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# BIBLIOTHECA SACRA AND DARWINISM: AN ANALYSIS OF THE NINETEENTH-CENTURY CONFLICT BETWEEN SCIENCE AND THEOLOGY

JOHN D. HANNAH

*Clergymen and educators in the previous century generally viewed the Scriptures and scientific theory to be harmonious volumes in the revelation of God. In a century that also viewed science as the receptacle of truth, however, clerics felt compelled to revise their explanations of Scripture in light of the dictates of geology and biology. They assumed correctly that science was ultimately in congruity with special revelation, but seriously erred in assuming that the contemporary interpretations of scientific data were necessarily valid. Accordingly, they adjusted their interpretation of the Scriptures in light of 19th-century science and eventually imposed a theistic developmentalism upon creation. The actions of those clergymen, though explainable when viewed from the assumptions of their century, serve as a warning to all of us that Scripture alone is infallible and the opinions of men must be evaluated at the tribunal of God's Word.*

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**B**EFORE the publication of Chambers' *Vestiges of the Natural History of Creation* and Darwin's *Origin of Species*, the marriage of theology and science appeared as a sacred and, hence, an inviolable institution. To the perceptive eye, the subjection of science as the handmaiden, a branch of Natural Theology, was greatly shaken by the Copernican Revolution, but the theological world thought itself secure in the belief that the findings of science could only buttress the hold of religion by sustaining a Paleyan view of nature. The publication of Darwin's *Origin* became the occasion whereby science sought, as Loewenberg has asserted, to be "freed from centuries of bondage

to metaphysics and theology."<sup>1</sup> That work signaled the attempt of science to gain its freedom from the sphere of subservience to religion and, as subsequent history has demonstrated, to establish its own supremacy in a "period of the decomposition of orthodoxies."<sup>2</sup> As Hofstadter stated: "Religion has been forced to share its traditional authority with science, and American thought has been secularized. . . , evolution has been translated into divine purpose, and in the hands of skillful preachers religion enlivened and refreshed by the infusion of an authoritative idea from the field of science."<sup>3</sup>

The invasion of science into the sanctuary of religion, or better, the emancipation of the former from the latter, created the greatest effusions of consternation, even outrage, on the part of many religionists as science not only sought to separate from religion but to subjugate religion to science. The history of the conflict of science and religion is the subject of this paper. The history of the religious debate over Darwin's ideas (or at least those ideas accredited to Darwin) have been generally divided into two periods: a stage of probation, 1859–1880, wherein Darwin's ideas were received by men of science, and a stage of acceptance, 1880–1900, wherein his ideas generally prevailed.<sup>4</sup> The initial period has been further divided into two stages: a period of absolute rejection, 1859–1873, and a period of tentative acceptance, 1873–1880 (the demarcation of the two periods being the death of Louis Agassiz).<sup>5</sup>

This paper seeks to understand the reaction of conservative, Protestant religionists to Darwinian evolution as it is reflected in the religious literature of the era. As a vehicle to facilitate and structure this end, a single religious journal, *Bibliotheca Sacra*, will be surveyed to note its attitudes toward the theories of Darwinism. The use of *Bibliotheca Sacra* as a valid vehicle to discern religious attitudes can readily be justified by its stature as a major spokesman for religious conservatism and by its longevity in that it is "the oldest theological quarterly in America."<sup>6</sup> Further, George Frederick Wright noted of it: "It is bound and indexed in all the leading libraries of the world, and hence has become a favorite channel for writers of eminence, who had something important to say to the leaders of thought in all

<sup>1</sup>Bert James Loewenberg, "Darwinism Comes to America, 1859–1900," *Mississippi Valley Historical Review* 28 (1941) 346.

<sup>2</sup>Bert James Loewenberg, "The Controversy Over Evolution in New England," *New England Quarterly* 8 (1935) 23.

<sup>3</sup>Richard Hofstadter, *Social Darwinism in American Thought* (Boston: Beacon, 1955) 30.

<sup>4</sup>Loewenberg, "Darwinism Comes to America," 340.

<sup>5</sup>Loewenberg, "The Controversy Over Evolution in New England," 233.

<sup>6</sup>John Henry Bennetach, "The Biography of *Bibliotheca Sacra*," *BSac* 100 (1943) 8.

centers of influence."<sup>7</sup> Further, it is the only theological journal or quarterly to be reproduced in the Encyclopedia Britannica's "Life in American Civilization" series on ultra-microfiche for libraries worldwide.

*Bibliotheca Sacra* was founded in 1843 by Edward Robinson,<sup>8</sup> "an eminent philologist and topographer of the Holy Lands,"<sup>9</sup> during his professorship at Union Theological Seminary in New York City.<sup>10</sup> In 1844 after three short issues in New York the journal passed from Robinson to a trusted friend, Bela Bates Edwards<sup>11</sup> at Andover Theological Seminary, Andover, Massachusetts.<sup>12</sup> Edwards continued to direct the journal as its editor for eight years (1844–1851) when, upon his death, Edwards Amasa Park,<sup>13</sup> a co-editor with Edwards, took over the reins of the work. Park upheld the editorial policies of

<sup>7</sup>George Frederick Wright, *Story of My Life and Work* (Oberlin, OH: Bibliotheca Sacra Company, 1916) 396.

<sup>8</sup>Edward Robinson (1794–1863), a graduate of Hamilton College (1816), was brought by Moses Stuart to Andover Theological Seminary, where he taught Hebrew from 1823 to 1826. After a trip to Europe he returned to Andover (1830–1833), but he resigned due to ill health. In 1837 he was called to Union Theological Seminary. His several trips to the Holy Land brought him recognition as a topographer. Philip Schaff, the noted historian, said of him, "He was thorough and indefatigable in his investigations, skeptical of all monastic legends, reverent to God's revelation" (*The New Schaff-Herzog Encyclopedia of Religious Knowledge*, 10:60).

<sup>9</sup>"Editorial," *BSac* 98 (1941) 5.

<sup>10</sup>Union Theological Seminary was founded in 1836 as a New School Presbyterian institution. The seminary and the New School party were attempts to broaden theology as evidenced in the famous case of Albert Barnes (Henry Sloane Coffin, *A Half Century of Union Theological Seminary* [New York: Charles Scribner's Sons, 1954] 5–20).

<sup>11</sup>Bela Bates Edwards (1802–1852), a graduate of Amherst College (1824) and Andover Theological Seminary (1830), was appointed as professor of Hebrew at Andover in 1837. He resigned from Andover in 1846 because of poor health (*The New Schaff-Herzog Encyclopedia of Religious Knowledge*, 4:80).

