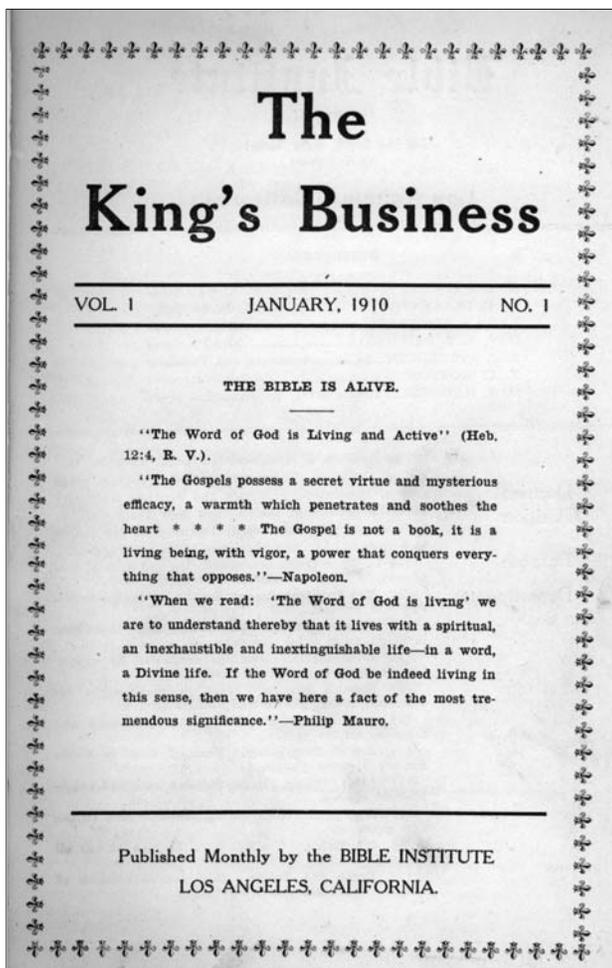
Furthermore, Wright made the case (like Orr and design theorists today) that humans are known to act routinely as intelligent agents in breeding animals and fashioning technology – or even in just moving their arm, as Orr had illustrated. Thus, "we cannot banish God from the universe without stultifying ourselves and reducing man's free will to the level of a mere mechanical force. But man is more than that; and this everyone knows." Even though Wright was correct about the strong human intuition that validates our status as volitional beings who retain personal identity through time (unlike material objects), he might be surprised by the degree to which materialists subsequently have attempted to reduce humans to material entities.

In the preface to the last volume of *The Fundamentals*, which appeared in 1915, under Torrey's editorial oversight, readers were urged to subscribe to *The King's Business* published by Biola (also edited by Torrey), which was offered as a continuation of *The Fundamentals*. The first eleven volumes of *The Fundamentals* had spurred 200,000 letters to the publisher, half of which had requested more.<sup>106</sup> Torrey was happy to comply by sending a complimentary issue of *The King's Business* to each reader in the hope that many would continue by subscription.<sup>107</sup> The oil money of the Stewart brothers was behind all these projects: *The Fundamentals*,

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*The King's Business*, and Biola itself.<sup>108</sup> *The King's Business* focused on "fundamental Christianity" and Sunday school lessons, including background reading and editorial comments about current events. Other than a high profile presence of mail-order offers from the Biola Book Room, Biola's self-promotion was kept to a minimum. This monthly connection with an instant international constituency helped put Biola on the religious world map, particularly as the periodical was also known for its editor, the renowned world evangelist R. A. Torrey. *The King's Business* (1910–1970) was one of the most influential fundamentalist periodicals of the first half of the twentieth century.<sup>109</sup> *Christianity Today* (1956–), the brainchild of Billy Graham and Carl F. H. Henry, became the leading evangelical journal (and chief defender of orthodoxy in the wake of fundamentalism's decline) of the second half of the twentieth century.<sup>110</sup>



Courtesy of Biola University Archives.

## Science, Religion, and the Great War: 1914–1918

While Orr had argued against the alleged war between science and Christianity in *The Fundamentals* (as had Torrey in his revival messages and Bible school curriculum), Torrey's monthly editorials in *The King's Business* often addressed the war in Europe that soon drew America into overseas combat. Torrey maintained a pacifist position through the first half of World War I, which had begun in August 1914. But in his April 1917 editorial (written February 15, two weeks after Germany had begun unrestricted submarine warfare), Torrey made an about face. "Ought Christians to go to war?" he asked. "They certainly should," he answered. "But what war should they go to?" First, he gave the spiritual answer: "The war against Satan (Eph. 6:12, 13); the war against sin and unbelief and error in all its countless forms." Then Torrey suggested the necessity of physical warfare:

There seems to be no possibility of America's being kept out of this most appalling war in all the world's history. The course being pursued by Germany has no shadow of excuse in international law or humanity. In their desperation that nation and its rules seem to have gone mad. It looks as if there was nothing left to be done but to utterly crush the nation, to bring it to its senses.<sup>111</sup>

Indeed, the USA entered the war on April 6, 1917. In the same April 1917 issue of *The King's Business*, Torrey penned another article about the spiritual war over the authority of Scripture. He suggested that the "most dangerous enemies of the Bible today are college professors and principals of high schools, and even theological professors, who ... are ... attempting to show that the Bible is full of errors and not in accord with the assured results of modern science and history."<sup>112</sup> Later in this article, however, Torrey proclaimed,

The greatest scientist that America produced in the nineteenth century, my own friend and beloved instructor in geology, Prof. Dana, said, "The grand old book of God still stands, and this old earth the more its leaves are turned and pondered, the more will it sustain and illustrate the sacred word."<sup>113</sup>

In the February 1918 issue of *The King's Business*, Torrey addressed the spiritual and Darwinian

dimensions of the Great War. First, he celebrated the “taking of Jerusalem by the English forces” as a fulfillment of prophecy.<sup>114</sup> Then he launched five pages that blamed Darwinian evolution for the war.

There can be no question that the present war and some of the most horrible features of German ‘frightfulness’ are the direct outcome of the evolutionary hypothesis, which has had so great a sway in German universities and in German scientific thought.<sup>115</sup>

Torrey documented how numerous German intellectuals and military leaders had justified German military aggression based on Darwinian principles in early twentieth-century publications.<sup>116</sup> Although recent scholarship has shown that authors like Torrey and William Jennings Bryan (of the Scopes trial) overestimated the direct line of influence from Darwinism to the outbreak of World War I,<sup>117</sup> there remains a substantial case for social Darwinism as one of the significant factors that led to the war. Torrey did not recognize one glaring counterexample to his thesis: some Darwinists were pacifists. But, ironically, the reason for such pacifism usually hinged upon the objection that, in modern wars, the wrong people were being killed – Europeans rather than allegedly inferior non-European races.<sup>118</sup>

Though Darwin himself opposed militarism as a deliberate policy,<sup>119</sup> he judged the “war of nature” to be the source out of which morality itself originated. A tribe with more altruistic behavior would out-compete (in the “battle for life”) those lacking such selfless behavior, he reasoned.<sup>120</sup> Those superior in battle were also those on the high moral ground (as an alleged consequence of natural history). Torrey, making many of these same points about Darwinism and military aggression, quipped, “This may sound like Darwinian evolution gone mad, but it is really the evolutionary hypothesis carried to its logical issue.”<sup>121</sup> Historian Richard Weikart has recently documented a more nuanced version of Torrey’s assessment (and connected it to both World Wars) in his book *From Darwin to Hitler* (2004).<sup>122</sup>

In the same editorial analyzed above, Torrey shows how some of the leading German scholars of biblical higher criticism tarnished their reputations by publicly voicing support for German militarism. For example, he profiles statements from Gustav Adolf Deissmann, professor of New Testament

exegesis at Berlin. Deissmann proclaimed the Great War to be “our holy war,” which has strengthened religion: “I say it [i.e., the present war] has steeled [i.e., strengthened] it [i.e., religion] ... This is not relapse to a lower level, but a *mounting up to God himself*.” Torrey, perhaps recalling his own experience studying theology in Germany, responded, “Who will desire to study New Testament theology under a man who is capable of such an infamous and Satanic utterance as this[?]”<sup>123</sup> Torrey concludes his editorial with these words, “It makes for the progress of true thought that they and their theories are necessarily discredited by these recent utterances.”

Some evangelical leaders had defended theistic evolution up to World War I,<sup>124</sup> but this support dwindled among evangelicals and fundamentalists after the Great War. Although evangelicals had long argued that higher criticism in the hands of liberal theologians (those assuming naturalism in varying degrees) had corrupted our understanding of the book of God’s words (the Bible), now there was a growing concern that scientific naturalism had degraded our knowledge of the book of God’s works (nature). There was also increasing evidence that the domain of the two books significantly overlapped, particularly in disputes about the value (or repudiation) of war and of the sanctity of each individual human life.

Torrey not only opposed America entering the war (until it appeared necessary), but he also helped advertise a pamphlet in *The King’s Business* that opposed the war against “inferior” Americans by eugenicists who were campaigning to create a master race through human breeding.<sup>125</sup> Beginning in December 1912, *The King’s Business* advertised this fourteen-page “small book” by Philip Mauro (1859–1952)<sup>126</sup> entitled “*Eugenics*” A New “*Movement*” (of which no copies are known to exist today).<sup>127</sup> The advertisement for Mauro’s five-cent treatise announced that it “tells of another new movement instigated by Satan.” Mauro, the New York lawyer who contributed several essays to *The Fundamentals*, and who later wrote the brief that William Jennings Bryan used in the Scopes trial, was a popular Christian apologist. Mauro opposed eugenics, which was the attempt to guide human evolution by regulating human procreation. Although Darwin himself provided some of the rationale for improving humanity through breeding in his *Descent of Man* (1871),<sup>128</sup>

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eugenics did not become a popular social movement until about the time of Mauro's conversion to Christianity near the turn of the century.

