

THE RELATIONSHIP BETWEEN CHRISTIANITY AND SCIENCE: A BRIEF HISTORICAL STUDY ON DARWINISM AND THE OLD PRINCETON THEOLOGIANS

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ABSTRAK: Richard Dawkins menyatakan secara terbuka bahwa dirinya sangat menentang agama karena agama menghancurkan usaha-usaha ilmiah. Anggapan semacam ini bukanlah suatu hal yang baru. Sejak akhir abad ke-19 lahir suatu tesis yang menyatakan bahwa kekristenan dan ilmu pengetahuan adalah dua kubu yang saling bermusuhan. Walaupun tesis ini sudah dianggap tidak memadai, banyak orang Kristen masih memegang pandangan ini. Pada kenyataannya, perkembangan Darwinisme di Amerika Serikat juga mendapat dukungan dari ilmuwan Kristen. Dan ketika kita mempelajari teolog-teolog *Old Princeton* maka kita dapati bahwa mereka memiliki sikap yang berbeda terhadap ilmu pengetahuan. Di saat mereka menghadapi tekanan atas perkembangan ilmu pengetahuan (dalam hal ini evolusi), justru mereka tidak segan menerima fakta dari evolusi walaupun mereka menolak interpretasi mekanistik dan naturalistik Darwinisme atas fakta tersebut. Teolog-teolog *Old Princeton* memberikan contoh bagaimana seorang Kristen harus mengambil sikap terhadap ilmu pengetahuan. Kaum injili di Indonesia dapat belajar banyak dari

sejarah dan tradisi mereka.

KATA KUNCI: *Charles Hodge, Archibald Alexander Hodge, Benjamin Breckinridge Warfield, John Gresham Machen, Old Princeton, evolusi, teistik evolusi, Darwinisme.*

ABSTRACT: Richard Dawkins openly declares that he is strongly against religion since religion destroys scientific works. This assumption is not something new. Since the end of the 19th century there was a development of a thesis that claims Christianity and science are two antagonistic poles. Although this thesis is now inadequate, many Christians are still holding on to this view. In reality, the development of Darwinism in the United States is also supported by Christian scientists. When we study *Old Princeton* theologians we find that they have different attitude about science. When they face pressures on the development of science (in this case evolution), they actually are not reticent in accepting the fact of evolution although they reject mechanistic and naturalistic interpretation of Darwinism upon those facts. *Old Princeton* theologians give examples on how a Christian should take a stand on science. Evangelicals in Indonesia can learn a lot from their history and tradition.

KEYWORDS: *Charles Hodge, Archibald Alexander Hodge, Benjamin Breckinridge Warfield, John Gresham Machen, Old Princeton, evolution, theistic evolution, Darwinism.*

In his book, *The God Delusion*, Richard Dawkins, world renowned evolutionary biologist and, undoubtedly, the most vocal spokesman of the New Atheism movement, declares that, as a scientist, he is hostile towards religion because it “actively debauches the scientific enterprise,” “teaches us not to change our minds, and not to want to know exciting things that are available to be known,” and “subverts science and saps the intellect.”¹ More than any, two of the most ardent opponents of Christianity, John William Draper, president of New York University from 1850-1873, and Andrew Dickson White, co-founder and the first president of Cornell University, popularized the notion of hostile conflict between Christianity and science. Fundamental to their writings—*History of the Conflict between Religion and Science* (Draper, 1874), *The Warfare of Science* (White, 1876), and *A History of the Warfare of Science with Theology in Christendom* (White, 1896)—was the thesis that Christianity and science inherently opposed one another and, thus, were necessarily in conflict.

Despite its shortcomings, the Draper-White conflict model is still tenacious.² Many people—the most ardent opponents of

¹ Richard Dawkins. *The God Delusion* (New York, NY: Houghton Mifflin Company, 2006), 281-308.

² Growing number of scholars also consider the conflict model to be “a wholly inadequate intellectual framework within which to construct a sensible and realistic historiography of Western science.” Neither science nor religion can be presented in a monolithic and unified way. In the case of Galileo, for example, “it was the Roman Catholic, not Protestant, wing of Christianity that appeared to be at odds with science,” whereas in the Darwinian controversy, “a uniform response was lacking even within one branch of Protestantism, for Anglicans of low-, high-, or broad-church persuasion tended to respond to Darwin’s theories in

Christianity as well as, unfortunately, the most devoted Christians themselves—embrace this conflict paradigm. Accepting that Christianity and science is inherently hostile one another, many evangelicals nowadays attempt to resolve their intellectual difficulties by withdrawing themselves to their own modern intellectual monastery. Christianity and science, these Christians argue, cannot be in conflict because each resides on its own separate non-overlapping domain, a view more known as NOMA (Non Overlapping Magistrate).³

In this paper, through a brief historical survey of the encounter between Old Princeton theologians—from Charles Hodge to John Gresham Machen—with the issue of evolution during the few decades after the publication of Charles Darwin's *Origin of Species by Means of Natural Selection*, I hope to show that such an intellectual withdrawal is unwarranted for both theological/confessional and historical reasons. Rooted in their deep conviction that Christianity and science were inseparable, these Old Princeton theologians critically engaged science without having to compromise their doctrines. Certainly evangelicals

different ways." Colin A. Russell. "The Conflict of Science and Religion," in *Science and Religion: A Historical Introduction*, edited by Gary B. Ferngren (Baltimore, MD: The John Hopkins University Press, 2002), 7-9. Besides, as pointed by George Marsden, both Draper and White dubiously constructed the evidence, ignoring the fact that "most of the debates about science had been debates among Christians." George M. Marsden, *Understanding Fundamentalism and Evangelicalism* (Grand Rapids, MI: Eerdmans, 1991), 140.