<sup>12</sup>Andover Theological Seminary was founded in 1808 due to the defection of Harvard College as evidenced in the Hollis Chair of Divinity dispute. Andover, an attempt to preserve Calvinism in New England, unfortunately began in a compromise between Old Calvinists and Hopkinsians. Hopkinsianism of New England Theology, which is contrary at many crucial points to Old Calvinism, was widely taught at Andover (Leonard Woods, *History of Andover Theological Seminary* [Boston: James R. Osgood, 1885] 638).

<sup>13</sup>Edwards Amasa Park (1808–1900), a graduate of Brown University (1826) and Andover Seminary (1831), became professor of sacred rhetoric (1836–1847) and later professor of systematic theology (1847–1881) at Andover. Theologically, Park was a Hopkinsian, denying the Reformed views of original sin and inherent sin. Park's views as well as those of New England Theology in general appeared in *Bibliotheca Sacra* with regularity (Frank Hugh Foster, *A Genetic History of New England Theology* [New York: Russell & Russell, 1963]; and Park, "The Theology of the Intellect and of the Feelings," *BSac* 7 [1850] 533–69).

Edwards, continuing the journal in the broad evangelical spirit reflective of New England Theology and New School Presbyterianism. He noted:

The present series of the *Bibliotheca Sacra* was commenced in 1844. . . . Among its regular contributors are eminent scholars, connected with various theological and collegiate institutions of the United States. Its pages will be enriched by such contributions from Foreign Missionaries in the East, as may illustrate the Biblical Record; and also by such essays from distinguished naturalists, as may elucidate the agreement between Science and Religion. It is hoped that, hereafter, more space will be devoted than has been given heretofore, to strictly biblical and theological inquiries. Arrangements have been made for securing the most valuable literary intelligence from various parts of Europe, and the most thoughtful reviews of scientific and literary works.

The *Bibliotheca Sacra* is not designed for discussions of ephemeral interest, but for those of permanent value. It has inserted many an Article which has cost its author months of toil; and here and there an Article on which more than a year, or even two years, have been expended. Such Articles will not lose their worth with the passing time. The Review aims to give a careful and painstaking explanation of the spirit and genius of different schools, ancient and modern, in ethical philosophy and religion. . . .

As the *Bibliotheca Sacra* is not a partisan Review, its Editors have been, and intend to be, liberal in admitting such Articles as they do not, in all respects, endorse. They are not to be held responsible for any statement which does not appear under their own names.<sup>14</sup>

The journal remained at Andover until 1883 when it was purchased by Oberlin College,<sup>15</sup> an institution made famous by Charles Grandison Finney. The new editor of the journal, its fourth, was George Frederick Wright.<sup>16</sup> Wright was introduced to *Bibliotheca Sacra* during his

<sup>14</sup>Edwards A. Park, "Prospectus of the *Bibliotheca Sacra*," *BSac* 19 (1862) 1-4.

<sup>15</sup>Oberlin College began in 1834 as a Congregational college in Oberlin, Ohio. The roots of the college theologically are to be found in New England Theology, most particularly in Taylorism or New Haven Theology. Oberlin's first president, Asa Mahan, was a graduate of Andover Seminary, and its second president was Charles Grandison Finney, who developed Taylor's thought into Oberlin Theology (James H. Fairchild, *Oberlin: The Colony and the College* [Oberlin, OH: E. J. Goodrich, 1883] 357).

<sup>16</sup>George F. Wright (1838-1921) was an eminent geologist and Christian apologist. He graduated from Oberlin College (1859) and Oberlin Theological Seminary (1862) and then distinguished himself for almost twenty years in pastoral ministry. He began teaching at Oberlin in 1881 and held two chairs (New Testament Language and Literature [1881-1892] and Harmony of Science and Revelation [1892-1907]). In 1907 he retired but continued editing *Bibliotheca Sacra* until his death in 1921. He was editor of the journal for thirty-seven years (Wright, *Story of My Life and Work*; or "George Frederick Wright," *BSac* 78 [1921] 251-80).

second pastorate, which was in the Free Church at Andover, and as a teacher at Oberlin College he edited the journal for nearly forty years (1884–1921). Of his relationship to *Bibliotheca Sacra* and the issues of his day, he wrote:

Bibliotheca Sacra, under the editorship of Professor Park, had for thirty years been the main scholarly expounder of the New England theology, and was the representative of the two thousand living Andover graduates scattered all over the world. But the influence of Darwinism, and of the so-called liberalizing tendencies of the time, was pressing for attention, and naturally I was soon drawn into the vortex of discussion, a vortex from which I have not yet emerged.<sup>17</sup>

Wright continued the editorial policies of his predecessors, making the journal a spokesman for an American Christianity of a cosmopolitan, though conservative, character.

BIBLIOTHECA SACRA, EMERGENT SCIENCE AND  
BELLIGERENT RELIGION (1843–1873)

In the early issues of the journal the compatibility of science and the Bible are assumed; indeed, science formed the volume of natural revelation while the Bible the volume of special revelation. The former was perceived as the basis on which "written revelation rests."<sup>18</sup> The phenomena of the natural world are called upon to sustain such notions as the immortality of the soul<sup>19</sup> and the existence of God predicated on a Paleyan view of First Cause.<sup>20</sup> The function of science is clearly that of a supplementary evidence to buttress the teachings of the Bible which was interpreted in a traditional pre-scientific sense.

*Religion and the Rise of Geology*

Integral to the thesis of Charles Darwin, and the various other forms of developmentalism, is that of boundless ages of time to permit variations in species. The traditional religious notion of a recent history of the globe, the Young Earth Theory of James Ussher, excludes two presuppositions essential to any Darwinian scheme; namely, unlimited time and uniformitarianism. In 1849 the journal printed an article by Cuvier in which the position of *Bibliotheca*

<sup>17</sup>Wright, *Story of My Life and Work*, 132.

<sup>18</sup>"Natural Theology," *BSac* 3 (1846) 276.

<sup>19</sup>George I. Chase, "Of The Natural Proofs of the Immortality of the Soul," *BSac* 6 (1849) 461–71.

<sup>20</sup>John Jay Dana, "The Claims of the Natural Sciences on the Christian Ministry," *BSac* 6 (1849) 48–75.