As a lawyer, Mauro might have been familiar with some of the eugenics-based compulsory sterilization laws that were passed beginning in 1907.<sup>129</sup> By the early 1930s, thirty states had enacted such laws and over 12,000 Americans had been sterilized under their guidance (a total of over 60,000 compulsory sterilizations had taken place by 1958).<sup>130</sup> Most of those sterilized were deemed insane or "feeble-minded." With hindsight, the "feeble-minded" designation was often quite dubious, including, in many cases, merely financially underprivileged people. Although conservative evangelicals and fundamentalists typically opposed eugenics, liberal preachers typically supported the movement.<sup>131</sup>

### R. A. Torrey and the Organization of Fundamentalism before the Scopes Trial: 1918–1925

The Baptist minister Harry Emerson Fosdick—a theistic evolutionist and ambivalent supporter of eugenics<sup>132</sup>—became the best known "liberal" critic of fundamentalism through his widely distributed sermon "Shall the Fundamentalists Win?"<sup>133</sup> In this sermon delivered in May of 1922, Fosdick affirmed "genuine liberals" within Christianity who combine "new knowledge and the old faith," and who might "say that the virgin birth is not to be accepted as a historic fact." He warned that fundamentalists "have actually endeavored to put on the statute books of a whole state binding laws against teaching modern [evolutionary] biology," referring to the first such attempts in 1921.<sup>134</sup> "If they had their way, within the church, they would set up in Protestantism a doctrinal tribunal more rigid than the pope's," he predicted concerning his increasingly mobilized fundamentalist opponents. Given that eugenics was routinely taught as part of evolutionary biology at this time<sup>135</sup> (including in the textbook at issue in the 1925 Scopes trial),<sup>136</sup> Fosdick probably felt compelled to support eugenics despite his doubts about some of its aims. Indeed, he was one of three Christian ministers who were charter members of the American Eugenics Society Advisory Council, which formed in 1923 (the year following his sermon against fundamentalism).<sup>137</sup>

How did the fundamentalists get organized before the 1920s, the decade in which their movement became a national sensation? Much of the answer comes from a look at a flurry of activity centered on Torrey, whom emerging fundamentalists recognized as the leading evangelical revivalist. Although Torrey was theologically open to certain forms of evolution, he had argued extensively in the February 1918 issue of *The King's Business* that Darwinism was the main cause of World War I. Fundamentalists took note of this. The pillars of Christian civilization seemed to be crumbling under the influence of Darwinism and higher criticism (see cartoon below). Defenders of Christendom needed to get organized.

At the fourth annual meeting of the World's Christian Fundamentals Association (WCFA), which was held in the 4,564-seat auditorium of the Bible Institute of Los Angeles in 1922, Minneapolis pastor William B. Riley began the convention by telling the story of the birth of the WCFA and its aim of combating the two main components of modernism: evolution and higher criticism. He explained how the WCFA was conceived in the summer home<sup>138</sup>



*The King's Business* 13 (July 1922): 642.  
Courtesy of Biola University Archives.

of Torrey, Biola's dean, at a meeting in 1918, called by Riley and the editor of the first five volumes of *The Fundamentals*, A. C. Dixon.<sup>139</sup> Riley encouraged fundamentalists to fight modernism in colleges and seminaries. To document this need, he summarized the results of the survey published by James Leuba in *Belief in God and Immortality* (1916): "... more than half of those teaching biology, geology and history have discarded a belief in a personal God and a personal immortality."<sup>140</sup> Riley then turned to the "fruit" of this unbelief in American academic leadership, noting that a higher percentage of freshman students in colleges believe in the Christian faith than do upperclassmen. Leuba's study indicated to Riley that the "camouflage of Christianity, so long worked by modernist instructors, is now removed, and for the first time since the conflict began the army of Modernism is in the open and under direct fire."<sup>141</sup> Historian Edward Larson has recognized the WCFA as a leading organization behind the political activation of fundamentalism.<sup>142</sup> However, Torrey's biographer, Roger Martin, concludes that Torrey withdrew from the WCFA soon after the Los Angeles meeting for two reasons: its over-emphasis on fighting evolution and its "subsequent divisiveness and improper spirit."<sup>143</sup> Martin suggests that Torrey thought the inerrancy of Scripture should be the primary focus of organized attempts to renew Christianity.

Indeed, Torrey's emphasis on biblical inerrancy spans the chronological range of his publications.<sup>144</sup> In 1899, he compared acceptance of inerrancy in the face of apparent errors in the Bible to the acceptance of Copernican astronomy before Galileo's discovery of the phases of Venus. "So we see," he concluded,

that according to the common-sense logic recognized in every department of science (with the exception of Biblical criticism, if that be a science), if the positive proof of a theory is conclusive it is believed by rational men, in spite of any number of difficulties in minor details. He is a shallow thinker who gives up a well-attested truth because of some facts which he cannot reconcile with that truth. And he is a very shallow Bible scholar who gives up the divine origin and inerrancy of the Bible because there are some supposed facts that he cannot reconcile with that doctrine. Unfortunately we have many shallow thinkers of that kind, even in our pulpits.<sup>145</sup>

Biblical inerrancy, set within science and religion methodological dialogue, makes a prominent appearance in Torrey's 1907 book that answers the most frequent questions asked during his 1902-1905 world evangelism tours, which resulted in about 100,000 conversions. Torrey opens his book with "a general statement" about alleged biblical errors in which he notes that there is "scarcely a doctrine in science generally believed today that has not had some great difficulty in the way of its acceptance." Appealing to the early years of Copernican astronomy, he writes,

When the Copernican theory, now so universally accepted, was first proclaimed, it encountered a very grave difficulty. If this theory were true, the planet Venus should have phases as the moon has, but no phases could be discovered by the best glass then in existence. But the positive argument for the theory was so strong that it was accepted in spite of this apparently unanswerable objection. When a more powerful glass was made, it was found that Venus had phases after all. The whole difficulty arose, as most all of those in the Bible arise, from man's ignorance of some of the facts in the case.<sup>146</sup>

Torrey reinforced the same point by reviewing the acceptance of the nebular hypothesis (of the solar system's origin) despite anomalous data.

The nebular hypothesis is commonly accepted in the scientific world today. But when this theory was first announced, and for a long time afterward, the movements of the planet Uranus could not be reconciled with the theory. Uranus seemed to move in just the opposite direction from that in which it was thought it ought to move in accordance with the demands of the theory. But the positive arguments for the theory were so strong that it was accepted in spite of the inexplicable movements of Uranus.<sup>147</sup>

In 1922, six years before his death, he identified inerrancy and Jesus' bodily resurrection as the two most pressing issues of the day, despite the recent flurry of talk about evolution, which he deemed comparatively "not so fundamental and vital." Debate about evolution was marked by

great confusion of thought both upon the part of the Conservatives and on the part of the Liberals. Neither side define [sic] with accuracy just what they mean by "Evolution," and the ardent advocates of Evolution, having given

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what they consider conclusive proof of the fact of an Evolution of a certain character, at once assert that they have proved the doctrine of Evolution in an entirely different sense. There is a similar confusion, though not so frequent or so gross, on the part of those contending against Evolution. No one should write either for or against Evolution without a careful definition of just what he means by Evolution.<sup>148</sup>

Torrey offered this assessment of evolution on the eve of the 1925 Scopes trial with the observation that an adequate book on the topic had yet to be written. He had the “hope” that “a man” he had in mind would do the job. This man’s identity remains a mystery.

### Conclusion: R. A. Torrey and Issues in Science and Christianity before 1925

Fundamentalist leader R. A. Torrey offered evangelical Christians insightful approaches for dealing with Darwinism and naturalism before his death in 1928. These insights, some of which Torrey derived from Yale’s president Noah Porter and Yale’s geologist J. D. Dana, might inspire a better relationship between science and Christianity today. How important was Dana to a nineteenth-century assessment of Darwinian evolution? Darwin himself wrote Dana a letter a few years before the *Origin of Species* appeared in 1859, in which he confided, “but when I shall publish, Heaven only knows, not I fear for a couple of years, but when I do the first copy shall be sent to you.”<sup>149</sup> Indeed, in a letter from Darwin to Dana dated November 11, 1859—subsequently found inserted into Dana’s copy of the *Origin of Species*—Darwin announced the fulfillment of his promise and challenged Dana with these words: “I know too well that the conclusion, at which I have arrived, will horrify you, but you will, I believe & hope, give me credit for at least an honest search after the truth. I hope that you will read my Book.”<sup>150</sup> Dana apparently read it, honestly evaluated it, and then rejected the cornerstone of Darwinism: the claim that natural selection acting on random variations has the creative power to make all life from simple beginnings. Torrey followed a similar course.

