# ANDREW DICKSON WHITE AND THE HISTORY OF A RELIGIOUS FUTURE

*by Richard Schaefer*

*Abstract.* Andrew Dickson White played a pivotal role in constructing the image of a necessary, and even violent, confrontation between religion and science that persists to this day. Though scholars have long acknowledged that his position is more complex, given that White claimed to be saving religion from theology, there has been no attempt to explore what this means in light of his overwhelming attack on existing religions. This essay draws attention to how White's role as a historian was decisive in allowing him to posit a future for religion purified of dogma by science. It argues, furthermore, that this effort is better understood as religious innovation, rather than a plea for strictly secular science. In so doing it hopes to lay the foundation for a more fruitful historical treatment of White, and a range of other figures whose devotion to science has otherwise been difficult to grasp.

*Keywords:* Christianity; John Draper; history; narrative; religion; science; A. D. White

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In the late 1860s, Andrew Dickson White composed a lecture titled "Battlefields of Science" that he delivered at a variety of venues across the United States. Originally motivated to redress criticisms leveled against him for insisting that the newly founded Cornell University be a nonsectarian institution, White published an expanded version of the lecture as *The Warfare of Science* in 1876. He then continued working on the project for the next 15 years, publishing sections of it regularly in *The Popular Science Monthly*. These, in turn, formed the chapters of what then became *A History of the Warfare of Science with Theology in Christendom*, a two-volume landmark in the history of science that appeared in 1897. Imposing in its command of the relevant literature, which was duly cited in an elaborate set of footnotes, the work was hardly a dispassionate search for truth. On the contrary, from the first page to the last, it deployed metaphors of battle, warfare, attack and retreat that left no doubt about White's passionate desire to see science smite its foes. Comparing his labors with those of Russian peasants, White

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declared that his goal was "to aid in letting the light of historical truth into that decaying mass of outworn thought which attaches the modern world to mediaeval conceptions of Christianity, and which still lingers among us—a most serious barrier to religion and morals, and a menace to the whole normal evolution of society" (1897 I, v). Significantly, White insisted throughout the book that his enemy was theology and not religion. Indeed, it was in order to safeguard his own desire to promote "the stream of 'religion pure and undefiled'" that he blamed theology for perniciously interfering in the progress of science (1897 I, vi). Nevertheless, references to "the controlling minds in the Catholic Church," and to a "Protestantism [that] was . . . as oppressive," strongly suggested that, this distinction notwithstanding, his was an assault on all manner of obstinate closed-mindedness pervading the existing Churches and institutional religion (1897 I, 27, 60). This fact was not lost on contemporaries, who challenged White's claim to be able to document evolutionary progress in religion comparable to that in other arenas of history. For many, including the historian Edward Payson Evans, White had gone too far, throwing out the proverbial baby with the bathwater. If White was "not standing up for dogmatic Christianity but . . . standing up for the living kernel of religion," then what, Evans asked, "constitutes this kernel?" Motivated by similar concerns, Mary Eaton wrote and asked White: "What if you succeed in creating doubts in the minds of men, in taking from them all trust in Revelation they have accepted as coming from God? What then? . . . What will you give us instead? A religion evolved from human brains, stripped of all that is Divine. An image without a soul" (Altschuler 1979, 320). Clearly, if White aimed to save religion from theology, he left many wondering just what kind of religion this would be.

In this essay, I advocate that we take seriously White's claim to showing how the history of science revealed a beneficial and providential evolution of religion. In so doing, I hope to advance a different perspective not only on White, but on others who, like him, sought to advance a new religious sensibility on distinctly scientific grounds. White's history of science unabashedly proclaimed the advent of a new phase in religious history. To understand what he meant, however, it is necessary to focus on how White used his tools and talents as a historian to show how science benefits "true" religion. White was not a scientist, but a historian, and what has been too little understood is how he composed a history that rivaled the religious narratives he sought to displace. His vision of the course of world history was not something he could expound according to the scientific method, but expressed a specific kind of faith in the unity of events and their rational explication. History, in short, had an immanent meaning, one that did not simply appear in the facts, but required interpretation in light of Christian history. By looking at how White understood history,

this essay explores how White used history to herald a different future for religion.