*Sacra* prior to Chambers and Tayler Lewis are made explicit. Cuvier argues both for a recent creation of the earth, "4–5,000 years ago," and a universal deluge which he described as "an epoch relatively not far remote, a grand revolution."<sup>21</sup> Using Cuvier, conservative New England religionists opposed both unlimited time and Lyell's uniformitarian view of earth history. Geology is again viewed as the handmaiden of religion; it is said to argue for the existence of God through a Paleyan rubric "more conclusively than from any other science."<sup>22</sup>

However, by the mid-1850's *Bibliotheca Sacra* articles began to evidence the impact of uniformitarianism, as certain aspects of astronomy (i.e., the argument from the speed of light) and geology (i.e., the strata of rock formations and the fossil record) suggested a much older earth. One clergyman confided: "Moses seems to assign a comparatively brief period to the creation; astronomy and geology assert a vast period. How shall they be reconciled?"<sup>23</sup> Mears postulated three theories to explain the compatibility of geology and Scripture: a Gap Theory in Genesis 1 of indefinite time followed by a divine creation (or re-formation) in six twenty-four hour consecutive periods, a Day-Age-Day Theory of indefinite periods between twenty-four hour creative periods, and a Day-Age theory of indefinite periods. He opted for the third view, thus conceding an important bulwark of traditional religion, limited time.<sup>24</sup> "We cannot bring the period of geologic changes within six or eight thousand years assumed as taught by Moses. . . . If the Mosaic record is, as we believe, reliable, it must admit an interpretation which will give the period the facts demanded."<sup>25</sup> Thus Mears in a subsequent article asserted that while the geological record provides no evidence of the mutability of species, "the globe (was) not created at once (but) underwent a gradual development."<sup>26</sup> Even James Dana, an ardent opponent of biological development, found Cuvier's "Young Earth Theory" unacceptable and accepted a Day-Age Theory by which he conceded

<sup>21</sup>M. Cuvier, "The Deluges of Ogyges and Deucalion," *BSac* 6 (1849) 75. Conservative religionists perhaps misinterpret Cuvier at this point in that he argued that the earth, as it presently appears, was of recent origin; he was a Catastrophist. Since the early religious opinion of *BSac* understood the creation to be the first and only (ex nihilo) one, not the last in a series, there must have been a misinterpretation of Cuvier.

<sup>22</sup>John Jay Dana, "The Religion of Geology," *BSac* 10 (1853) 509.

<sup>23</sup>John O. Mears, "The Narrative of the Creation in Genesis, Part I," *BSac* 12 (1855) 105.

<sup>24</sup>*Ibid.*, 117.

<sup>25</sup>*Ibid.*, 112.

<sup>26</sup>John O. Mears, "The Narrative of the Creation in Genesis, Part II," *BSac* 12 (1855) 333.

two important presuppositions: boundless time and uniformitarianism.<sup>27</sup> Scientific theory was clearly beginning to shape the interpretation of Scripture among the New England clergy. Weisberger stated: "Long before organic evolution had challenged the thought and faith of educated men, the New Geology had raised obstacles to a literal acceptance of the Biblical account of a Special Creation."<sup>28</sup>

The acceptance of the New Geology among the clergy of New England, which necessitated a reinterpretation of the Genesis account, appears to have been consummated with no opposition. The reason for this harmonious reception was undoubtedly the result of the influence of Benjamin Silliman of Yale College, for it was at Yale, not Harvard, that this generation of clergy with attachment to the views of *Bibliotheca Sacra* were trained. Under the deeply religious Silliman, Yale College by 1820 had become the leading center in the country for the study of chemistry, geology and mineralogy.<sup>29</sup> He carried his lectures on geology to the public in 1831 and met with popular acclaim throughout the nation.<sup>30</sup> His lectures have been described as "lay sermons" wherein he perceived natural phenomena as manifesting "the wisdom and goodness and the boundless providence of God."<sup>31</sup> In 1829 he felt able to assert that the facts of science and the Genesis account were strictly compatible, yet a decade later he would only assert that the correspondence between the paleontological record and the events in Genesis were only approximate. Seeking to maintain a traditional religious commitment and the integrity of geology, he reinterpreted the Genesis account by allowing for unlimited time. As Greene notes: "By interpreting the biblical word 'day' to mean a period of indefinite length, one could provide the necessary amount of time within the scriptural framework."<sup>32</sup> He not only trained a generation of clergymen that science was the collaborator of the Scriptures in that it witnessed to the person of the master-designer, but he was also able to allay religious opposition to science among the learned laity. Upon Silliman's retirement, he was succeeded by his former student and son-in-law, James Dwight Dana, as

<sup>27</sup>James D. Dana, "Science and the Bible," *BSac* 13 (1856) 119.

<sup>28</sup>Francis P. Weisenberger, *Ordeal of Faith: The Crisis of Church-Going America, 1865-1900* (New York: Philosophical Library, 1959) 55-56.

<sup>29</sup>"Benjamin Silliman," *Dictionary of Scientific Biography*, 12: 433.

<sup>30</sup>Margaret W. Rossitor, "Benjamin Silliman and the Lowell Institute: The Popularity of Science in the Nineteenth-Century America," *New England Quarterly* 44 (1971) 613.

<sup>31</sup>Leonard G. Wilson, "Benjamin Silliman: A Biographical Sketch," in *Benjamin Silliman and His Circle: Studies on the Influence of Benjamin Silliman on Science in America*, ed. Leonard G. Wilson (New York: Science History Publications, 1979) 8.

<sup>32</sup>John C. Greene, "Protestantism, Science and American Enterprise: Benjamin Silliman's Moral Universe" in *Benjamin Silliman*, 16.



professor of geology and mineralogy. Dana assumed from his mentor an old-earth theory, a theory Silliman discovered made science and the Bible compatible; both men, however, rejected any theory of the mutability of species (the third presupposition of Developmentalism).

### *Religion and Developmentalism*

The earliest statements in *Bibliotheca Sacra* concerning the place of mankind in the earth came in reaction to Louis Agassiz and the publication of Chambers' *Vestiges of the History of Natural Creation* through the publicity afforded by the subsequent debates at the Lowell Institute. In response to Agassiz's theory of the multiple creation of species by providence, a polygenism, the journal responded with a firm rebuttal and the affirmation of the creation of the race through one man, the biblical Adam.<sup>33</sup> In response to the *Vestiges*, the journal asserted that the "development hypothesis" was "tantamount to Atheism" because it denied the immortality of the soul and rendered the atonement of Christ unimportant.<sup>34</sup> Such was the initial reception of Developmentalism; however, when the same position was hypothesized by a fellow clergyman, it required a wider review and rebuttal in the pages of *Bibliotheca Sacra*.

### *Religion, Developmentalism, and James D. Dana*

In 1855 Tayler Lewis, a distinguished congregationalist and professor of Greek at Union College, published *The Six Days of Creation* and the following year, *The Bible and Science or the World Problem*.<sup>35</sup> In response to Lewis, Dana wrote a series of articles denouncing the theory of Developmentalism, that is, that man's body is derived from other animals but was infused with a soul. These articles are instructive of the relationship of the New England clergy to the theory of Developmentalism at the time of Darwin's *magnum opus*, *Origin of Species*.