In 1889, two important evangelical projects were initiated: Torrey began creating a model Bible curriculum for ordinary Christian workers as the

superintendent of Moody’s new Bible Institute in Chicago, and Orr began writing his Kerr lectures that embodied the first explicit articulation of Christianity as a “worldview.” These two projects reinforced each other and became part of the larger fundamentalist movement to defend Christianity against modernism, as argued in *The Fundamentals* (1910–1915). The writers of *The Fundamentals*, including Orr and Torrey, proposed harmony between science and Christianity by accepting the standard geological ages and by offering at least some critique of Darwinism. Biola advanced the work of *The Fundamentals* through its monthly periodical, *The King’s Business* (1910–1970), which Torrey designated as the successor to *The Fundamentals* in the final volume of that series. Torrey could do this because he was editor of both publications, and the funding for both came from the same millionaire brothers—Lyman and Milton Stewart. Although Torrey offered occasional critiques of Darwinism in *The King’s Business* and in his books and sermons, he urged evangelicals and fundamentalists to focus more on biblical inerrancy and a critique of naturalism in all academic fields, rather than on the details of how God’s creative acts unfold in time. While Biola University and most other evangelical institutions today no longer accept the tainted “fundamentalist” label, there is much to be emulated from early fundamentalism before it flung itself into the humiliation of the 1925 Scopes trial—a disastrous move that Torrey did not support.<sup>151</sup>

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### Notes

<sup>1</sup>George M. Marsden, *Fundamentalism and American Culture*, 2d ed. (Oxford: Oxford University Press, 2006), 260. The second edition leaves the original edition of 1980 unchanged, other than an additional chapter about recent fundamentalism. Marsden is both a leading historian of evangelicalism and fundamentalism, as well as an influential advocate of Christian worldview thinking in academia today—particularly since the publication of his book *The Outrageous Idea of Christian Scholarship* (Oxford: Oxford University Press, 1997). After declaring the Society of Christian Philosophers the premier role model of Christian thought, Marsden also favorably mentions the American Scientific Affiliation in *Outrageous Idea*, 102.

<sup>2</sup>As president of Biola and its primary donor, Lyman Stewart built Los Angeles’ tallest building (thirteen floors), which was mostly completed in 1914 to house the young interdenominational evangelical Bible Institute. See [www.talbot.edu/about/history.cfm](http://www.talbot.edu/about/history.cfm) (accessed July 28, 2009).

<sup>3</sup>Torrey’s family burned his letters and diaries after his death in 1928, according to Kermit L. Stagers, “Reuben A.

Torrey: American Fundamentalist, 1856–1928” (PhD diss., Claremont Graduate School, 1986), i. However, some of Torrey’s diaries and other unpublished materials have surfaced in various archives. For a review of these materials, see [www.wheaton.edu/bgc/archives/Papers/Torrey/papers.html](http://www.wheaton.edu/bgc/archives/Papers/Torrey/papers.html) (accessed July 28, 2009). Many of Torrey’s published works are available at [www.freewebs.com/ratorrey/index.htm](http://www.freewebs.com/ratorrey/index.htm) (accessed July 28, 2009).

<sup>4</sup>Perry Miller, the grand expositor of the New England mind and founder of the Yale edition of *The Works of Jonathan Edwards*, described Edwards as the first and greatest homegrown American philosopher,” according to the Yale Divinity School’s Jonathan Edwards Center, “Jonathan Edwards: Biography,” <http://edwards.yale.edu/about-edwards/biography> Yale University, 2006 (accessed December 18, 2007). While Edwards contributed substantially to theological and philosophical reflection on natural philosophy (science), Torrey commented sparsely on the science of his day. Edwards helped define early evangelicalism by defending the rationality and authenticity of the recent revivals. Similarly, Torrey fortified the foundations of evangelicalism by modeling and defending the legitimacy of intellectually responsible revivals.

<sup>5</sup>George W. Pierson, *Yale College: An Educational History, 1871–1921*, vol. 1 (New Haven, CT: Yale University Press, 1952), 69–71. Many of these courses in the senior year were only a few weeks long.

<sup>6</sup>[www.yale.edu/chaplain/yalehistory.html](http://www.yale.edu/chaplain/yalehistory.html) (accessed July 30, 2009).

<sup>7</sup>Ibid.

<sup>8</sup>R. A. Torrey, *Revival Addresses* (Chicago, IL: Fleming H. Revell, 1903), 149–50.

<sup>9</sup>George M. Marsden, *The Soul of the American University: From Protestant Establishment to Established Nonbelief* (Oxford: Oxford University Press, 1994).

<sup>10</sup>Ibid., 126.

<sup>11</sup>Noah Porter, “The American Colleges and the American Public, Part IV,” *New Englander* 28 (October 1869): 753–60, as quoted in Marsden, *The Soul of the American University*, 126–7.

<sup>12</sup>Staggers, “Reuben A. Torrey,” 45.

<sup>13</sup>Marsden, *The Soul of the American University*, 22–3.

<sup>14</sup>Noah Porter, “Herbert Spencer’s Theory of Sociology,” *Princeton Review*, ser. 4, no. 6 (September 1880): 295, as cited in Marsden, *The Soul of the American University*, 131.

<sup>15</sup>Staggers, “Reuben A. Torrey,” 51–7.

<sup>16</sup>Marsden, *Fundamentalism*, 129.

<sup>17</sup>See Biola’s centennial timeline at <http://100.biola.edu/timeline/index.html> for dates and photographs.

<sup>18</sup>Cecilia Rasmussen, “Oilman Leaves a Lasting Legacy,” *Los Angeles Times*, March 2, 2008; <http://articles.latimes.com/2008/mar/02/local/me-then2?pg=2> (accessed July 28, 2009).

<sup>19</sup>Ibid., 128.

<sup>20</sup>Marvin N. Olasky, *The Tragedy of American Compassion* (Wheaton, IL: Crossway Books, 1992).

<sup>21</sup>Christine Rosen, *Preaching Eugenics: Religious Leaders and the American Eugenics Movement* (Oxford: Oxford University Press, 2004).

<sup>22</sup>R. A. Torrey, *What the Bible Teaches* (Chicago, IL: Fleming H. Revell, 1898), 1. Emphasis is in the original. In a later Bible study curriculum, Torrey offered the same approach:

“It is the method of modern science; first a discovery of the facts, and then a classification of the teachings,” R. A. Torrey, *Studies in the Life and Teaching of Our Lord* (Los Angeles, CA: Biola Book Room, 1909), i, available at [www.freewebs.com/ratorrey/StudiesInTheLife1-140.htm](http://www.freewebs.com/ratorrey/StudiesInTheLife1-140.htm) (accessed July 28, 2009).

<sup>23</sup>Marsden, *Fundamentalism*, 55–62, 214–6.

<sup>24</sup>Robert Millikan, *A Scientist Confesses His Faith* (Chicago, IL: American Institute of Sacred Literature, 1923), as cited in Edward B. Davis, “Science and Religious Fundamentalism in the 1920s,” *American Scientist* 93 (May–June 2005): 258. Millikan won the Nobel Prize in physics in 1923, for isolating the electron and measuring its charge. In 1923 and 1924, Millikan used two prestigious award acceptance speeches to communicate to a wider scientifically literate audience a description of the nature of science that is consistent with the one quoted above. In October 1923, he expressed his appreciation to the American Institute of Electrical Engineers for awarding him the Edison Medal, despite the lack of immediate technological significance of his pioneering work with the electron. He remarked:

in behalf of all workers in what is called the field of pure science, all those who are spending their lives in trying merely to ferret out nature’s secrets and to better man’s understanding of her laws, I wish not only to express my appreciation to the Institute for the award, but also to compliment it upon the breadth of its own vision and the service to science which it has done in recognizing before the public the value of this other field. For, in the final analysis, the thing in this world which is of most supreme importance, indeed the thing which is of most practical value to the race, is not, after all, useful discovery or invention, but that which lies far back of them, namely, “the way men think” — the kind of conceptions which they have about the world in which they live and their own relations to it. It is this expanding of the mind of man, this clarifying of his conceptions through the discovery of truth which is the immediate object of all studies in the field of pure science. (Robert A. Millikan, *Science and Life* [Boston, MA: The Pilgrim Press, 1924], 2–3)

On page 86 of this 1924 book, Millikan republished the 1923 statement on science and religion that also appeared in his pamphlet *A Scientist Confesses His Faith*, which includes this declaration: “The purpose of science is to develop without prejudice or preconception of any kind a knowledge of the facts, the laws, and the processes of nature.” He indicates that the larger 1923 statement was “published widely in the press of the United States in June 1923,” under the title of “A Joint Statement upon the Relations of Science and Religion by a Group of Scientists, Religious Leaders and Men of Affairs.” This 1923 statement reappeared in *Popular Astronomy: A Review of Astronomy and Allied Sciences* 48 (1940): 425–6, at the end of the article “Astronomy and Religion” by Louise E. Ballhausen — with the journal editor’s explanatory note that its ethos had become “generally accepted by educated, thoughtful persons” — which suggests that many early twentieth-century scientists accepted this characterization of science. The 1923 statement also appeared as appendix A in *The Autobiography of Robert A. Millikan* (New York: Prentice Hall, 1950). Although Millikan’s Nobel Lecture presents

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a more nuanced description of the nature of science, it does not conflict with the assessment of science voiced above. Millikan writes,

The fact that Science walks forward on two feet, namely theory and experiment, is nowhere better illustrated than in the two fields for slight contributions to which you have done me the great honour of awarding me the Nobel Prize in Physics for the year 1923. Sometimes it is one foot which is put forward first, sometimes the other, but continuous progress is only made by the use of both—by theorizing and then testing, or by finding new relations in the process of experimenting and then bringing the theoretical foot up and pushing it on beyond, and so on in unending alternations. (Robert A. Millikan, “The Electron and the Light-Quant from the Experimental Point of View,” Nobel Lecture, May 23, 1924, p. 1), [www.huwu.org/nobel\\_prizes/physics/laureates/1923/millikan-lecture.html](http://www.huwu.org/nobel_prizes/physics/laureates/1923/millikan-lecture.html) (accessed December 26, 2009)

In Millikan’s most significant scientific monograph, he offers a similar description of science:

A science, like a planet, grows in the main by a process of infinitesimal accretion. Each research is usually a modification of a preceding [sic] one; each new theory is built like a cathedral through the addition by many builders of many different elements. This is preeminently true of the electron theory. (Robert A. Millikan, *The Electron, Its Isolation and Measurement and the Determination of Some of Its Properties* [Chicago, IL: The University of Chicago Press, 1917], 5)

Curiously, Millikan’s numerous science textbooks are largely devoid of general characterizations of the nature of science.