³ The model is helped popularized by American paleontologist and evolutionary biologist at Harvard University, Stephen J. Gould.

today have much to learn from their own history. In doing so, I hope to show the inadequacy of the conflict thesis.

WHY OLD PRINCETON?

The Old Princeton theologians are intentionally chosen for several reasons. First, Old Princeton theologians are considered the “leading representatives of evangelicalism in the areas of science and theology,” not because they are more important than lay evangelicals but because “they have on the whole offered more considered and articulate expressions of the tradition and have in particular offered more thoughtful evolutions of the Darwinian episode.”⁴

Second, the Old Princeton theologians were the most ardent believers of the doctrine of biblical inerrancy which they took as their fundamental presupposition rather than a conclusion resulting from their reasoning. Thus, Dawkins’ resentment against “fundamentalists,” those who take the truth of their holy book as an axiom rather than the end product of a process of reason, is one that is directed against them.⁵ Clearly, Dawkins lacks any category to describe these Old Princeton theologians.

Before we discuss Old Princeton theologians’ reactions to Darwinism it will be of interest if we quickly survey the scientific community first.

⁴ David N. Livingstone, *Darwin's Forgotten Defenders: The Encounter between Evangelical Theology and Evolutionary Thought* (Grand Rapids: MI, William B. Eerdmans Publishing Co., 1987), ix.

⁵ Dawkins, *The God Delusion*, 282.

REACTIONS TO DARWINISM: AMONG THE NATURAL SCIENTISTS

American naturalists initially embraced Darwinism with skepticism and those who did accept it tended to downplay the importance of natural selection operating on random variations as mechanism to biological evolution. A survey done by Ronald L. Numbers of the “eighty American naturalists—biologists, geologists, and anthropologists—elected to the National Academy of Sciences (NAS) between its founding in 1863 and the end of the century”⁶ reveals that by the end of the 1860s, “only eighteen of the eighty Academy naturalists accepted evolution,” and among those who did, “only a few publicly revealed their change of views.”⁷ By the mid-1870s, however, American naturalists embraced Darwinism more broadly and those who embraced it “were speaking out positively” about Darwinism. By the end of the nineteenth century, “only a handful of prominent scientists continued to regard Darwinism as a false theory.”⁸

But contrary to the conflict thesis, Christianity does not necessarily imply hostility towards science. In his survey Numbers observes that there did not seem to be any correlation or pattern between religious belief and one’s acceptance of Darwinism. It is true that the Princeton geographer-geologist Arnold Guyot, a

⁶ Ronald L. Numbers, *Darwinism Comes to America* (Cambridge, MA: Harvard University Press, 1998), 25. Brief profile of these naturalists is available in the book’s appendix, 137-159.

⁷ Numbers, *Darwinism Comes to America*, 32.

⁸ Numbers, *Darwinism Comes to America*, 1-2.

devout Presbyterian who as a youth studied for ministry, was “the most prominent American anti-evolution in the scientific community” after 1873.⁹ But this observation must be balanced by the fact that Louis Agassiz (1807-1873), a renowned paleontologist and glacial theorist, not to mention one of the most influential naturalists in America “led the scientific assault on the theory of organic evolution”¹⁰ and “vitriolically scorned Darwin’s theory.”¹¹ Louis Agassiz, being Unitarian, was not a Christian and, in fact, he was regarded in some quarters as infidel.¹²

On the other hand, among American scientific community, Darwin’s cause was initially championed by the foremost botanists Asa Gray (1810 – 1888), an active Congregationalist¹³ with a strong orthodox Christian view,¹⁴ who “set himself the task of making sure that Darwin would get a fair hearing in the New World” and would eventually become Darwin’s “leading scientific apologist in North America.”¹⁵ Gray’s effort to promote Darwin’s cause is even remarkable when one considers that Gray had to take on his colleague at Harvard, Louis Agassiz

Numbers also finds no evidence among all the eighty members of the Academy surveyed a single one who “severed his religious ties as a result of his encounter with Darwinism.” By and

⁹ Numbers, *Darwinism Comes to America*, 145.

¹⁰ Longfield, *The Presbyterian Controversy*, 13.

¹¹ Livingstone, *Darwin’s Forgotten Defenders*, ix.

¹² Numbers, *Darwinism Comes to America*, 28.

¹³ Numbers, *Darwinism Comes to America*, 144.

¹⁴ Longfield, *The Presbyterian Controversy*, 13.

¹⁵ Livingstone. *Darwin’s Forgotten Defenders*, 63.

large, “the Catholic naturalists in the Academy remained Catholic, the Presbyterians remained Presbyterian, and the agnostics remained agnostic.”¹⁶

Further study is still needed to see to what extent the theology and philosophy held by these natural scientists shape their attitudes towards Darwinism.¹⁷

REACTIONS TO DARWINISM: AMONG THE OLD PRINCETON THEOLOGIANS

Charles Hodge served as the principal of Princeton Theological Seminary (1851-1878) when Darwin’s *The Origin of Species* was published in 1859. Hodge’s initial engagement with Darwinism was done over a long footnote of his 1862 article, *Diversity of Species in the Human Race*,¹⁸ in which he laid out his skepticism of the claim of Darwinism that all life proceeded from a very few original forms.¹⁹ But certainly such a response is not unique to the theologians. As we have seen above, Hodge’s initial

¹⁶ Numbers, *Darwinism Comes to America*, 41.