Dana, as previously noted, was Benjamin Silliman's greatest pupil,<sup>36</sup> successor, and son-in-law. Like his teacher who "slowly retreated in the late 1830's from a belief in the actual occurrence of the Mosaic Flood to a catastrophist view of the rate of geological change,"<sup>37</sup> Dana adhered to the Day-Age theory of Genesis and triumphed the complete compatibility of science and the Scriptures. He

<sup>33</sup>"Review of John Bachman's *The Doctrine of the Unity of the Human Race*," *BSac* 9 (1852) 427.

<sup>34</sup>John Jay Dana, "The Religion of Geology," *BSac* 10 (1853) 510-11.

<sup>35</sup>"Tayler Lewis," *American Dictionary of Biography*, 6: 224.

<sup>36</sup>Margaret W. Rossiter, "A Portrait of James Dwight Dana" in *Benjamin Silliman*, 105.

<sup>37</sup>*Ibid.*, 116.

argued that Lewis derived his views directly from Robert Chambers' *Vestiges* and, therefore, taught the nebular hypothesis of the beginning of the universe, spontaneous generation, and the non-fixity of species, instead of creation being *ex nihilo* and the Genesis account being a description of the arranging of energy, "the dead force of cohesion."<sup>38</sup> According to Lewis, man was derived from a lower species which God caused to stand erect and then infused with a soul.<sup>39</sup>

Dana's position emerges quite clearly. He rejected as completely unscientific the notions of a nebular theory or spontaneous generation because, he says, "physical force could not, by any metamorphoses or genesis, give rise to life."<sup>40</sup> He further wrote: "Our conclusion therefore is, that Nature, self-existent and self-propagating, now and then requiring a jog from the supernatural, may be an interesting myth, but cannot rise to the same point of view with Biblical truth or sound philosophy."<sup>41</sup> Obviously Dana denied the mutability of species and called geology as his primary witness, arguing, "species have not been made out of species by any process of growth or development for the transitional forms do not occur. . . . 'Original divine power' did not create a generic or universal germ from which all genera and species developed."<sup>42</sup> Again, "Science has no evidence that any living species have been created since the appearance of man on the globe. All facts in nature accord with the Scripture record, that man was the last of the grand series."<sup>43</sup>

Taylor Lewis responded in the next issue of *Bibliotheca Sacra*, claiming the "radical injustice" of Dana's criticism; his perception was that he was being accused of naturalism for teaching the *Vestiges*, propagating infidel philosophy and being ignorant of Scripture.<sup>44</sup> He asserted for the learned clerical readership that "there is nothing monstrous or incredible in the idea that the human body might have been a growth through natural laws and processes originated by God and quickened by him to higher developments."<sup>45</sup> Dana replied in the same issue that he had not misinterpreted Lewis and would, therefore, not soften his criticism.<sup>46</sup> Three additional articles reiterating his rebuff of Lewis' views were printed in *Bibliotheca Sacra* the following year. The verdict by the learned professor was the same: Science

<sup>38</sup>James D. Dana, "Science and the Bible," *BSac* 13 (1856) 94.

<sup>39</sup>*Ibid.*, 98.

<sup>40</sup>*Ibid.*, 100.

<sup>41</sup>*Ibid.*, 103.

<sup>42</sup>*Ibid.*, 122.

<sup>43</sup>*Ibid.*, 128.

<sup>44</sup>Taylor Lewis, "Letter," *BSac* 13 (1856) 471.

<sup>45</sup>*Ibid.*

<sup>46</sup>James D. Dana, "Science and the Bible," *BSac* 13 (1856) 646.

proves the truth-claims of the Bible as traditionally interpreted (i.e., "geology proved the development theory false"<sup>47</sup>). He wrote: "Geology had found no transitional forms; and, moreover, had proved that, many a time, the thread of life had been cut by sweeping catastrophes, each one enough to blast the hopes of nomad-planters; and coupling these facts with the principle from zoology, that in all reproductions, it is *like from like*, the theory was shown to be without foundation."<sup>48</sup> His conclusion is clear: "Geology and zoology are utterly opposed to the *Vestiges*."<sup>49</sup> In another article Dana renounced both Agassiz and Lewis by asserting variations within species but not their mutability in that the race originated from a single parent within a single locale.<sup>50</sup>

### *Religion and Developmentalism after Dana*

By no means did *Bibliotheca Sacra* cease to participate in the evolutionary debate after Dana's rebuff of Tayler Lewis; indeed, articles appeared with frequency defending the position held by Dana as a spokesman of New England Congregationalism. Another reply to Lewis' book was that of E. P. Barrow who questioned the author's liberty to translate the Hebrew term אָרָץ as meaning "to create or fashion already existing matter."<sup>51</sup>

Repeatedly, the evidence of the geological record is used to refute the various varieties of developmentalism; namely, Lamarck's, Chambers', or Darwin's. In 1864, Chadbourne wrote "We have not yet seen any strong argument made out, nor do we believe that geology has yet given one whisper of satisfactory testimony in favor of the development theory."<sup>52</sup> His position, and that of *Bibliotheca Sacra*, is abundantly clear when he wrote, "We accept the science of Darwin but not his philosophy."<sup>53</sup> By this statement it was perceived that Darwin had departed from the scientific method by erecting a hypothesis without a sufficient base; his theory was simply deductive, not inductive. "It is they, and not we, who have abandoned the inductive method. Mr. Darwin, whom they quote as their chief apostle, is notoriously imaginative as to his data, and hypothetical in his reasonings. No medieval scholastic, or disciple of the *a priori*

<sup>47</sup>James D. Dana, "Science and the Bible," *BSac* 14 (1857) 516.

<sup>48</sup>*Ibid.*

<sup>49</sup>*Ibid.*

<sup>50</sup>James D. Dana, "Thoughts on Species," *BSac* 14 (1857) 854-74.

<sup>51</sup>E. P. Barrow, "The Mosaic Narrative of the Creation Considered Grammatically and in its Relation to Science," *BSac* 13 (1856) 746.

<sup>52</sup>P. A. Chadbourne, "Final Cause of Varieties," *BSac* 21 (1864) 361.