<sup>25</sup>Torrey’s critical realism is seen in his characterization of his systematic theology as an “an attempt” at unbiased inductive Bible study (he recognized human fallibility in the interpretive process). Torrey, *What the Bible Teaches*, 1. Another example of his critical realism is found in one of Torrey’s revival addresses from his worldwide tour at the turn of the twentieth century. He presented the basic argument of what C. S. Lewis would later popularize as the trilemma:

There is no question that Jesus Christ claimed to be divine; no competent student will deny that He claimed to be divine. Well, then, He was one of three things; He was either divine, as He claimed to be, or else He was the most audacious impostor the world has ever seen, or else He was the most helpless lunatic the world has ever seen. He must have been one of these three. (Torrey, *Revival Addresses*, 176–7)

This is a historical argument for the reality of Jesus’ divinity. Although Lewis coined the term “trilemma,” the argument itself appears to go back to the patristic period.

<sup>26</sup>Davis, “Science and Religious Fundamentalism,” 255–9. See also Edward B. Davis, “Robert Andrews Millikan (1868–1953): His Religious Life and Thought,” in Nicolaas A. Rupke, *Eminent Lives in Twentieth-Century Science and Religion*, 2d ed. (Frankfurt am Main: Peter Lang, 2009), 253–74. Davis estimates that Millikan was the second most famous scientist in the United States (after Einstein) in the mid-1920s.

<sup>27</sup>Higher criticism often aimed to “demythologize” the Bible, which was the attempt to reconstruct Christianity with little or no acceptance of the supernatural actions of God in human history.

<sup>28</sup>See the classic book on this topic: Peter Lipton, *Inference to the Best Explanation*, 2d ed. (London: Routledge, 2004). For an application of Lipton’s characterization of scientific methodology to contemporary origins issues, see Stephen C. Meyer, *Signature in the Cell: DNA and the Evidence for Intelligent Design* (New York: HarperOne, 2009), 155–9, 343–4.

<sup>29</sup>Marsden, *Fundamentalism*, 55–62, 214–6.

<sup>30</sup>Forest Ray Moulton, *An Introduction to Astronomy* (London: Macmillan, 1906), 2. For an account of how the Chamberlin-Moulton “planetesimal hypothesis” temporarily eclipsed the Laplacian “nebular hypothesis” in the early twentieth century, see Ronald L. Numbers, *Creation by Natural Law: Laplace’s Nebular Hypothesis in American Thought* (Seattle, WA: University of Washington Press, 1977), 75–6. Moulton was a prominent astronomer at the University of Chicago and later served as secretary of the American Association for the Advancement of Science, according to the Moulton obituary by F. C. Leonard, *Journal of the Royal Astronomical Society of Canada* 47 (1953): 84.

<sup>31</sup>Forest Ray Moulton, “Astronomy,” in H. H. Newman, ed., *The Nature of the World and of Man* (Chicago, IL: University of Chicago Press, 1933), 3–4. The first edition of this comprehensive science textbook was published in 1926, the second edition appeared in 1927, and the third (and last) “star” edition in 1933. Its preface indicates that the textbook contains the lectures for a “survey course,” offered annually at the University of Chicago, “to a group of selected first-year students of superior intelligence.” The preface also reports that the sixteen authors met as a group over sixteen weeks to review each author’s contribution.

<sup>32</sup>William Stanley Jevons, *The Principles of Science: A Treatise on Logic and Scientific Method* (London: Macmillan, 1900), 11–2.

<sup>33</sup>Bertrand Russell, *The Scientific Outlook* (London: George Allen and Unwin, 1931), 33.

<sup>34</sup>Eric M. Rogers, *Physics for the Inquiring Mind: The Methods, Nature, and Philosophy of Physical Science* (Princeton, NJ: Princeton University Press, 1960), 285.

<sup>35</sup>Eric M. Rogers, Brenda Jennison, and Jon Ogborn, *Wonder and Delight: Essays in Science Education in Honour of the Life and Work of Eric Rogers 1902–1990* (Bristol: Institute of Physics, 1994).

<sup>36</sup>Torrey, *What the Bible Teaches*, 294–5.

<sup>37</sup>The term “progressive creationism” was most influentially promoted in Bernard Ramm’s *The Christian View of Science and Scripture* (Grand Rapids, MI: Eerdmans, 1954), a book based upon lectures in Ramm’s 1946–1951 Biola apologetics class.

<sup>38</sup>For an assessment of Dana’s prominent role in American science, see Numbers, *Creation By Natural Law*, 94–100. For example, Dana was the principal editor of the leading American scientific periodical of the time, *The American Journal of Science and Arts*. Torrey referred to Dana often in his sermons and publications as a friend and as an authority on the harmony of science and theology. For example, in his book that answers the questions most frequently asked

during his revivals around the globe, he cites Dana (and Lord Kelvin) to substantiate the harmony between the order of creation in Genesis and the order established by geology. He also advocated the gap theory (a gap of time between Gen. 1:1 and 1:2) as a way of accepting an old earth, and suggested that the nebular hypothesis gives us scientific reasons to believe in the origin of “light” before the origin of our sun—thus reconciling days one and four of the creation “week” with modern science. R. A. Torrey, *Difficulties and Alleged Errors and Contradictions in the Bible* (Chicago, IL: The Bible Institute Colportage Association, 1907), 29–32.

<sup>39</sup>James D. Dana, *Manual of Geology*, 2d ed. (1874; reprint, New York: Ivison, Blakeman, Taylor, 1876), 603–4. The identical language appears in the third edition (1880) of this book on the same pages. The final (1895) edition of this book, which was copyrighted in 1894, was Dana’s last major work before his death in 1895. Here he revised and enlarged this section, as we shall see below.

<sup>40</sup>James Dwight Dana, “Lectures on Evolution,” Dana Family Papers, Yale University Library. Dana’s lecture manuscripts are located in box 4, folders 119–26, which are on reel 4 of the microfilm collection of Dana’s papers. On a page just prior to the first lecture, Dana indicated the years he delivered each of his lectures and when he expanded an older lecture into two new ones. Each lecture lasted about sixty minutes according to his notations. When lecture material expanded much beyond this limit, he would split that ancestor lecture into two descendant lectures. Thus, Dana expanded his initial three lectures of 1871 into a total of eight lectures by 1879 (or 1880; there is some ambiguity in his chronological notation). The entire series of eight lectures is continuously paginated, often with letter suffixes appended to page numbers to signify inserted pages in the growing lecture series. In 1883 and 1885, he printed outlines (not complete transcripts) of his eight-lecture sequence. These two outlines are virtually identical, thus indicating the mature and stable nature of their content in the 1880s. He records having delivered these lectures at Yale up through 1890.

<sup>41</sup>Dana, “Lectures on Evolution,” lecture seven, p. 74, assesses the state of evolutionary theory in the late 1870s:

The causes appealed to will be found to be insufficient—even including that which has been accepted as so potent—Darwin’s natural selection. But if convinced that natural causes have acted, the review of them will help the open mind to understand how they have acted. This thought is repeated in slightly different language in his 1895 *Manual of Geology*, p. 1034. In lecture seven, p. 85 (the last page of that lecture), Dana writes (my italics are underlined words in Dana’s manuscript both here and in the other citations below):

Natural selection is the survival at least of those that survive, if not of always the fittest; and hence action under this principle has determined through all time, in connection with physiological law, the kind of plants and animals that have survived and that thus have come to live together and make up the various associations of species in this land & over the globe; that is it has determined the faunas and floras of the present and past time. This result, not the *Origin* of species, is the chief result under the Darwinian Principle.

In lecture eight, p. 99, he writes,

But the preeminent importance of the principle of Natural Selection, otherwise called the Survival of the Fittest, in species-making I have questioned. A favorable variation is likely to be perpetuated; and those individuals that cannot adapt themselves to changing conditions or new emergencies are likely to succumb, so that the fittest is most sure to survive and perpetuate its kind. This far the principle cannot be questioned. But this *survival* of the fittest and the *origin* of the fittest are very different subjects.

<sup>42</sup>Dana, “Lectures on Evolution,” lecture eight, on an unpaginated sheet located between p. 100 and 100A.

<sup>43</sup>*Ibid.*, p. 100A. Dana was impressed by the non-Darwinian implications of the numerous sudden appearances of biological novelty on the higher taxonomic levels (he refers in this quotation to levels in the vicinity of what we now would call phyla), especially as in the case of what is now called the Cambrian explosion. See also Dana, “Lectures on Evolution,” lecture one, p. 2, in which he considers the possibility of a polyphyletic view of origins in which common ancestry is far from universal, but rather a scenario in which there are separate origins for each of “the seemingly distinct tribes or families of species.” For a recent review of this trajectory of paleontological interpretation, see Stephen C. Meyer, Scott Minnich, Jonathan Moneymaker, Paul A. Nelson, and Ralph Seelke, *Explore Evolution: The Arguments for and against Neo-Darwinism* (London: Hill House, 2007). To visualize this kind of argument, view Illustra Media’s film “Darwin’s Dilemma” (2009).

<sup>44</sup>Dana, *Manual of Geology* (1895), 1032–5, emphasis is in the original. Dana also advocated, as did Darwin, a limited role for neo-Lamarckian evolutionary mechanisms, but concluded that, for the most part, the origin of variation was “without explanation.”