¹⁷ A comparison to Dutch’s natural scientists can be made here. Opposition towards Darwinism in the nineteenth century Netherlands did not come from the religious quarters only, but also from the academic community as well. The scientists’ own beliefs actually exerted the strongest pressure to their reception or, for that matter, rejection of Darwinism. If the scientists were philosophically aligned with positivism, for example, then it is hardly surprising that they would be quite receptive to Darwinism. In that case, Darwinism would be seen as the only tenable explanation for the developments observed. David Tong, “The Relationship between Christianity and Science: A Brief Historical Study on Darwinism and the Dutch Neo-Calvinism,” to be published.

¹⁸ *Biblical Repertory and Princeton Review*, 34, July 1862, 461.

¹⁹ Noll, *The Princeton Theology*, 145.

resistance towards Darwinism was common even among the natural scientists themselves.

Hodge gave his fuller treatment of Darwinism in his magnum opus, *Systematic Theology* (II/12-24) and later devoted an entire book titled *What is Darwinism?* (1874). In this latter work, Hodge sought to supply a clear definition of what Darwinism was in order for him to give a precise evaluation of it. In his concluding remark, Hodge wrote: "We have thus arrived at the answer to our question, What is Darwinism?" To which Hodge answered "It is Atheism."²⁰ Hodge's infamous remark was often quoted without a proper understanding given to him. Andrew Dickson White, for example, polemically presented Charles Hodge as an example of Christianity's hostility towards science—in this case, Darwinism. "But a far more determined opponent," White wrote, "was the Rev. Dr. Hodge, of Princeton; his anger toward the evolution doctrine was bitter: he denounced it as thoroughly "atheistic"."²¹ But White's understanding of Hodge is dubious at best.

Taking Hodge's larger corpus as a whole one will find that Hodge never had any hostility towards science per se. In fact, studying these Old Princeton theologians, one can never come to the conclusion that any of these theologians was antagonistic towards modern science for, in the first place, they believed that the Christianity and science were inseparable. This they held for

²⁰ Charles Hodge, "What is Darwinism?" in Noll and Livingstone, *What is Darwinism?*, 156.

²¹ Andrew Dickson White, *A History of the Warfare of Science with Theology in Christendom* (New York: D. Appleton And Company, 1896), 1:79.

theological/confessional reason. The Old Princeton theologians, being Calvinists, believed that the *world* and the *word*, both resulting from God's activity, can never be in conflict. All conflicts are in the level of interpretations (e.g. scientific theories and interpretation of the Bible) and, for that reason, Hodge was willing to modify his interpretation of the Bible to accommodate the discovery of science. Hodge explained:

As the Bible is of God, it is certain that there can be no conflict between the teachings of the Scriptures and the facts of science. It is not with facts, but with theories, believers have to contend. Many such theories have, from time to time, been presented, apparently or really inconsistent with the Bible. But these theories have either proved to be false, or to harmonize with the Word of God, properly interpreted. *The Church has been forced more than once to alter her interpretation of the Bible to accommodate the discoveries of science.* But this has been done without doing any violence to the Scriptures or in any degree impairing their authority.²²

Such an accommodation cannot be said to be a result of a compromise to the demand and the pressure of modern science.²³

²² Charles Hodge, Charles Hodge, *Systematic Theology*, vol. 1 (Oak Harbor, WA: Logos Research Systems, Inc., 1997), 573. Emphasis is mine.

²³ I recalled a discussion with a minister in which this claim was made. Claiming that any reading that interprets Genesis "days" as non-solar 24-hour days is a result of a compromise to the demand and pressure of modern science and, thus, a denial of the historicity of God's creation as essentially heterodox, this minister, unfortunately, did not realize that he had condemned many church fathers and theologians before him as heterodox.

The doctrine of accommodation was already asserted early in the history of the church. For example, the church father St. Augustine of Hippo argued in *The Literal Meaning of Genesis* (written around 401-415 AD) that the length of the six days is not the same as our days. Augustine reminded us all:

Usually even a non-Christian knows something about the earth, the heavens, and the other elements of this world, about the motion and orbits of the stars and even their size and relative positions, about the predictable eclipses of the sun and moon, the cycles of the years and season, about the kinds of animals, shrubs, stones, and so forth, and this knowledge he holds to as being certain from reason and experience. Now it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics, and we should take all means to prevent such an embarrassing situation, in which people show up vast ignorance in a Christian and laugh it to scorn ... If they find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books, how are they going to believe our books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven, when they think their pages are full of falsehoods on facts which they themselves have learnt from experience and the light of reason?²⁴

²⁴ Augustine, *The Literal Meaning of Genesis*, 1.19.39. Translation by John Hammond Taylor.

Such an openness to the possibility of accommodation was the reason why the Old Princeton theologians were able to make peace with the findings of modern science. They accepted the new science of Newton at the time when Newtonian mechanics was increasingly seen to support the worldviews of determinism and materialism²⁵ and even went so far as to believe that “among the highest form of truth were those which most carefully imitated Newtonian law.”²⁶ When geologists began to postulate the old age of the earth, Charles Hodge had no difficulty accepting their findings. Hodge, contrary to the opinion of the Seventh-day Adventists and premillennialists,²⁷ argued that the word “day” as used throughout Genesis 1 should be understood as geological periods of indeterminate duration.

Hodge’s real contention against Darwinism was not over the fact of evolution, but rather with it as a system of interpretation.

²⁵ By the end of the 18th century, for example, Simon Laplace’s physics “came to symbolize the position of most French scientists, who argued that physics no longer offered any support for the traditional notion of God and that its implications favored pure materialism.” Richard Olson, “Physics,” in *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren (Baltimore, The Johns Hopkins University Press: 2020), 303. For a brief analysis on the progress of science from Newtonian (classical) physics to Quantum Mechanics and the challenges they offer to the traditional notion of God, see David Tong, “Quantum Indeterminacy and the Sovereignty of God,” *Verbum Christi* 1, no. 1 (April 2014), 109-125.