<sup>53</sup>*Ibid.*

school of philosophy, has ever shown more ingenuity in guessing at convenient premises," said Manning.<sup>54</sup>

In the late 1860s and early 1870s the strident reaction to Developmentalism, now focused in Charles Darwin, continued in its intensity with no sign of abatement. The pages of the journal continue to suggest that geology is a bulwark against the theory of evolution ("most geological facts are pitted against it"<sup>55</sup>) and a proof for the existence of God. The geological record, according to the clergyman of New England, simply does not provide evidence of the transitional links between species. Hitchcock notes of man, for example: "He appears suddenly upon the arena with nothing to connect him physically or mentally with previously existing animals. . . . geology assuredly does not reveal any such finely graduated organic chain."<sup>56</sup>

The last article that sought to maintain the incompatibility of developmentalism and Christianity to appear in the journal was written in 1872. This article, simply entitled "Darwinism," evidenced the continuing hostility of the journal to evolutionism but it did summarize the major arguments against it. Gardener's position is simply that Darwin's theory is predicated on a series of logical fallacies and that the geological record opposes it. Of the latter point he simply repeats the substance of previous articles: "The geological evidence, therefore, remains upon the face of it distinctly contradictory to Darwinism, and the task of the advocates of that theory is simply to explain away its force."<sup>57</sup> Of the former "error" of Darwinism he writes: "One of the most common as well as curious, of what appear to the unscientific mind as Darwin's fallacies, consists in first stating such facts as he can obtain, but which make the slenderest possible basis for the super-structure to be reared upon them, and then, further on, referring to this as a settled point already proved."<sup>58</sup>

Thus, the response of *Bibliotheca Sacra* from the inception of the developmentalist debate with the reaction to Chambers' publication of the *Vestiges*, Dana's response to Lewis' *Six Days of Creation*, and the later response in the early 1870s as the issue focused forcibly in the thought of Darwin, was one of rejection and hostility. Developmentalism was not only viewed as a threat to religion, but a denial of transcendence; it was viewed as a travesty of not only sound reason, but a violation of the facts of science. It was an imaginative medley of vaguely connected, though distorted, facts used to create a system

<sup>54</sup>J. M. Manning, "The Denial of the Supernatural," *BSac* 20 (1867) 264.

<sup>55</sup>C. H. Hitchcock, "The Relations of Geology to Science," *BSac* 24 (1867) 370.

<sup>56</sup>*Ibid.*, 369-70.

<sup>57</sup>Frederick Gardener, "Darwinism," *BSac* 29 (1872) 265.

<sup>58</sup>*Ibid.*, 272.

that deprecated man, denied God, and possessed no place for enlightened moral reason. Perhaps Hitchcock most clearly expressed the hostility of the New England clergymen when he wrote in 1867: "Hence we say to the development school, go on with your investigations, and if you succeed in establishing your principles we will use your theory for illustrating the argument for the existence of God."<sup>59</sup>

*BIBLIOTHECA SACRA*, TRIUMPHANT SCIENCE AND  
RELIGIOUS ADAPTATION (1873-1880)

In the same year that Frederick Gardener wrote the article entitled "Darwinism," an article appeared by George Frederick Wright that signaled important changes in the attitude of the journal toward Developmentalism. Wright, the clergyman, and Asa Gray, the Harvard botanist, were to form an effective alliance. Both men were theists and both Darwinists; that is, they argued that developmentalism did not stand against Christianity, because evolution provides proof for God's existence through design; it is not inimical to the Paleyan argument when understood correctly. It was Wright's pioneering labors, both in writing and in gaining a hearing for Gray among his fellow clergymen, that caused Christianity and evolution to be increasingly viewed as compatible.

Of the crucial importance of these two men in breaking down religious hostility to evolutionistic science by showing their essential unity, Moore writes: "Christian Darwinism in America was as much the special creation of George Frederick Wright (1838-1921) as of Asa Gray."<sup>60</sup> Elsewhere he writes: "Like Father and son—twenty-eight years separated them—Gray and Wright formed a partnership which owed its success to their kindred spirit. No two Christian men on either side of the Atlantic were more determined to advance the cause of Darwinism."<sup>61</sup> The importance of Wright in gaining a reception for Darwinism among the conservative clergy is captured by Loewenberg when he writes: "By reason of his church affiliations, Wright was able to carry Gray's version of Darwin's message to the innermost precincts of orthodoxy from which Gray, by reason of his notoriety as a champion of Darwinism, was sometimes barred. Wright, despite his scientific avocation, was much more orthodox than Gray and was encouraged to go to greater lengths by the latter's substantial theism."<sup>62</sup>

<sup>59</sup>Hitchcock, "The Relations of Geology to Science," 371.

<sup>60</sup>James R. Moore, *The Post-Darwinian Controversies* (Cambridge: Cambridge University, 1979) 280.

<sup>61</sup>*Ibid.*, 283.

<sup>62</sup>Bert James Loewenberg, "American Science and Darwinism," *American Historical Review* 38 (1933) 698.

George F. Wright, *A Christian Darwinist (1838–1921)*

Wright was the son of a New York farmer (“a profound thinker on theological and philosophical subjects”<sup>63</sup>) of Puritan piety and an advocate, like Asa Gray, of New School Presbyterian-Congregational sympathies. While evidencing both an academic bent and an early interest in geology after reading John C. Fremont’s *Report* concerning the west before he was twelve,<sup>64</sup> he left the farm to be trained for the ministry at Oberlin College and Oberlin Theological Seminary in Ohio. After his formal training, his first pastorate in Bakersfield, Vermont (1862–1872) found him immersed in reading and study. While at Bakersfield he translated Kant’s *Critique of Pure Reason*, read Plato’s *Dialogues*, and carefully assessed Lyell’s *Antiquity of Man* and Darwin’s *Origin of Species*.<sup>65</sup> As a result of his extra-pastoral pursuits he wrote, “Ground of Confidence in Inductive Reasoning,” which was published in the *New Englander* attracting the favorable attention of Noah Porter, president of Yale, and Asa Gray of Harvard. Further, he studied the geology of his region and became an authority on glaciers in Vermont (“doubtless he was the only minister anywhere who found the time, while engaged in such pursuits, to become an authority on the glacial geology of his region”<sup>66</sup>).

In 1872, Wright accepted the pastorate of the Free Church in Andover, Massachusetts, where he not only entered a fertile field for geologic discussion, but also entered the debate over Darwinism. He wrote: “On coming to Andover the influence of Darwinism, and of the so-called liberalizing tendencies of the time, was pressing for attention and naturally I was soon drawn into the vortex of discussion, a vortex from which I have not yet emerged.”<sup>67</sup> It is apparent that from his initial interest in geology and his reading of Lyell and Darwin that he entered the Andover pastorate as a Darwinist; while at Andover he became “the foremost early champion of Christian Darwinist theology.”<sup>68</sup>

From the Andover pastorate, he entered the teaching profession as professor of New Testament Language and Literature (1881–1892) and as professor of the department of Harmony of Science and Bible (1892–1907) at Oberlin College, his alma mater. From his lectern and through the printed page, Wright continued to be a leading Christian Darwinian proponent among the Protestant clergy. Further, in 1883

<sup>63</sup>Wright, *Story of My Life and Work*, 42.

<sup>64</sup>Charles Coulston Gillespie, “George Frederick Wright,” *Dictionary of Scientific Biography*, 15: 516.

<sup>65</sup>Wright, *Story of My Life and Work*, 116.

<sup>66</sup>Moore, *Post-Darwinian Controversies*, 281.