<sup>45</sup>*Ibid.*, 1029–30. See also Dana, “Lectures on Evolution,” lecture one, p. 24A, in which Dana writes,

Agassiz, in view of the evidence, always spoke of the system of progress—which he illustrated in his lectures with great force and enthusiasm—as a development of God’s plan, an expression of the thoughts of God. And yet Agassiz held until his death that species came into existence through special creative acts. All the new facts about the succession of species that geology brought to light in the later years of his life only enhanced to his mind the beauty & wisdom of the divine plan.

Although Dana first delivered this initial lecture of his series in 1871, at least this portion of the lecture must post-date Agassiz’s death in 1873. All of his lectures display numerous revisions and expansions from 1871 to 1890, as he crossed out material, inserted phrases, and added many new paragraphs and whole pages to previous lectures.

<sup>46</sup>*Ibid.*, 1030, emphasis is in the original.

<sup>47</sup>The difference between Agassiz and Dana hinged on the *number* of instances of detectable intelligent causation in nature’s history. See Louis Agassiz, “Evolution and Permanence of Type,” *Atlantic Monthly* (1874), 92–101. Here Agassiz writes,

The most advanced Darwinians seem reluctant to acknowledge the intervention of an intellectual power in the diversity which obtains in nature, under the plea

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that such an admission implies distinct creative acts for every species. What of it, if it were true? Have those who object to repeated acts of creation ever considered that no progress can be made in knowledge without repeated acts of thinking? And what are thoughts but specific acts of the mind? Why should it then be unscientific to infer that the facts of nature are the result of a similar process, since there is no evidence of any other cause? The world has arisen in some way or other. How it originated is the great question, and Darwin's theory, like all other attempts to explain the origin of life, is thus far merely conjectural. I believe he has not even made the best conjecture possible in the present state of our knowledge.

<sup>48</sup>James D. Dana, *The Genesis of the Heavens and the Earth and All the Host of Them* (Hartford, CT: Student Publishing, 1890), 46–7. Unlike Agassiz, Dana thought that all non-human species-level differences arose by means of God's general providence over natural variations, rather than by "special divine acts" (p. 18). In this thin monograph, Dana mostly restates what he wrote in his essay "Creation; or, the Biblical Cosmogony in the Light of Modern Science," *Bibliotheca Sacra*, 42 (1885): 201–24, especially on p. 212. Dana did not revoke his assertion of multiple divine interventions in life's history in his 1895 *Manual of Geology*, and so remained what we might call a progressive creationist for this reason and others given in my analysis of Dana.

<sup>49</sup>Dana, *The Genesis of the Heavens*, 45

<sup>50</sup>Dana, *Manual of Geology* (1895), 1036.

<sup>51</sup>Ibid. Dana also ends his Yale evolution lectures with this same paraphrase of A. R. Wallace, the co-discoverer of natural selection: Dana, "Lectures on Evolution," lecture eight, p. 125. The actual words of Wallace read,

it does not seem an improbable conclusion that all force may be will-force; and thus, that the whole universe is not merely dependent on, but actually *is*, the WILL of higher intelligences or of one Supreme Intelligence.

Alfred Russel Wallace, *Contributions to the Theory of Natural Selection: A Series of Essays* (London: Macmillan, 1870), 368. For a recent treatment of Wallace in regard to his invocation of intelligent causation in biology, see Michael A. Flannery, *Alfred Russel Wallace's Theory of Intelligent Evolution* (Reisel, TX: Erasmus Press, 2009).

<sup>52</sup>Dana, *Manual of Geology* (1895), 1033–4.

<sup>53</sup>A quite different argument for the conservative effect of natural selection is well supported today. See Meyer et al., *Explore Evolution*, 90–6.

<sup>54</sup>Dana, "Lectures on Evolution," lecture one, p. 1.

<sup>55</sup>Ibid., p. 10A (there are several pages marked "10A"; this one is two pages prior to p. 11). Dana writes here in his first (1871) lecture in the eight-lecture series,

... the progress of life which geology has brought to our knowledge was essentially a development, I do not say by natural causes, but, somehow a development or evolution, either by natural causes, or by supernatural alone, that is divine, or by the two in conjunction. Which of these three methods is or appears to be sustained by Science will be later discussed.

Judging from his later lectures and published remarks, Dana decided that science supports the third method of evolution (God acting through natural causes and by

special intervention). Dana goes on to say in the next paragraph,

The development, however carried forward, was development *according to a divine plan*. In such a plan there would be order; and a degree of parallelism even with development from the egg should be looked for in view of the comprehensive unity of purpose or law which pervades all nature, and which must pervade the work of an Infinite Creator.

The closing sentence of lecture one, p. 24A, reads,

The question beyond this which we have before us is: Whether progress under this system of development or evolution demanded a divine act in order to pass in each case, the limits of species, or Whether God's Power wrought out the great system through natural law as the expression of His Will.

<sup>56</sup>Initially, based on secondary sources, I had thought that in the 1870s Dana had shifted to an almost completely theistic evolutionary perspective. After examining the primary sources, I was surprised to discover otherwise. I thank Ted Davis for suggesting that I dig deeper into Dana's views on evolution in response to hearing my paper on Torrey at the Baylor University ASA meeting in August 2009. For an overview of Dana's role in promoting the harmony of science and Christianity, see Edward B. Davis, "The Word and the Works: Concordism and American Evangelicals," in *Perspectives on an Evolving Creation*, ed. Keith B. Miller (Grand Rapids, MI: Eerdmans, 2003), 34–58, especially 47–8.

<sup>57</sup>Ronald L. Numbers, *Darwinism Comes to America* (Cambridge, MA: Harvard University Press, 1998), 142.

<sup>58</sup>David N. Livingstone, *Darwin's Forgotten Defenders: The Encounter between Evangelical Theology and Evolutionary Thought* (Grand Rapids, MI: Eerdmans, 1987), 75. Livingstone apparently got this idea, at least in part, from William F. Sanford, "Dana and Darwinism," *Journal of the History of Ideas* 26 (1965): 540–6, which is an article Livingstone cites for other facts. On p. 538, Sanford writes, "It is clear that Dana accepted the cornerstone of Darwinism, natural selection." But on p. 540, Sanford agrees with my analysis of Dana when he writes,

One of the leading objections was the failure of Darwin's theory to explain what it had set out to demonstrate, namely the origin of species. The doctrine of survival of the fittest Dana admitted to be a fact. However, Natural Selection, true to its title, could not satisfy him as to the *origin* of the fittest. If species became fit because they could better adapt themselves to the circumstances in which they were placed, what then determined their greater adaptability? Dana believed that there had to be an inner agent guiding a species through its mutations to the present result.

Stanford cites Dana, "Lectures on Evolution," lecture seven and lecture eight, to substantiate this point.

<sup>59</sup>Dana, *The Genesis of the Heavens* (1890), 56–8.

To the minds of Agassiz and Guyot, thus taught by nature, the hand of God did not appear to be lifted from His works by such truths. They held that the development was carried forward by the Creator, and looked upon each successive species as existing by His creating act. God was not only at the head as the

source of power, but also in every movement, and creatively in each new step of progress.

Dana, a few years prior to giving this *Genesis of the Heavens* lecture at Yale, claimed that Guyot “was led to accept, though with some reservation, the doctrine of evolution through natural causes.” See “Biographical Memoir of Arnold Guyot,” in the *Annual Report of the Board of Regents of the Smithsonian Institution for 1887* (Washington, DC: Government Printing Office, 1889), 712, as cited in Livingstone, *Darwin’s Forgotten Defenders*, 77–8. Livingstone argues here that Dana “was stretching the term ‘evolution’ way beyond its customary limits,” given that Guyot was much more of a progressive creationist than a theistic evolutionist. According to my analysis of Dana’s own use of the phrase “doctrine of evolution through natural causes,” he had in mind something quite different from what we would call theistic evolution. Such evolution had nothing to do with random variations and almost nothing to do with natural selection. Instead, it was a process guided by divine design.

<sup>60</sup>Recent definitions and descriptions of theistic evolution and related views (and snapshots of their history) may be found at [www.faithandevolution.org/questions.php](http://www.faithandevolution.org/questions.php) and <http://biologos.org/questions> (accessed October 8, 2009). Most commonly today, theistic evolution refers to the belief that God created life through natural selection acting on what scientists detect as “random variations.” Some insist that such variations are only apparently random (as far as science is capable of determining), and that God actually directs the process of evolution. Other theistic evolutionists maintain that God’s sovereign guidance of the course of evolution is minimal or virtually nonexistent (e.g., open theists). Dana held views fundamentally at odds with both of these versions of theistic evolution, while maintaining his position as one of America’s leading advocates of the harmony of science and Christianity during the late nineteenth century. The terms “evolutionary creationism” and “BioLogos” are more recent alternative labels for theistic evolution.

<sup>61</sup>Torrey, *What the Bible Teaches* (1898), 294–5.

<sup>62</sup>Diary of R. A. Torrey, Ephemera of Reuben Archer Torrey Senior, collection 107, box 3, Billy Graham Center Archives, Wheaton College. Torrey notes on July 19, “Finished today the first part of the ‘Descent of Man.’” Darwin’s book is divided into three parts, the first part of which includes up through chapter 7. Chapter 5, “On the development of the intellectual and moral faculties during primeval and civilized times,” is the focus of Torrey’s comments on July 17, 1882. “In chapter 5 of Darwin’s book, we find such jolting statements as: ‘... excepting in the case of man himself, hardly any one is so ignorant as to allow his worst animals to breed.’” The July 18, 1882 diary entry refers to Torrey’s reading of St. George Jackson Mivart, *Lessons from Nature, as Manifested in Mind and Matter* (London: J. Murray, 1876), 82–127.

<sup>63</sup>Mivart, *Lessons from Nature*, p. 95.