²⁶ Mark A. Noll, *The Princeton Theology: 1812-1921* (Grand Rapids, MI: Baker Academic, 2001), 39.

²⁷ For obvious theological reasons, both Seventh-day Adventists’ observation of the seventh-day Sabbath as a memorial of the Creation and premillennialists’ predictions of Christ’s imminent return demand a 24-hour day literal reading of Genesis 1.

Defining Darwinism as a system involving three distinct elements, namely evolution, natural selection, and the rejection of teleology, Hodge, perhaps surprisingly for many, directed his objection *only* against the last element: the rejection of teleology in Darwinism. In other words, it was not with the evolution that Hodge was having problem with, but with the atheistic interpretation of the fact of evolution. Hodge clarified:

This does not mean . . . that Mr. Darwin himself and all who adopt his views are atheists; but it means that his theory is atheistic, that the exclusion of design from nature is . . . tantamount to atheism.²⁸

From the quotation above it is clear that Hodge made a distinction between evolution and Darwinism. His concern was over the question of design and purpose in nature and not with the evolution process itself. Mark A. Noll and David N. Livingstone elaborate further:

Hodge is making a very specific point. He is attacking not evolution as such, not even the principle of "natural selection" that Darwin had proposed ... but what Hodge considered to be the "ateleological" character of Darwin's conception of natural selection. ...Hodge, let it be said, had his doubts about both evolutions as such and natural selection as a principle of biological descent. But he also knew that other theological conservatives of his generation, like James McCosh, president of Princeton University, were making their peace with these principles.

²⁸ Hodge, "What is Darwinism?" in Noll and Livingstone, *What is Darwinism?*, 156-157.

...Whatever doubts Hodge himself felt about evolution or natural selection, however, these matters were not his main concern when he wrote the book on Darwinism.²⁹

Charles Hodge's distinction between Darwinism and evolution, in my opinion, allowed for a harmony of perspective between him and his successors, Archibald Alexander (A. A.) Hodge and Benjamin Breckinridge (B. B.) Warfield, both openly endorsed theistic evolution.³⁰ In 1880, less than two years of his father's death, A. A. Hodge asserted, "We have no sympathy with those who maintain that scientific theories of evolution are necessarily atheistic."³¹ This would be an unthinkable and scandalous remark given that A. A. Hodge's father, Charles Hodge, had made that infamous remark that Darwinism was tantamount to atheism! Yet these remarks by the two Hodes are clearly harmonious when one understands that both never equated evolution with Darwinism; both considered the former as the *fact* of science and the later as the *interpretation* of that fact.

Thus, A. A. Hodge further stated that the doctrine of evolution, by itself, "When strictly confined to the legitimate limits of pure science . . . is not antagonistic to our faith as either theists or Christians." In fact, for A. A. Hodge, "Evolution considered as

²⁹ Mark A. Noll and David N. Livingstone, "Introduction: Charles Hodge and the Definition of "Darwinism," in *What is Darwinism? and Other Writings on Science and Religion by Charles Hodge* (Grand Rapids, MI: Baker Books, 1994), 29.

³⁰ The omission of A. A. Hodge and B. B. Warfield, both openly endorsed theistic evolution, in *A History of the Warfare of Science with Theology in Christendom* is another indication of the intentional bias in White's writing.

³¹ Noll, *The Princeton Theology*, 234-235.

the plan of an infinitely wise Person and executed under the control of His everywhere present energies can never be irreligious, can never exclude design, providence, grace, or miracles." It is only when the doctrine of evolution is "connected with a materialistic philosophy"—one that supplies "the ideas, the causes, and the final ends"—and "erected into a complete philosophy," then "it can challenge our interest as Christians, or threaten our faith."³²

The same can be said about B. B. Warfield. Having firsthand experience with shorthorn cattle breeding that allowed him to meet the theory of natural selection not on the theological or the philosophical level, but on the empirical one, Warfield was a convinced believer of evolution even before the arrival of James McCosh at College of New Jersey (renamed to Princeton University in 1896).³³ Warfield even found evolution to be useful in establishing the doctrine of the unity of human race. In *The Antiquity and Unity of the Human Race*, written in 1911, Warfield

³² Quotations from Archibald A. Hodge, "Theism and Evolution," in Noll, *The Princeton Theology*, 234-235.

³³ Warfield entered College of New Jersey in 1868 as an undergraduate to study mathematics and science. Prior to the arrival of James McCosh, then College of New Jersey's president, John Maclean, rejected Darwinism. However, when McCosh replaced Maclean to become the president of the college in 1868, he strove for reconciliation between science and religion. Yet it must be noted that McCosh did not rule out God from creation and its teleological aspect. For McCosh, evolution "far from being inconsistent with belief in divine design, glorifies the divine designer." Wikipedia contributors, "James McCosh," in *Wikipedia: The Free Encyclopedia* (Wikimedia Foundation Inc., updated 25 July 2014, 12:14 UTC), available from http://en.wikipedia.org/wiki/James_McCosh (Accessed 19 September, 2014).

claimed that the prevalence of the evolutionary hypotheses “has removed all motive for denying a common origin to the human race.”³⁴

However, some have considered Warfield to have gone further than the Hodges, embracing not only the fact of evolution itself but also Darwin’s mechanistic and naturalistic interpretation of it. Besides, Warfield himself admitted that he was “a Darwinian of the purest water.”³⁵ However, this is true. Warfield never embraced the materialistic and naturalistic worldview of Darwinism even when he considered himself “Darwinian of the purest water.” His writings showed this to be the case.