<sup>67</sup>Wright, *Story of My Life and Work*, 132.

<sup>68</sup>Gillespie, “George Frederick Wright,” 516.

*Bibliotheca Sacra* was sold by Andover Theological Seminary to Oberlin College and Wright became the editor of the prominent journal. One writer has stated: "His most significant service along theological lines was as editor of *Bibliotheca Sacra*. Under Wright the journal was for nearly forty years one of the most respected mediums of expression for the more scholarly conservative thought of the Church."<sup>69</sup> For Wright this meant the demonstration of the compatibility of Darwinian science with the data of Biblical creationism. It was to a large extent the labor of Wright, although McCosh at Princeton, Henry Ward Beecher and a host of other clerics should be named, that Hofstadter is able to make the following statement: "By the 1880's, the lines of argument that would be taken in the reconciliation of science and religion had become clear. Religion has been forced to share its traditional authority with science. . . , evolution had been translated to divine purpose, and in the hands of skillful preachers religion was enlivened and refreshed by the infusion of an authoritative idea from the field of science."<sup>70</sup>

#### *Bibliotheca Sacra: An Adaptation of Science through Wright*

Through a series of articles by Wright in the 1870s the strident editorial hostility so evident through Dana's articles was greatly modified; that is, Wright was able to demonstrate that Darwinism did not destroy the argument from design for the existence of a creator and thus was able to construct a synthesis of the two realms of knowledge commonly designated as Christian or Theistic Evolution. This was accomplished by arguing that God's creative act was to be understood as the superintendence of a divinely erected process, not as instantaneously created, but the providential direction of a long involvement in time. The solution was to perceive God deistically in the creative process.

It is clear that Wright sought to argue that science (i.e., geology) not only fits into a biblical creation but it also agrees with Calvinism; that is, the virtue of true Calvinism is that it accorded harmoniously with the testimony of both Scripture and science. In his initial article he argued that geology mitigated against a strict traditional interpretation of the Genesis account of creation and rather for a Day-Age Theory of the age of the earth and man ("accumulating evidence . . . that of lengthening the antiquity of man").<sup>71</sup> His non-traditional view of the Scriptures, by which he seeks to bring the creation account into

<sup>69</sup>"George Frederick Wright," *Dictionary of American Biography*, 10: 551.

<sup>70</sup>Hofstadter, *Social Darwinism*, 30.

<sup>71</sup>George Frederick Wright, "Recent Works on Prehistoric Archeology," *BSac* 30 (1873) 382.

agreement with geology, is of major importance in his quest to demonstrate compatibility.

It is a principle which we should keep more prominently in view than we do, that the integrity of the divine revelation should not be made to depend upon the interpretation of a few isolated and doubtful passages. The integrity of the Bible depends only upon the truth of those doctrines and interpretations which are woven into the very woof and warp of the book. The genealogies of Scripture sustain no such relation of importance to the book itself.<sup>72</sup>

The advantage of the greater antiquity of man for Calvinist theologians, says Wright, is that it argues for the solidarity and unity of the race. "The older the human family can be proved to be, the more possible and probable it is that it has descended from a single pair."<sup>73</sup>

Beginning in 1875 Wright published a series of five articles entitled "Recent Books Upon the Relation of Science to Religion" in which he argued the compatibility of Darwin and the Bible; this marked a distinct change from Dana's articles in the 1850s. One biographer suggests that he was asked to write them because of his advocacy of Evolution by the editor Edwards Amasa Park.<sup>74</sup> The initial article argued that the chance of randomness of the Darwinian scheme is only apparent ("probably wholly belongs to the mind"<sup>75</sup>) and therefore Darwinism is not antithetical to religion. A Christian can confidently advocate Darwinism because he can recognize in the random variation the providence of God ("there is no such thing as chance in the phenomena of nature"<sup>76</sup>).

The second article in the series attempted to explain the mechanics of Darwinism and defend them scientifically. *First*, he took up the question of the mutability of species by posing this question: "Is there such degree of plasticity in species that the orbit of one may break into that of another?"<sup>77</sup> He argues that the geological record demonstrates a progression from simplistic to complex forms and that there are transitional links between species, such as Marsh's discovery of gradated fossil horses. "Through the discovery of connecting links, and fresh investigation of facts bearing upon distribution, gradation, and variability of species, much presumptive proof of

<sup>72</sup>Ibid., 383.

<sup>73</sup>Ibid., 384.

<sup>74</sup>"George Frederick Wright," *BSac* 78 (1921) 255.

<sup>75</sup>George Frederick Wright, "Recent Books Upon the Relation of Science to Religion," *BSac* 32 (1875) 554.

<sup>76</sup>Ibid.

<sup>77</sup>George Frederick Wright, "Recent Books Upon the Relation of Science to Religion," *BSac* 33 (1876) 482.



the evolution of species has accumulated."<sup>78</sup> *Second*, Wright attempts to explicate the mechanics of variation. He takes Lamarck's emphasis on acquired characteristics due to environmental conditioning and combines it with Darwin's theory of natural selection predicated upon the Malthusian principle, relegating both to secondary causation.<sup>79</sup> Since he presumed that "the tendency to variation has its origin in a cause that is mysterious,"<sup>80</sup> he argued that the final cause of mutation is the Creator's use of means. Thus, religion and Darwinism are quite harmonious.

The third article in the series argues that Darwin's uncertainty about the mechanism of variations allows for theism; indeed, this is Wright's primary argument for a Christian Darwinism. Speaking of the mechanism of variations he writes, "The many complex contingencies which pertain to the theory in question afford theologians opportunities of wheeling it into line with a true theistic view of nature."<sup>81</sup> In brief, Wright's argument is that the inscrutability of the cause of variation assures the religionist a place in Darwin's scheme and a claim to scientific respectability. "It will appear, we think, that so elastic a principle as natural selection, as Darwin defines it, cannot be particularly dangerous to theism";<sup>82</sup> "the 'mystery of creation' is so great and as much beyond the domain of science as ever."<sup>83</sup> His conclusion is that "there is no more reason now than at any previous time why the scientific 'Leopard' and the theological 'kid' should not lie down together."<sup>84</sup>

In the 1877 article Wright argues that Darwinism presupposes Paleyanism; that is, the principle of progress over millions of years presupposes a Creator. The orderliness and forward progression of species cannot be the result of chance, but a Creator. "The Darwinian supposition is, that life has been so adjusted to changing conditions of the material forces of the world, that for a period of one hundred million years, more or less, it has been continuous. That surely makes a demand for a Contrivor who is omniscient as well as omnipotent."<sup>85</sup>

The 1880 article which argues the compatibility between Darwinism and Calvinism is, perhaps, a classic statement of his view; it is a recurrent conviction of Wright's that Calvinistic theology and

<sup>78</sup>Ibid., 493.