<sup>64</sup>*Ibid.*, 108–9.

<sup>65</sup>Henry White Warren, *Recreations in Astronomy, with Directions for Practical Experiments and Telescopic Work* (New York: Harper and Bros., 1879).

<sup>66</sup>Torrey’s diary entry of Tuesday, July 18, 1882. Richard A. Proctor, *Light Science for Leisure Hours: A Series of Familiar*

*Essays on Scientific Subjects, Natural Phenomena* (New York: Appleton, 1871).

<sup>67</sup>The greater-God argument attempts to present the God of theistic evolution as greater (compared to the traditional view of the creator) in that he designed things to design themselves. While Torrey occasionally argued against Darwinism in his sermons and books, he considered universal common descent (despite what he took to be its very weak evidential support) consistent with the design argument:

But suppose the doctrine of evolution were true, it would not for a moment militate against the argument from design. If there were originally some unorganized protoplasm that developed into all the forms of life and beauty as we see them today, it would be a still more remarkable illustration, in one way, of the wisdom and power of the Creator, for the question would arise, Who put into the primordial protoplasm the power of developing into the universe [of life] as we see it today. (Torrey, *Revival Addresses*, 8)

<sup>68</sup>“Dr. R. A. Torrey Replies to Dr. O. E. Brown,” a letter from R. A. Torrey [to the editor, James Gray], October 2, 1925, sent from his South Pasadena home, published in the *Moody Bible Institute Monthly* 26 (December 1925): 161–2. About a year prior to writing this letter, Torrey had resigned from the Biola deanship (effective July 1, 1924) in order to engage in full-time evangelistic work. Torrey repeated this sort of commentary on evolution in his sermon “God is” in R. A. Torrey, *Soul-Winning Sermons* (New York: Fleming H. Revell, 1925), 13:

I gave it up not for religious reasons; I do not know any conclusive religious reasons against it: I gave it up for purely scientific reasons. I gave it up because it was absolutely unproven, and all really scientifically discovered and proven facts were against it instead of for it.

Torrey then also repeats his greater-God escape hatch on p. 14: “If it [evolution] were true it would be in a way a more striking proof of the existence and wisdom and power of God, than if the universe were created outright as we see it today.” He drove the point home by analogy: “Which would be more wonderful, for a man to make a watch today, or for a man to make a second hand with an inherent capacity for developing into a watch?”

<sup>69</sup>“Dr. R. A. Torrey Replies to Dr. O. E. Brown,” 161–2.

<sup>70</sup>*Ibid.* The awkward sentence structure is in the original. James Gray, the chief Moody editor, had published this article three months earlier: “Why a Christian Cannot Be an Evolutionist,” *Moody Bible Institute Monthly* 25 (August 1925): 538–40. On p. 538, Gray defines evolution as “a theory which undertakes to account for, or to explain, the origin and course of the universe independently of God.”

<sup>71</sup>Robert Anderson, *A Doubter’s Doubts about Science and Religion* (New York: Gospel Publishing House, 1909).

<sup>72</sup>The back cover of *The King’s Business* often recommended Anderson’s book in the first two years of this journal’s existence (1910–1911). Beginning with the back cover of the August–September 1911 issue, *The King’s Business* announced the arrival of the “Montrose Library,” a collection of books named after the Montrose Bible Conference facility that Torrey founded in 1908—located in Montrose, Pennsylvania (where Torrey was later buried). Beginning with the July 1913 issue of *The King’s Business*, the

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"Montrose Library" was explicitly identified as a collection of resources that "Doctor Torrey says every Christian should own." Torrey had recently taken up the editorial command of *The King's Business*.

<sup>73</sup>Anderson, *A Doubter's Doubts*, 4.

<sup>74</sup>*Ibid.*, 7.

<sup>75</sup>*Ibid.*, 11.

<sup>76</sup>*Ibid.*, 17–8.

<sup>77</sup>*Ibid.*, 21.

<sup>78</sup>*Ibid.*, 27.

<sup>79</sup>R. A. Torrey, *Practical and Perplexing Questions Answered* (Chicago, IL: Moody Press, 1908), 68–9. This material is a later version of some of the arguments found in his revival sermons, which he published in 1903 midway through his evangelistic crusades on four continents: Torrey, *Revival Addresses*, 5–8. Torrey revised this sermon in Torrey, *Soul-Winning Sermons*.

<sup>80</sup>George T. B. Davis, *Torrey and Alexander: The Story of a World-Wide Revival* (New York: Fleming H. Revell, 1905), 10.

<sup>81</sup>Staggers, "Reuben A. Torrey," 197. Staggers cites "A Souvenir of Reuben Archer Torrey Day at the Billy Graham Center," Wheaton College (n.d.), p. 2.

<sup>82</sup>Torrey, *Difficulties and Alleged Errors and Contradictions in the Bible* and Torrey, *Practical and Perplexing Questions Answered*.

<sup>83</sup>Orr worked on his Kerr lectures for three years before delivering them in 1891. David K. Naugle, *Worldview: The History of a Concept* (Grand Rapids, MI: Eerdmans, 2002), 7.

<sup>84</sup>Mark A. Noll, *The Rise of Evangelicalism: The Age of Edwards, Whitefield, and the Wesleys*, vol. 1 of "The History of Evangelicalism" (Downers Grove, IL: InterVarsity Press, 2003), 19. See a critique of Noll (specifically, David Bebbington, upon whom Noll leans for a definition of "evangelical") in Richard Turnbull, *Anglican and Evangelical?* (London: Continuum, 2007), 55–89. My definition of "evangelical" takes into account the work of all these scholars.

<sup>85</sup>Naugle, *Worldview*, 17. Kuyper presented a Christian "worldview" in his 1898 Stone Lectures at Princeton University.

<sup>86</sup>Marsden, *Fundamentalism*, 46–7.

<sup>87</sup>"What was Christ's Attitude Toward Error? A Symposium," *Record of Christian Work* 18 (November 1899): 600.

<sup>88</sup>Marsden, *Fundamentalism*, 107.

<sup>89</sup>According to Louis Meyer, the idea of the fundamentals first came to Lyman Stewart in the early 1890s, in a meeting held during the Niagara Bible Conference. Meyer was the executive secretary of the Fundamentals project at this time. Louis Meyer, "The Fundamentals," *The King's Business* 3 (December 1912): 333–4.

<sup>90</sup>Union's capital grew from \$10 million to \$50 million according to "Lyman Stewart," in "Twentieth-Century Great American Business Leaders," Harvard Business School, 2004, webpage: [www.hbs.edu/leadership/database/leaders/868](http://www.hbs.edu/leadership/database/leaders/868) (accessed December 18, 2007). The Union Oil Company of California, later Unocal, was purchased by Chevron in 2005. See "Company Profile: Providing Energy for Human Progress," [www.chevron.com/about/leadership](http://www.chevron.com/about/leadership) (accessed December 18, 2007) and "Unocal Corporation," in "Reference for Business: Company Histories," [www.referenceforbusiness.com/history/UI-Vi/Unocal-Corporation.html](http://www.referenceforbusiness.com/history/UI-Vi/Unocal-Corporation.html) (accessed December 18, 2007).

<sup>91</sup>"A Statement by the Two Laymen," preface to *The Fundamentals: A Testimony to the Truth* 12 (Chicago: Testimony Publishing Company, [1915]), 4.

<sup>92</sup>Naugle, *Worldview*, 6–13.

<sup>93</sup>James Orr, *The Christian View of God and the World As Centering in the Incarnation*, Kerr lectures for 1890–1891, 4th ed. (New York: Randolph, 1897), 4.

<sup>94</sup>James Orr, "Science and Christian Faith," in *The Fundamentals* 4, 95.

<sup>95</sup>*Ibid.*, 96.

<sup>96</sup>*Ibid.*, 95–6.

<sup>97</sup>John William Draper, *History of the Conflict between Religion and Science* (London: Henry S. King, 1875) and Andrew Dickson White, *A History of the Warfare of Science with Theology in Christendom* (London: Macmillan, 1896).

<sup>98</sup>Orr cites John Calvin's commentary on Genesis as an example in Orr, "Science and Christian Faith," 97.

<sup>99</sup>*Ibid.*, 101. For a recent, and more sophisticated, exegetical treatment of Genesis 1 that is similar to Orr's, see C. John Collins, *Genesis 1–4: A Linguistic, Literary, and Theological Commentary* (Phillipsburg, NJ: P & R Publishers, 2006).

<sup>100</sup>James Orr, "The Early Narratives of Genesis," in *The Fundamentals* 6, 97.

<sup>101</sup>Naugle, *Worldview*, 15.

<sup>102</sup>Orr did regard evolution limited enough to preclude human evolution:

Certainly there would be contradiction if Darwinian theory had its way and we had to conceive of man as a slow, gradual ascent from the bestial stage, but I am convinced, and have elsewhere sought to show, that genuine science teaches no such doctrine. (Orr, "The Early Narratives," 96)

<sup>103</sup>*Ibid.*, 103.

<sup>104</sup>See the chapter "The Eclipse of Darwinism" in Peter J. Bowler, *Evolution: The History of an Idea*, 3d ed. (Berkeley, CA: University of California Press, 2003).

<sup>105</sup>Ronald L. Numbers, *The Creationists: From Scientific Creationism to Intelligent Design*, 2d ed. (Cambridge, MA: Harvard University Press, 2006), 33–50.

<sup>106</sup>"A Statement by the Two Laymen," preface to *The Fundamentals* 12, 4.

<sup>107</sup>Around 1915 *The King's Business* had a circulation of nearly 200,000. See <http://100.biola.edu/timeline/index.html> (accessed July 29, 2009).