Lamenting on Darwin’s spiritual decay that eventually led to his loss of faith, Warfield again reasserted the compatibility between Christianity and evolution, stating that “[w]e raise no questions as to the compatibility of the Darwinian form of the hypotheses of evolution with Christianity.”³⁶ Darwin’s aesthetic atrophy and spiritual disaffection, argued Warfield, “could be traced on the one hand to an inability to conceive of God as

³⁴ Benjamin B. Warfield, “The Antiquity and Unity of the Human Race,” in Noll, *The Princeton Theology*, 292.

³⁵ B. B. Warfield, “Personal Reflections of Princeton Undergraduate Life: IV—The Coming of Dr. McCosh,” *Princeton Alumni Weekly* 16.28 (April 19, 1916): 650-53, quoted in Mark A. Noll and David N. Livingstone, “Introduction: B. B. Warfield as a Conservative Evolutionist,” in *Evolution, Science, and Scripture: Selected Writings by B. B. Warfield* (Grand Rapids, MI: Baker Books, 2000), 26.

³⁶ Benjamin B. Warfield, “Charles Darwin’s Religious Life: A Sketch in Spiritual Biography,” in Mark A. Noll and David N. Livingstone, *Evolution, Science, and Scripture: Selected Writings by B. B. Warfield*, (Grand Rapids, MI: Baker Books, 2000), 77.

immanent in the universe (which resulted in a misapprehension of the doctrine of Providence) and on the other hand to an unsophisticated understanding of teleology.”³⁷ Thus, Warfield sought “to articulate theological defense of divine design and providential government of the world in evolutionary terms.”³⁸

Warfield provided such a theological defense in his 1915 article *Calvin’s Doctrine of Creation*. In his assessment of Calvin’s doctrine of creation, Warfield argued that throughout Calvin’s *Institutes* and his commentaries the word *creation* is reserved only for two events: (1) the original act of God in bringing out of nothing (*ex nihilo*) the “original world-stuff,” and (2) the specific act of making the human soul.³⁹ All else fall under God’s active work of providence through secondary causes. “All that is not immediately produced out of nothing,” Warfield stated, “is therefore not created—but evolved.” And “all that has come into being—except the souls of men alone—has arisen as modification of this original world-stuff by means of the interaction of its intrinsic forces.” Thus, the original creation of the world-stuff

³⁷ Livingstone, *Darwin’s Forgotten Defenders*, 117.

³⁸ Livingstone, *Darwin’s Forgotten Defenders*, 117.

³⁹ Warfield clearly advocated a dualistic origin of human, arguing that only human physique evolved from the lower primate. At this point we must express our disagreement with Warfield. The word בָּרָא (*bārā’*) not only was used in Gen. 1:1 to describe the act of God in bring out of nothing (*ex-nihilo*) the “original world-stuff,” but also in Gen. 1:27 to describe the creation of man. However, a more comprehensive theological evaluation of Warfield’s doctrine of creation and anthropology is not in the scope of this paper and will be dealt separately.

included the “promise and potency” of all that was yet to be.⁴⁰

This, however, does not mean that Warfield embraced deistic concept of God, that God, once He had created out of nothing the original world-stuff and endowed it with promises and potency, he simply let the world to evolve under natural forces. For Warfield, God is the *prima causa omnium*; not only do all things ultimately owe their existence to God, but also “all the modifications of the world-stuff have taken place under the directly upholding and governing hand of God, and find their account ultimately in His will.”⁴¹ In other words, Warfield affirmed the robust doctrine of providence. In his view, Darwin’s natural laws operate under “the aegis of the general providence of God.”⁴² Only with this inclusion of divine providence that Warfield “purify” Darwinism from its atheistic color and admitted himself to be “Darwinian of the purest water.”

We shall elaborate Machen’s view of evolution and science, in general, in the next section. It suffices to conclude this section that the Old Princeton theologians, from Charles Hodge to Benjamin B. Warfield, proofing Dawkins wrong, did not find their

⁴⁰ Quotations from Benjamin B. Warfield, “Calvin’s Doctrine of Creation,” in Noll, *The Princeton Theology*, 297-298.

⁴¹ Quotations from Warfield, “Calvin’s Doctrine of Creation,” in Noll, *The Princeton Theology*, 297-298. It is worth noting that Warfield’s persistent support of Darwinian evolutionary theory by natural selection was given during the period when Darwinism was eclipsed by the rise of alternative evolutionary theory, such as Neo-Lamarckism.

⁴² Alister McGrath, *Christianity’s Dangerous Idea: The Protestant Revolution: A History from the Sixteenth Century to the Twenty-First* (London: SPCK, 2007), 382.

doctrinal commitments, even their commitments to the scriptural inerrancy, to sever them from engaging science—in this case, evolution. Their contention was not with the facts of science, but rather with the interpretation of that fact. Considering Darwinism as a system of interpretation, one that is mechanistic, naturalistic, and, thus, atheistic, they argued that it stood at a diametrical opposition to Christianity. It was not with evolution per se that they were having issue with. If any, it is clear that their laborious engagements with evolution were grounded on and the result of their doctrinal commitment to Calvinism. Similar position was held by the theologians across the side of the Atlantic, the Dutch new-Calvinism.⁴³

JOHN GRESHAM MACHEN AND FUNDAMENTALISM

Machen's biography, important to set the context of our discussion later, will be briefly rehearsed here.⁴⁴ The end of the nineteenth century witnessed the increasing splintering between Christianity and science. Within few decades of the publication of *Origin of Species by Means of Natural Selection* (1859), the insistence of supernatural miracles, prevalent in all fundamental traditional Christian doctrines, was seen as irreconcilable to the naturalistic

⁴³ David Tong, "The Relationship between Christianity and Science: A Brief Historical Study on Darwinism and the Dutch Neo-Calvinism," to be published.