<sup>79</sup>Ibid., 484-89.

<sup>80</sup>Ibid., 484.

<sup>81</sup>George Frederick Wright, "Recent Books Upon the Relation of Science to Religion," *BSac* 33 (1876) 676.

<sup>82</sup>Ibid., 686.

<sup>83</sup>Ibid., 688.

<sup>84</sup>Ibid., 693.

<sup>85</sup>George Frederick Wright, "Recent Books Upon the Relation of Science to Religion," *BSac* 34 (1877) 365.

Darwinism are harmonious. *First*, he cites the fact that neither Calvinism nor Darwinism teaches a theory of invariable and progressive development.<sup>86</sup> He argues that the degradation and extinction of species is analogous to the Adamic fall in that the results were negative. *Second*, Darwinism and Calvinism agree that mankind is genetically one. Here Darwinism illustrates the Calvinistic doctrines of the solidarity of the race and the transmission of the sin nature. He says, for example, "The Calvinistic doctrine of the spread of sin from Adam to his descendants has also its illustrative analogies in the Darwinian doctrine of heredity."<sup>87</sup> The mystery of heredity in science is compatible with the teaching that the soul is propagated by natural generation. Schneider is quite correct when he states: "Wright regarded Darwin's account of the origin of the human body as analogous to the traducian theory among the Calvinists, which accounted for the origin of an individual soul."<sup>88</sup>

*Third*, the Calvinists' difficulty in rationalizing the doctrines of foreordination and free-will are strikingly similar to the perplexity of the Darwinist in stating the consistency of his system with the existence of design in nature. Both systems are similar in that certain particulars are not explainable with our current level of knowledge; therefore, the systems must be viewed holistically.<sup>89</sup> *Fourth*, Darwinism and Calvinism are alike in the limits they assign to speculative reason; each is proved insofar as it explains or coordinates complicated phenomena which otherwise are confused (the one the phenomena of organic nature, the other the phenomena of Scripture and human nature). Both are protests against *a priori* methods. *Fifth*, both agree on the fundamental principle of the sovereign rule of law throughout nature. "Under both representations of the actions of the Creator law reigns supreme, and the main reliance for the dissemination of the divine influence is upon what is called natural means."<sup>90</sup> Wright's conclusion to the article needs little comment: "If Darwinism appears to banish design from nature, and to be fatalistic, it is only because it is liable to the same class of misunderstandings against which Calvinism has had so constantly to contend. . . . We may conclude that, not improperly, Darwinism has been styled 'the Calvinistic interpretation of nature.'"<sup>91</sup>

<sup>86</sup>George Frederick Wright, "Recent Books Upon the Relation of Science to Religion," *BSac* 37 (1880) 54.

<sup>87</sup>*Ibid.*, 57.

<sup>88</sup>Herbert W. Schneider, "The Influence of Darwin and Spencer on American Philosophical Theology," *Journal of the History of Ideas* 6 (1945) 9.

<sup>89</sup>Wright, "Recent Books," *BSac* 37 (1880) 62-63.

<sup>90</sup>*Ibid.*, 74.

<sup>91</sup>*Ibid.*, 76.

*Science, Christian Darwinism, and the Late 19th Century*

The history of the religious attitude toward Darwinism, as it is reflected in *Bibliotheca Sacra*, can be demarcated by two articles dealing with the theory of Developmentalism. Frederick Gardener's article in 1873, while much in the vein of Dana's early writings, signaled the end of the journal's belligerence to Darwinian science. In the same year George Wright's first article appeared, and by the 1880 article the author not only advocated the deepest of sympathies between religion and science, but argued that Darwinism and Calvinism were most compatible. The attitude of the journal toward Darwinism had changed radically since the Dana series, an attitude only confirmed and perpetuated when *Bibliotheca Sacra* was sold to Oberlin College and George Wright became its editor.

George Wright's editorship of the journal continued its scholarly course set by its previous editors: Robinson, Edwards and Park. While the journal remained in the Christian-Darwinist tradition, Wright's emphasis changed. He became less concerned to commend modern science to believers in revealed theology as he was to defend revealed theology from the advocates of Liberal Theology. His adherence to Christian Darwinism continued as reflected in his own creed. He believed that God created the elements from which the earth evolved under his superintendence ("I believe that, in the beginning, God created the elements out of which have evolved, under his direction, the heavens and the earth"<sup>92</sup>); that after geologic ages of the evolution of matter the principle of life came into the world as a new creation; that life on earth evolved from simplicity to complexity ("there was an orderly progress from lower to higher forms"<sup>93</sup>) and that man's organic connection to some unknown species of anthropoid apes is probable and only explicable in direct superintendence of providence. He writes of the connection between the lowly apes when compared to sophisticated man: "Such complicated accidental combinations are inconceivable. They can occur only as the product of design, which is equivalent to creation."<sup>94</sup>

To conclude the story of the acceptance of Darwinism in American conservative Protestantism, it is necessary to return to James Dwight Dana, the antagonist of Developmentalism in the late 1850s series in *Bibliotheca Sacra*. Dana felt constrained by the documentation in the *Origin of Species* to modify his views. In 1874, the Yale professor revised his *Manual of Geology* "in which, he too, after a prolonged attempt to resist natural selection at last granted his

<sup>92</sup>Wright, *Story of My Life and Work*, 420.

<sup>93</sup>Ibid., 421.

<sup>94</sup>Ibid., 423.

endorsement."<sup>95</sup> By 1883, his views had changed to the point that he granted the validity of most of the tenets of Darwinism although he still maintained that Darwin had not explained the origin of species and that there were still discrepancies and gaps in the geological record.<sup>96</sup>

The particular form of Darwinism for Dana was that of Alfred Wallace's; as to the mechanism of variation he accepted both the Lamarckian emphasis on acquired characteristics through environmental conditioning and natural selection. However, he exempted man by explaining his emergence through direct, not secondary, causation ("the intervention of a Power above Nature was at the basis of Man's development"<sup>97</sup>). A summary of his position appeared in an obituary in 1895: "Professor Dana never fully accepted the Darwinian theory of development, though his views were so much modified that he is to be classed among the evolutionists who minimize the influence of natural selection, and give prominence to the theistic element."<sup>98</sup> The complete merger of his Christian faith with Darwinism is clearly evident in a letter to John G. Hall on March 7, 1889: "While admitting the derivation of man from an inferior species, I believe that there was a Divine creative act at the origin of man; that the event was truly a creation as if it had been from earth or inorganic matter to man. I find nothing in the belief to impair or disturb religious faith; that is, faith in Christ as the source of all hope for time and eternity."<sup>99</sup>

The intellectual struggles with Darwinism led many, like Dana, from initial rejection to an appreciation and adherence to those doctrines in a modified way some decades later. The story of that transition from an immediate to a mediate view of divine activity in creation has been summarized as follows:

A member of the first generation of American specialists in science, a generation that contributed much toward making a profession of Science, Dana also belonged to the first generation caught up in the warfare between science and revealed religion. Committed to both, he strove to retain a footing in two worlds inexorably drifting apart. But the rest of his life was a progressive surrender to Darwinism, although he continued to insist on those few occasions for supernatural intervention, particularly in the evolution of man, and curiously . . . his

<sup>95</sup>Hofstadter, *Social Darwinism*, 18.