<sup>108</sup>Stewart to Dr. R. A. Torrey, Montrose, Pennsylvania, August 8, 1912, Lyman Stewart Correspondence, Biola University Archives. Stewart writes,

We trust also that you have been sufficiently impressed with the importance of the work here to be willing to make Los Angeles the center of your work for the balance of your life. We hope, therefore, that you will not feel limited or hampered by reason of the five year clause in the Bible Institute's contract with you.

Later he says,

The facts of our magnificent climate, our fertile soil, our rich mines, our cheap fuel, the superior intelligence of our citizenship, the near opening of the Panama Canal, and the proximity of our Coast to the Orient, insure, we believe, in the comparatively near future, if conditions continue normal, a commercial industrial empire on this coast such as the world has not even dreamed of.

- <sup>109</sup>See [www2.biola.edu/kingsbusiness](http://www2.biola.edu/kingsbusiness) (accessed July 29, 2009) regarding the influence of *The King's Business*. See also Ronald Lora and William Henry Longton, *The Conservative Press in Twentieth-Century America* (Santa Barbara, CA: Greenwood Press, 1999).
- <sup>110</sup>Beth Spring and Christianity Today Staff, "Carl F. H. Henry, Theologian and First Editor of Christianity Today, Dies at 90," [www.christianitytoday.com/ct/2003/decemberweb-only/12-8-14.0.html](http://www.christianitytoday.com/ct/2003/decemberweb-only/12-8-14.0.html) (accessed January 14, 2008). See also Kenneth W. Shipps, "Christianity Today (1956-)" in Lora and Longton, *The Conservative Press*, 171-80, which notes that a 1979 Gallup poll found *Christianity Today* to be "the most widely read religious periodical among clergy in the United States." In 1981, the journal had a circulation of nearly 200,000. It fluctuated below this figure through the 1980s and 1990s. For circulation statistics, Shipps refers the reader to the *Christianity Today* Collection, box 4, folder 1, Billy Graham Center Archives, Wheaton College. As of September 2009, *Christianity Today* had a circulation of 140,000 and an online readership of 265,000 unique persons per month (this number exceeds 443,000 if one includes blogs and other domains of the *Christianity Today* website, according to a *Christianity Today* employee with whom I spoke in September 2009).
- <sup>111</sup>R. A. Torrey, editorial, *The King's Business* 8 (April 1917): 292-3.
- <sup>112</sup>R. A. Torrey, "Is the Bible in Danger," *The King's Business* 8 (April 1917): 297.
- <sup>113</sup>*Ibid.*, 299.
- <sup>114</sup>R. A. Torrey, editorial, *The King's Business* 9 (February 1918): 92.
- <sup>115</sup>*Ibid.*, 95.
- <sup>116</sup>Torrey makes the same points in his 16-page tract, R. A. Torrey, *What the War Teaches or The Greatest Lessons of 1917* (Los Angeles, CA: Biola Book Room, 1918), 9-11.
- <sup>117</sup>Stephen Jay Gould, "William Jennings Bryan's Last Campaign," in *Bully for Brontosaurus: Reflections in Natural History* (New York: Norton, 1991), 416-31.
- <sup>118</sup>Richard Weikart, *From Darwin to Hitler: Evolutionary Ethics, Eugenics, and Racism in Germany* (New York: Palgrave Macmillan, 2004), 163-5.
- <sup>119</sup>Peter J. Bowler, *Charles Darwin: The Man and His Influence* (Cambridge: Cambridge University Press, 1996), 219.
- <sup>120</sup>Weikart, *From Darwin to Hitler*, 166.
- <sup>121</sup>R. A. Torrey, editorial, *The King's Business* 9 (February 1918): 96.
- <sup>122</sup>Weikart's work has sparked historiographic debates that are usefully introduced at [www.faithandevolution.org/debates](http://www.faithandevolution.org/debates), which includes critical reviews by Jeff Schloss and Sander Gliboff.
- <sup>123</sup>Torrey, editorial, *The King's Business* 9 (February 1918): 100. The original is missing the required question mark.
- <sup>124</sup>Livingstone, *Darwin's Forgotten Defenders*.
- <sup>125</sup>See, for example, the bestseller, Edwin Black, *War against the Weak: Eugenics and America's Campaign to Create a Master Race* (New York: Four Walls Eight Windows, 2003).
- <sup>126</sup>Some of Mauro's writings and his only biography are at [www.preteristarchive.com/StudyArchive/m/mauro-philip.html](http://www.preteristarchive.com/StudyArchive/m/mauro-philip.html) (accessed January 11, 2008). Mauro is also remembered for authoring two pamphlets about his experience on the ship *Carpathia* during the Titanic rescue of April 1912.
- <sup>127</sup>Philip Mauro, "Eugenics" *A New "Movement,"* 2d ed. (London: Samuel E. Roberts, [1912]). The second edition is the only one recorded in *WorldCat* as presently existing – the only copy of which was reportedly located in the library of Reformed Theological Seminary in Jackson, Mississippi. Because this library lost Mauro's anti-eugenics pamphlet, we must infer its message from advertisements in the unpaginated rear sections of *The King's Business* from 1912 to at least September 1914. Mauro later wrote a legal apologetic, *Evolution at the Bar* (Boston, MA: Hamilton, 1922), that *The King's Business* also promoted. As a leading New York lawyer, Mauro might have had exposure to the eugenics movement by 1912 through a Broadway play on the subject that was in the works, and through the many new eugenics publications that were appearing. Also, in 1912, the first international Eugenics Congress was held in London (where Mauro's pamphlet was published), at which American eugenicists played a prominent role. See John G. West, *Darwin Day in America: How Our Politics and Culture Have Been Dehumanized in the Name of Science* (Wilmington, DE: ISI Books, 2007), 125-6.
- <sup>128</sup>Darwin wrote,  
 With savages, the weak in body or mind are soon eliminated; and those that survive commonly exhibit a vigorous state of health. We civilised men, on the other hand, do our utmost to check the process of elimination; we build asylums for the imbecile, the maimed, and the sick; we institute poor-laws; and our medical men exert their utmost skill to save the life of every one to the last moment. There is reason to believe that vaccination has preserved thousands, who from a weak constitution would formerly have succumbed to small-pox. Thus the weak members of civilised societies propagate their kind. No one who has attended to the breeding of domestic animals will doubt that this must be highly injurious to the race of man. It is surprising how soon a want of care, or care wrongly directed, leads to the degeneration of a domestic race; but excepting in the case of man himself, hardly anyone is so ignorant as to allow his worst animals to breed. (Charles Darwin, *The Descent of Man* [Akron, OH: The Werner Company, (1874)], 136 of this version of the 2d edition [1874], which is identical to p. 168 of the 1st edition [1871])  
 The quoted passage is near the beginning of the section of chapter 5 that is entitled "Natural Selection as Affecting Civilised Nations."
- <sup>129</sup>Indiana passed the first compulsory sterilization law in 1907, which was also the first legislation of this sort in the world. West, *Darwin Day in America*, 87.
- <sup>130</sup>Mark H. Haller, *Eugenics: Hereditarian Attitudes in American Thought* (New Brunswick, NJ: Rutgers University Press, 1984), 141. On p. 49, Haller also says that by the 1890s, both salpingectomy (cutting and tying of the fallopian tubes) and vasectomy (cutting and tying of the *vas deferens*) were available. These operations sterilized humans without significantly affecting their gender.
- <sup>131</sup>Christine Rosen, *Preaching Eugenics: Religious Leaders and the American Eugenics Movement* (Oxford: Oxford University Press, 2004).
- <sup>132</sup>*Ibid.*, 131-2. Rosen cites Fosdick's December 1928 sermon "The Importance of the Ordinary Man," in which he

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asserted that people of average capabilities are important to the progress of humanity—a belief repudiated by some eugenicists. On p. 116, Rosen suggests that Fosdick's motivations for joining the AES [American Eugenics Society] are difficult to assess. He made few public statements about eugenics, and those he did were cautious. "Few matters are more pressingly important than the application to our social problems of such well-established information in the realm of eugenics as we actually possess," was a typically restrained encomium. "The failure to do this is almost certainly going to put us in the position of endeavoring to cure symptoms while basic causes of social degeneration and disorder go untouched."

Here Rosen quotes Fosdick in the pamphlet *Eugenics at Work*, 1931, AES Papers, American Philosophical Society Library. Rosen tells us that

Rev. Fosdick's papers, which he deposited in the library of Union Theological Seminary in New York, yield no trace of his participation in the eugenics movement. Fosdick himself prepared the papers for the archives, and as he lived long enough to see eugenics thoroughly discredited, it is possible that he withheld those documents that revealed his participation in the movement. AES papers reveal his participation, however.

<sup>133</sup>Marsden, *Fundamentalism*, 171. Harry Emerson Fosdick, "Shall the Fundamentalists Win?" *Christian Work* 102 (June 10, 1922): 716–22 is available at *History Matters*, "'Shall the Fundamentalists Win?' Defending Liberal Protestantism in the 1920s," <http://historymatters.gmu.edu/d/5070> (accessed January 11, 2008).

<sup>134</sup>Regarding anti-evolution legislative attempts beginning in 1921, see Edward J. Larson, *Trial and Error: The American Controversy over Creation and Evolution*, 3d ed. (Oxford: Oxford University Press, 2003), 39–49.