⁴⁴ Ned B. Stonehouse, *J. Gresham Machen: A Biographical Memoir* (Grand Rapids, MI: Eerdmans, 1954) is still the authoritative biographical works on Machen.

view demanded by Darwinism. By 1920s, the question over evolution became central in the fundamentalists-modernists controversy within the Presbyterian Church of the U.S.A. (PCUSA).⁴⁵ Both sides of the camps, fundamentalists and modernists alike, considered evolution crucial for their causes. Modernists' high view of humanity, their concept of an immanence God, their denial of anything supernatural, and their process theology seem to have gained support from biological evolution. On the other hand, fundamentalists were absorbed with the anti-evolution sentiment as evident on two important events during the 1920s controversy: the 1923 General Assembly of the Presbyterian Church of the U.S.A. (PCUSA) and the Scope's Monkey Trial in 1925.

Machen's importance during this fundamentalists-modernists controversy is evident. While it was *The Origin of Paul Religion*, published in 1921, that established Machen's reputation as "a scholarly defender of historic Christianity," it was his *Christianity and Liberalism*, published in early 1923, that catapulted Machen "into the center of the arena of ecclesiastical and religious life where the broader controversy between Christianity and modernism was being fought."⁴⁶ To this extent Machen became

⁴⁵ Throughout this paper I shall make assumption that readers are already familiar with fundamentalist-modernist controversy in the 1920s and 1930s. A good comprehensive overview of the controversy can be read in Bradley J. Longfield, *The Presbyterian Controversy: Fundamentalists, Modernists, & Moderates* (New York: Oxford University Press, 1991).

⁴⁶ Stonehouse, J. *Gresham Machen*, 288.

“one of the most effective spokesmen for the conservative side,”⁴⁷ even “a leader of the militant conservatives or fundamentalists in the Presbyterian conflict.”⁴⁸ So crucial was Machen’s role as the defender of faith during this fundamentalist-modernists controversy that church historian Bradley J. Longfield concludes: “For all intents and purposes the Presbyterian conflict came to a close with Machen’s suspension from the ministry and the formation of the Presbyterian Church of America in 1936.”⁴⁹

But the close association that many make between Machen and the fundamentalists during the controversy of the 1920s actually did injustice to Machen and was “one reason for forgetting Machen.”⁵⁰ In fact, it was simply difficult, if not impossible, without doing injustice to him, to characterize Machen as fundamentalist. Two reasons can be given.

In the first place, Machen’s educational background, his dedication to Princeton tradition that rescued him from his intellectual crisis, and his Southern heritage simply made him a *tertium quid*. Together with other fundamentalists Machen opposed

⁴⁷ Stonehouse, J. *Gresham Machen*, 288.

⁴⁸ Longfield, *The Presbyterian Controversy*, 5.

⁴⁹ Longfield, *The Presbyterian Controversy*, 213. The “Presbyterian Church of America” mentioned here is not to be mistaken with “Presbyterian Church in America” (PCA). It is the denomination that Machen formed after he was found guilty in the 1935 trial of the General Assembly of the PCUSA and defrocked of his ordination and ministry. After PCUSA filed suit over the choice of name, the new denomination adopted a new name, the Orthodox Presbyterian Church (OPC).

⁵⁰ D. G. Hart, “Introduction: The Forgotten Machen?” in *Selected Shorter Writings by J. Gresham Machen* (Phillipsburg, NJ: P&R Publishing, 2004), 5.

liberalism and its presence in the church fiercely. Describing liberalism not as a variety of Christianity but rather as “a totally diverse type of religious belief,” one which is “destructive of the Christian faith,” Machen argued for a separation in the church, calling all liberal ministers to withdraw from creedal churches whose confessions they did not accept.⁵¹

But unlike fundamentalists, Machen’s high scholarship, clearly displayed in his books *The origin of Paul’s Religion* (1921) and *The Virgin Birth of Christ* (1930), was taken seriously by his most ardent critics. His works were reviewed by the leading theological journals of all persuasions and even by other highly acclaimed liberal theologians, such as Adolf von Harnack and Rudolf Bultmann.⁵² As New Testament scholar, he had no reservation for using modernists’ higher criticism method, except, unlike the modernists, he used it to defend the orthodox faith.

In the second place, the difficulty is caused by definitional problem. Unlike “modernism,”⁵³ the term “fundamentalism” is

⁵¹ Machen, *Christianity and Liberalism* (Grand Rapids, MI: Eerdmans, 1946), 2, 167.

⁵² Stephen J. Nichols, *J. Gresham Machen: A Guided Tour of His Life and Thought* (Phillipsburg, NJ: P&R Publishing, 2004), 133.

⁵³ In theological context, “modernism” is often defined as “theological liberalism.” Machen himself did not seem to make any distinction between the two terms. For example, Machen expressed that his only regret with his 1923 book *Christianity and Liberalism* was that he had used the term “liberalism” instead of “modernism.” The use of “modernism” would suggest that “it lacked the support of the charter of Christianity and had emerged from modern thought as an innovation.” Ned B. Stonehouse, *J. Gresham Machen: A Biographical Memoir* (Grand Rapids, MI: Eerdmans, 1954), 295. For the rest of this paper the usage of “modernism” and “theological liberalism” is assumed interchangeable.