<sup>96</sup>"James Dwight Dana," *Dictionary of Scientific Biography*, 3: 540.

<sup>97</sup>*Ibid.*, 542.

<sup>98</sup>James D. Dana, "BSac 52 (1895) 558.

<sup>99</sup>Quoted in Daniel C. Gilman, *The Life of James Dwight Dana* (New York: Harper & Brothers, 1899) 188.

acceptance of social Darwinism that was becoming fashionable in the closing years of his life was a good deal more prompt.<sup>100</sup>

#### CONCLUSION

Nineteenth-century Protestant Christianity in America was forced to rethink and recast its interpretation of the Bible to bring it into conformity with the findings of science. Perceiving that natural revelation and special revelation were similar volumes of knowledge (one of the world below, the other the world above) that could not conflict without deepest destructive ramifications in metaphysics and epistemology, clergymen sought to assure their harmony. Adjustments to science were possible only if the argument for design remained a bulwark in the defense of theism. It seems that these 19th-century clergymen strove to prevent cleavage and contradiction between the two volumes of knowledge, and their basic hermeneutic was this: does the adoption of the assertions of science allow for a grand Designer? To find such a place for God, the New England clergyman removed God from direct activity in the creation through intervention and miracle to the sphere of directing a concatenation of secondary causes through providence; God became more transcendent and distant than immanent and personally, directly involved in the cosmos.

The change in the religious community relative to their perception of God's dealings in the world and the interpretation of the Genesis account was gradual, yet quite evident. Religious adaptation was predicated upon the valuable insight of several key figures; that is, men of scientific respectability and dominance with traditional religious beliefs and piety and a conviction that the new findings of science were a defense against atheism. Some of these prominent scholars were Benjamin Silliman of Yale, James D. Dana, his successor, Asa Gray of Harvard, and George Frederick Wright of Oberlin. This is apparent as Wright states in reviewing a new publication by Gray.

As the author remarked of Professor Silliman that it was quite as much his transparent character as his scientific ability which, forty years ago, induced orthodox Christianity and geology to lie down together, so we may say with respect to the present crisis, that the unshaken Christian faith of such eminent scientific men as the late Professor Henry, Professor Dana, and our author is a most efficient agency in allaying the apprehensions of the Christian public; while their ability is a most powerful inspiration and defense to the younger class of naturalists who would retain both their Christian faith and their scientific enthusiasm.<sup>101</sup>

<sup>100</sup>“James Dwight Dana,” *Dictionary of Scientific Biography* 3: 553.

<sup>101</sup>George Frederick Wright, “Natural Science and Religion by Asa Gray: A Review,” *BSac* 38 (1880) 390–93.

With the initial volumes of *Bibliotheca Sacra* the impact of geology precipitated a slight reinterpretation of the Genesis account from a Young-Earth Theory to a considerably older earth. It would appear that the New England clergy held to an original creation of matter, a gap of considerable time and then a reconstruction in its present form in twenty-four hour days; it appears that they accepted Cuvier's Catastrophism with modifications that indicate that they only accepted part of his theory and rejected or did not understand the other assumptions in it. However, Genesis was retained as traditionally interpreted except for the possibility of unlimited time.

In the Dana debate with Chambers and Lewis, the Day-Age Theory was assumed, granting Lyell's Uniformitarianism. Dana's objection to Developmentalism in the 1850s was his rejection of the mutability of species. Wright not only saw the virtue of the mutability of species in the 1870s but argued that a Developmental Theory accorded with the argument from design generally and Calvinism particularly. The apparent weight of mounting evidence, plus the defense of the compatibility of the two volumes of knowledge, eventually eroded resistance so that even Dana conceded. His concession was to the very position he violently attacked in the pages of *Bibliotheca Sacra*, that of Chambers and Lewis, some twenty years earlier. It was a qualified adoption as Sanford writes: "For Dana evolution in no way denied or obscured God's purpose. He failed to see any chance in mutation. Evolution in the organic world was simply God's method of creation."<sup>102</sup> The theory of creation changed categorically from 1856 to 1880 for these clergymen, as did the place of the Genesis account in religious orthodoxy. While it was accepted in the 1840s as describing six consecutive twenty-four hour days of creation, by the 1850s it was viewed as explicative of origins but within a Day-Age mode. By the 1870s, however, the Genesis account was perceived as truth but not a delineation of central creation truth. Hopkins says of the Genesis account: "If this has any claim to credence, it cannot be a history of cosmogony. The creation which it designates must have been some other and some minor creation."<sup>103</sup> Reinterpretation of traditional cosmology because of claimed advances in science makes it evident to the observer in the 20th century that uniformitarian and evolutionary science not only asserted its freedom from special divine revelation but triumphed over it in the hearts of many.

The story presented in the pages of *Bibliotheca Sacra* reveals many of the religious assumptions of the Congregational clergy in the

<sup>102</sup>William F. Sanford, Jr., "Dana and Darwinism," *Journal of the History of Ideas* 26 (1965) 546.

<sup>103</sup>Samuel Hopkins, "An Exposition of the Original Text of Genesis I and II," *BSac* 33 (1876) 739.

19th century. The natural world and the biblical record were viewed as harmonious volumes of God's disclosure to his rational creatures; both volumes testified to the existence of God and Christian truth. Seeking to maintain the unified testimony of God to truth, clergymen and educators adjusted their perception of the teaching of Scripture on creation so much that traditional doctrines such as a young earth and immediate divine creation were replaced by an old earth theory and mediate creation.

The error of that century of clergyman was not that science and Scripture are contradictory, but that the 19th-century form of scientific theory (i.e., developmentalism) was as infallible as Scripture. It warns us that, however impressive are the theories of our brilliant men of science, Scripture, not the former, is forever true. Providentially, in our half of the 20th century, evolutionary scientism has come under attack as often unscientific and its claims to ultimate objectivity are now questioned.<sup>104</sup> But in the previous century science appeared to speak with the inerrancy that we accord to Scripture alone. It behooves us to remember to be cautious not to neglect the exegesis of Scripture and the qualitative gulf between special and general revelation.

<sup>104</sup>Thomas S. Kuhn, *The Structure of Scientific Revolution* (Chicago: University of Chicago, 1970).