<sup>135</sup>See Ronald Ladouceur's "Biology Textbooks before Scopes," [www.faultymemories.com/wordpress/?p=552](http://www.faultymemories.com/wordpress/?p=552) (accessed October 20, 2009), which cites Ronald P. Ladouceur, "Ella Thea Smith and the Lost History of American High School Biology Textbooks," *Journal of the History of Biology* 41 (2008): 435–71. Leading eugenicists were also among the most active defenders of Darwinism in schools. As John West notes,

In the anti-evolution controversies of the 1920s ... the American Association for the Advancement of Science (AAAS) appointed a special committee to publicly defend evolutionary theory. Its membership consisted of three scholars who were also leaders of the eugenics movement: Charles Davenport, Henry Fairfield Osborn, and Edwin Conklin (West, *Darwin Day in America*, 130).

<sup>136</sup>George W. Hunter, *A Civic Biology: Presented in Problems* (New York: American Book Company, 1914), 261–5. On p. 261, Hunter lists various diseases that are allegedly inherited, including tuberculosis, epilepsy, and feeble-mindedness, "which it is not only unfair but criminal to hand down to posterity." On p. 263, he argues that such people are "true parasites" because they "take from society, but they give nothing in return." Most of those labeled "feeble-minded" at this time would not be considered mentally ill today. See West, *Darwin Day in America*, 123–62, which includes a review of the so-called Kallikak family who are also cited in Hunter's textbook as a feeble-minded lineage on p. 262.

<sup>137</sup>Rosen, *Preaching Eugenics*, 116. See also John M. Bozeman, "Eugenics and the Clergy in the Early Twentieth-Century United States," *The Journal of American Culture* 27 (December 2004), 422–31. Bozeman claims on p. 427 that Fosdick did not contribute anything substantial to the AES's journal and concludes that Fosdick "appears to have lent his name primarily out of his interests in overpopulation and birth control." Consistent with Bozeman's analysis, Rosen, p. 156, reminds us that Fosdick "declared himself an 'ardent advocate' of birth control, and in 1928, preached to an audience of more than thirteen hundred about its benefits."

<sup>138</sup>Ernest R. Sandeen, *The Roots of Fundamentalism* (Chicago, IL: University of Chicago Press, 2008), 243. Torrey retained his Montrose, Pennsylvania, home (at a fundamentalist conference center) as a summer residence when he took the Biola deanship—a position that included summers off so Torrey could engage in evangelism.

<sup>139</sup>W. B. Riley, "The Christian Fundamentals Movement: Its Battles, Its Achievements, Its Certain Victory," Opening address, in *Scriptural Inspiration versus Scientific Imagination: Messages delivered at the Great Christian Fundamentals Conference* (Los Angeles: Biola Book Room, 1922): 7–8. The meetings were held June 25–July 2, 1922.

<sup>140</sup>Riley used "geology" to refer to Leuba's "physical science" category and did not mention Leuba's statistics for sociologists and psychologists, which documented even less belief in God and immortality. See the summary of results in James H. Leuba, *The Belief in God and Immortality: A Psychological, Anthropological and Statistical Study* (Boston, MA: Sherman French, 1916), 278. The same table is found on the same page in the second edition (Chicago, IL: Open Court, 1921). The second edition, with only minor changes (and still based on the original survey), appeared just after fundamentalism had become a powerful movement in America. Leuba, on p. 173 of the second edition, notes that his work falsifies the claims of many preachers that "scientists and philosophers, with few exceptions, share with them the 'fundamentals' of the Christian faith." Bringing this assessment up to date, John West writes,

Although theistic evolution receives much attention from the news media, it clearly represents a fringe position among leading evolutionary biologists. Nearly 95% of the biologists in the National Academy of Sciences describe themselves as atheists or agnostics, a far higher percentage than in any other scientific discipline. [Larry A. Witham, *Where Darwin Meets the Bible* (New York: Oxford University Press, 2002), 271–3]

Similarly, according to a 2003 Cornell survey of leading scientists in the field of evolution, 87% deny existence of God, 88% disbelieve in life after death, and 90% reject the idea that evolution directed toward "ultimate purpose." [Cornell Evolution Project Survey] [www.discovery.org/a/10091](http://www.discovery.org/a/10091) (accessed October 8, 2009).

<sup>141</sup>Riley, "The Christian Fundamentals Movement," 18.

<sup>142</sup>Larson, *Trial and Error*, 43–4.

<sup>143</sup>Martin cites a "Letter from Reuben A. Torrey, Jr.," to Roger Martin, October 21, 1966. Roger Martin, *R. A. Torrey: Apostle of Certainty* (Murfreesboro, TN: Sword of the Lord Publishers, 1976), 245 and 249 (footnote 10). Torrey's own address at the Los Angeles WCFA convention included only a brief critical remark about evolution. R. A. Torrey, "The God of the Bible: A Personal God," in *Scriptural Inspiration versus Scientific Imagination*: 84–5. Torrey notes that when evolu-

tionists are asked for the evidence that supports their theory, they reply “all scholars are agreed upon it.” But, when one mentions a specific Darwin doubter, the evolutionist will reply, “Oh he doesn’t believe in Evolution, therefore he is not a scholar.” Regarding “divisiveness and improper spirit,” Torrey himself was sometimes guilty of this, according to Lyman Stewart in a letter to Torrey in which he cited Torrey’s sermon reference to the Pope as not having “the brains of a chipmunk.” Stewart’s guests that day reportedly “went away mad, and declared that the Bible Institute and the Church of the Open Door were knockers.” Lyman Stewart to R. A. Torrey, August 7, 1920, p. 5, Lyman Stewart Correspondence, Biola University Archives.

<sup>144</sup>One of Torrey’s earliest publications is an undated 23-page pamphlet that includes a case for inerrancy: R. A. Torrey, *Ten Reasons Why I Believe the Bible Is the Word of God* (New York: Fleming H. Revell, n.d.). In the opening paragraph of this sermon, Torrey indicates that he was a student at Yale “fifteen or sixteen years ago.” He completed his Yale seminary degree in 1878, which would place this sermon in the year 1893 or 1894. A shorter version of this sermon appeared in Charles Leach and R. A. Torrey, *Our Bible: How We Got It and Ten Reasons Why I Believe the Bible Is the Word of God* (Chicago, IL: The Bible Institute Colportage Association, 1898). Torrey’s earliest book was *How to Bring Men to Christ* (New York: Fleming H. Revell, 1893).

<sup>145</sup>R. A. Torrey, *The Divine Origin of the Bible: Its Authority and Power Demonstrated and Difficulties Solved* (Chicago, IL: Fleming H. Revell, 1899), 53–4. On p. 63–4, he indicates his support for the gap theory as a way to reconcile an old earth with Genesis 1, and on p. 68–9, he notes that it is “one of the perfections of the Bible that it was not written in the terminology of modern science,” but rather in the ordinary terms of how nature appears to us on earth.

<sup>146</sup>Torrey, *Difficulties and Alleged Errors and Contradictions in the Bible*, 11. Much of this is a refined version of material in Torrey, *The Divine Origin of the Bible*.

<sup>147</sup>*Ibid.* Although William Herschel discovered Uranus in 1781, fifteen years before Laplace published his first sketch of the nebular hypothesis in 1796, eighteenth-century astronomers had no data as to the direction of Uranus’ rotation. In fact, scientists still debate whether Uranus’ rotation is direct or retrograde due to the fact that its axis of rotation is within eight degrees of being parallel to its orbital plane. Torrey must have in mind a period of history in which astronomers considered the direction of Uranus’ rotation to be *retrograde* and thus (by the standards of that time) anomalous, relative to the otherwise uniformly *direct* (eastward) motions of the rotations and revolutions of the other planets and moons of the solar system, which Laplace had used as evidence for his nebular hypothesis. See appendix two in Numbers, *Creation By Natural Law*, 1977, to read the relevant parts of Laplace’s theory.

<sup>148</sup>R. A. Torrey, *Is the Bible the Inerrant Word of God, and Was the Body of Jesus Raised from the Dead?* (New York: George H. Doran, 1922), vii. For a recent clarification of the confusion caused by the multiple meanings of evolution, see Stephen C. Meyer and Michael N. Keas, “The Meanings of Evolution,” in John Angus Campbell and Stephen C. Meyer, eds., *Darwinism, Design and Public Education* (East Lansing, MI: Michigan State University Press, 2003), 135–56.

<sup>149</sup>Charles Darwin to James D. Dana, September 29 [1856?], Dana Family Papers, Yale University Library, microfilm reel 2, box 2, folder 43.

<sup>150</sup>Charles Darwin to James D. Dana, November 11, 1859, Dana Family Papers, Yale University Library, microfilm reel 2, box 2, folder 43. John Murray, the publisher of Darwin’s *Origin*, officially launched the book on November 24, 1859, by releasing 1,250 copies.

<sup>151</sup>Torrey’s lack of enthusiasm for the Scopes trial may be inferred from several points made earlier. First, Torrey’s biographer Roger Martin, citing a letter from Torrey’s son, concluded that Torrey withdrew from the WCFA soon after the 1922 Los Angeles meeting, partly because of its overemphasis on fighting evolution. Second, Torrey criticized both the “conservatives” and the “liberals” who were debating the merits of evolution in the early 1920s. Here he especially noted the equivocal use of the term “evolution” — see Torrey, *Is the Bible the Inerrant Word of God* (1922), vii. Finally, in October 1925, a few months after the Scopes trial, Torrey recalled, in a letter to his friend James Gray, editor of the *Moody Bible Institute Monthly*,

Even after I came to believe thoroughly in the Bible, and in its exact interpretation, I was, to a certain extent, an evolutionist. I later, with more thorough study, was led to give up the evolutionary hypothesis for purely scientific reasons.

In that same published letter, Torrey indicated that a fundamentalist Christian could be an evolutionist in at least some sense of the term. Unfortunately, Torrey’s diaries from the Scopes period do not exist today, and so we can only infer his lack of support for the fundamentalist attack on evolution from the sources mentioned.



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