“beset with difficulty” because of the broader and narrower sense the term has.⁵⁴ Without proper definition, discussion surrounding the fundamentalists-modernists controversy often becomes frustrating, if not downright meaningless. In its narrower sense, fundamentalists drew most heavily upon the doctrines of dispensationalism and creationism, neither of which Machen held.⁵⁵

The term “fundamentalism” itself, coined around 1920, appears to have come from the 1910-1915 publication of *The Fundamentals: A Testimony to the Truth*, a set of 90 articles in twelve volumes written by various shades of conservatives and edited by A. C. Dixon and later by Reuben Archer Torrey. Financed by Lyman and Milton Steward, California oil magnates, approximately three millions volumes were distributed to “every pastor, missionary, theological professor, theological student, YMCA and YWCA secretary, college professor, Sunday school superintendent, and religious editor in the English speaking world.”⁵⁶ Though intended to expound orthodox Protestant beliefs and to defend against non-orthodox teachings, “the works were more important for their symbolic value than for their contributions to theology.”⁵⁷ George Marsden notes that when the

⁵⁴ Stonehouse, J. *Gresham Machen*, 288-289.

⁵⁵ D. G. Hart, “Introduction: The Forgotten Machen?”, 5-6.

⁵⁶ Amzi C. Dixon, Louis Meyer, and Reuben A. Torrey, eds., *The Fundamentals: A Testimony to the Truth*, 12 vols. (Chicago: Testimony, 1910-1915), 12:4, quoted in Longfield, *The Presbyterian Controversy*, 21.

⁵⁷ Longfield, *The Presbyterian Controversy*, 21

term *fundamentalist* was used in 1920, "it called to mind the broad, united front of the kind of opposition to modernism that characterized these widely known, if little studied, volumes."⁵⁸ Two notable scholars, B. B. Warfield and James Orr, also contributed in these works. In this sense, the term "fundamentalists" assumed a broader meaning and, in the context of the 1920s controversy, was used for those concerned to emphasize doctrinal truths and to defend them. Used in this broader sense, "the fundamentalists-modernist controversy was but a phase of an age-long struggle... rooted in the antithesis between Christianity and the efforts toward synthesis with pagan thought."⁵⁹

In his letter reply to Bryan Memorial University, an institution closely associated to the fundamentalists William Jennings Bryan (see below), Machen outlined four reasons why he must decline the institution's invitation for him to become its president. What Machen wrote below captured his reluctant acceptance to his association as "fundamentalists," in its narrow sense:

In the third place, I am somewhat loath, for the present at least, to relinquish my connection with distinctively Presbyterian work. I have the warmest sympathy, indeed, with interdenominational efforts of various kinds; I have frequently entered into such efforts

⁵⁸ George M. Marsden, *Fundamentalism and American Culture: The Shaping of Twentieth Century Evangelicalism, 1870-1925* (New York: Oxford University Press, 1980), 119 quoted in Longfield, *The Presbyterian Controversy*, 21.

⁵⁹ Stonehouse, J. *Gresham Machen*, 289.

on my own parts. ... Nevertheless, thoroughly consistent Christianity, to my mind, is found only in the Reformed or Calvinistic Faith; and consistent Christianity, I think, is the Christianity easiest to defend. Hence I never called myself a "Fundamentalist." There is, indeed, no inherent objection to the term; and if the disjunction is between "Fundamentalism" and "Modernism," then I am willing to call myself a Fundamentalists of the most pronounce type. But after all, what I prefer to call myself is not a "Fundamentalist" but a "Calvinist"—that is, an adherent of the Reformed Faith.⁶⁰

JOHN GRESHAM MACHEN AND THE ISSUE OF EVOLUTION

Throughout the fundamentalists-modernists controversy of the 1920s, evolution became "the chief concern of the fundamentalist crusade" with William Jennings Bryan, "the most widely influential layman in the church," established himself "as the leader of the anti-evolutionists."⁶¹ Bryan, who became famous for his involvement as the prosecutor in the 1925 Scopes "Monkey Trial" at Dayton, Tennessee,⁶² led a crusade against Darwinism

⁶⁰ Stonehouse, *J. Gresham Machen*, 374-375.

⁶¹ Longfield, *The Presbyterian Controversy*, 54, 57.

⁶² The details of the Scopes trial are beyond the scope of this paper. It suffices to say that Scopes trial is plagued with misrepresentation in popular and scholarly works due to unintentional bias or, worse, intentional agenda. For example, despite the fact the trial record has been available in published form since 1925, Bryan's testimony was still often wrongly reported. Some have maintained, erroneously, that Bryan "foolishly defended a recent creation in six

during the fundamentalists-modernists controversy because of the danger he saw in Darwinism. Believing that Darwinian doctrine “leads people into agnosticism and pantheism, plunged the world into the worst of wars, and is dividing society into classes that fight each other on a brute basis,” Bryan called the Christian church to “understand what is going on and array itself against these enemies of the church, Christianity, and civilization.”⁶³ For Bryan, evolutionism, for putting man on a brute basis and ignoring spiritual values, weakened Christianity.⁶⁴ Bottom line, “evolutionary theory inspired hatred and struggle,” “provided the philosophical basis for German military atrocities,” “eliminated sympathy,” “glorifying the battle for self-preservation,” and “removing the very basis of civilization.”⁶⁵ Darwinism, in Bryan’s mind, was a threat to Christianity and Christian civilization.⁶⁶

twenty-four-hour days in the year 4004 B.C.” where in fact, examination of the trial record will clarify readily what Bryan believed; “Bryan not only rejected the notion of a 6,000-year-old Earth but freely interpreted the days of Genesis as vast period of time.” (Numbers, *Darwin Comes to America*, 77-80, quotation from page 80.) Dawkins refers to Bryan as the “prosecutor of the science teacher John Scopes,” (Dawkins, *The God Delusion*, 284.) ignoring the fact that ACLU (American Civil Liberties Union) solicited John Scopes, a young high school science teacher, to test the constitutionality of the recently passed Tennessee bill that made it unlawful for state-supported schools to teach that man has descended from a lower order of animals. (Numbers, *Darwin Comes to America*, 77-78). John Scopes agreed and, thus, the trial went in place.

⁶³ William J. Bryan, *The Bible and Its Enemies: An Address Delivered at the Moody Bible Institute of Chicago* (Chicago: Bible Institute Colportage Association, 1921), 43, quoted in Longfield, *The Presbyterian Controversy*, 54.

⁶⁴ Longfield, *The Presbyterian Controversy*, 55.

⁶⁵ Longfield, *The Presbyterian Controversy*, 55.

⁶⁶ Longfield, *The Presbyterian Controversy*, 54.

This is the reason why Machen stood out. In stark contrast to Bryan, Machen never condemned evolution. While Bryan located evolutionism as a thread to Christianity, Machen pinpointed it in evolutionism.⁶⁷ For Bryan, it is the evolutionists who “denied the fundamental Christian truth of biblical inspiration, the virgin birth, and the resurrection.” For Machen, it is the modernists. But despite their differences over the issue of evolution, surprisingly, in a move that testified for Machen’s prominence during the controversy, Bryan asked Machen to come and assist him as an expert witness at the Scopes trial. Machen deftly avoided Bryan’s request, claiming that he was not competent to give expert testimony. Responding to Bryan, Machen wrote: “With regard specifically to the teaching in Public schools,” Machen continues, “my information is merely of a somewhat vague and hearsay kind, which, though sufficient to convince me, would not be admitted in a court of law.”⁶⁸

Machen, at least in the 1920s, was hesitant to discuss the question of evolution in public.⁶⁹ Longfield explains Machen’s hesitation:

Biological evolution was not to Machen’s mind the chief, or even a major problem for church and culture. The rise of naturalistic

⁶⁷ Unlike the Old Princeton theologians, Bryan does not differentiate between the process of evolution and Darwinism.

⁶⁸ J. Gresham Machen to William J. Bryan, 2 July 1925, Machen papers, quoted in Longfield, *The Presbyterian Controversy*, 154.

⁶⁹ J. Gresham Machen to Ralph H. Goodwin, 30 June 1925, Machen papers, quoted in Longfield, *The Presbyterian Controversy*, 69.

thought in general and the spread of liberal theology were the prime enemies in the modern world. To concentrate on biological evolution was therefore to deflect the energy of Christians away from the central battle. Moreover, Machen was probably astute enough to realize that to speak out explicitly on evolution might alienate part of the constituency he was trying to galvanize.⁷⁰

However, Machen was certainly not without an opinion on evolution and his view was in continuity with his predecessors at Princeton Seminary. Specifically, Machen appeared to endorse Warfield's views on evolution; he usually directed those who inquired him about evolution to Warfield's writings. For Machen, as with his mentor Warfield, evolution cannot be understood in the mechanistic and naturalistic sense of the Darwinian sense. Hart comments on the similarity between Machen and Warfield on evolution:

Machen did not believe that evolution alone could explain the origin of human life nor did he believe that evolution was incompatible with divine creation. He thought it possible to accept evolution in providential terms, "as God's way of working in certain spheres . . . through nature." And like his mentor, he was careful to distinguish between God's creative power to bring life into existence out of nothing (*ex nihilo*) and divine providence, which involved God's superintendence of existing natural forces and laws.⁷¹

⁷⁰ Longfield, *Presbyterian Controversy*, 70.

⁷¹ D. G. Hart, *Defending the Faith: J. Gresham Machen and the Crisis of Conservative Protestantism in Modern America* (Phillipsburg, NJ: P&R Publishing,

CONCLUSION

Back in 2011 I conducted a brief survey of four major private Christian (protestant) higher education institutions in Indonesia.⁷² To my dismay, I discovered that none of them has a faculty of pure natural sciences (e.g., physics, biology, chemistry, et cetera) or mathematics. If there is one, it will be a faculty of applied math/science. The picture is very different when we survey Christian higher education institutions in the United States, to take just an example.

Blaming the situation on the lack of interest from our Christian youths is just an easy scapegoat. Such a lack of interest is certainly the superficial effect of deeper underlying causes. Among many other reasons, I suspect the popular view shared by many Indonesian Christians that Christianity is at odd with natural sciences was at the root, giving birth to, at best, a tepid attitude towards science. Rather than intellectually engaging science, despite all the intellectual challenges that they may face, many Christians have chosen to withdraw themselves to their own modern intellectual monastery. Such an intellectual withdrawal is nothing but anti-intellectualism and it is unwarranted.

On the contrary, the Old Princeton theologians, from Charles

1994), 97-98.

⁷² Universitas Kristen Indonesia (UKI) established in 1953 (<http://www.uki.ac.id/>); Petra Christian University, established in 1961 (<http://www.petra.ac.id/>); Duta Wacana Christian University, established in 1962 (<http://www.ukdw.ac.id/>); and Universitas Pelita Harapan (UPH), established in 1994 (<http://www.uph.edu/>).

Hodge to J. Gresham Machen, surveyed in this paper had no hesitation to engage the sciences of their day. The doctrinal commitment, even their commitment to scriptural inerrancy, did not cause them to distance themselves away, even when many other Christians, the fundamentalists, for example, saw science as posing a threat towards Christianity specifically on the issue of the age of the earth. Yet, these Old Princeton theologians made their peace with the scientific findings in their times, acutely understanding and correctly locating the issue not with the *fact* of science itself but with the *interpretation* of that fact. In this way they accommodated their interpretation of the Scripture to make room for science without compromising their doctrinal commitments and doing injustice towards science. Contrary to the conflict thesis, their confessional commitment was actually the reason for their positive attitude towards science. These Old Princeton theologians have set an example for all of us to follow.

Only with a proper understanding of the relationship between Christianity and science can Christians consider pursue of scientific study worthy and Christians' interest in science be revived. Evangelicals in Indonesia have much to learn from their own history and tradition.