Now it has long been acknowledged that White believed science could benefit religion, but only in passing, as though this really only expressed a quaint affection for a rapidly waning Christianity rather than a strong conviction about the course of history and the desirability of a new religious era. Thus, Glenn Altschuler (1979), while he acknowledges that "White did not wish to defeat religion in the name of science" and "hoped to affirm a rational, non-mythical religion," still concludes that White's demolition of the traditional foundations of Christian belief left him with little else but to affirm a sharply deracinated "humanitarian ethics" (324). For Altschuler, White's work in the history of science set him on an intellectual path "from religion to ethics" that saw in Christianity the "absolute standard of ethical conduct" and nothing more. What White called "religion pure and undefiled" is thus really better understood as an ethical analogue of religion. In viewing White this way, of course, Altschuler is part of a much broader trend in the academy dedicated to parsing religion into what are seen as its more fundamental ethical constituents. As Prothero (2007) reminds us, however, this trend was in large measure promoted by believers who hoped it might keep religious antagonisms at bay in forging a common university curriculum, and not due to the erosion of religion in the name of secularism (127–30). There is no denying that White cites the ethical core of Christianity as the kernel that needs saving from the shell of ritual and doctrine. But in this essay, I hope to show that this kernel was, for White, not just some deracinated ethical system. It was a fundamental insight into God's continuing role in history, and not merely a set of principles that could have been deduced in a purely philosophical way.

To pass over White's claim to setting a new course for religion, and Christianity in particular, fails to take seriously the way religions themselves are constantly innovating in new and unpredictable ways (Carse 2008). It also points to a deeper problem, namely, that we lack a supple enough set of interpretive instruments for understanding White's religious sensibility. White's claim to being on the threshold of a new religious era only makes sense when we understand how he viewed history as more than merely a tool for rendering a true account of the facts. Quite simply, he did not view history as a neutral container that held all manner of facts, but as a medium of evolutionary progress and, to some extent, salvation. This imbrication of the sacred and secular, though seemingly out of step with White's attacks against the stultifying effects of theology, is essential to understanding his religious sensibility. But to see it requires taking a different approach to the relationship between religion and historical consciousness. More specifically, it requires understanding how the fate of religion in the modern world is a story that can be told in different ways.

## The Heroes of Science

Reading White today, one encounters familiar—indeed iconic—episodes intended to illustrate the relentless persecution of the scientific spirit, including the death of Bruno, the trial of Galileo, and the controversy surrounding Darwin. Likewise, one meets those heroic defenders of science like Copernicus, Kepler, and Descartes who, for White, comprised some of the "greatest men our race has produced" (1897 I, 15). And yet there is ample evidence that White's stock images of the "persecution" of these scientific trail-blazers are much more complex episodes than he ever lets on, and here the case of Galileo is perhaps most interesting. Indeed, White devotes considerable attention to it since, as he says, "[o]n this new champion, Galileo, the whole war [between science and theology] was at last concentrated" (1897 I, 132). According to White, the trouble began in 1610, when Galileo "announced that his telescope had revealed the moons of the planet Jupiter. The enemy saw that this took the Copernican theory out of the realm of hypothesis, and they gave battle immediately." To defeat him, his enemy marshaled, at different times, a "prodigious theological engine of war," "smaller artillery in the shape of . . . scriptural extracts," and "heavy artillery." In their rage they even hurled "the epithets 'infidel' and 'atheist'," weapons that, for White, "can hardly be classed with civilized weapons." With great pathos, he laments:

> These are burning arrows; they set fire to masses of popular prejudice, always obscuring the real question, sometimes destroying the attacking party. They are poisoned weapons. They pierce the hearts of loving women; they alienate dear children; they injure a man after life is ended, for they leave poisoned wounds in the hearts of those who loved him best—fears for his eternal salvation, dread of the Divine wrath upon him. (1897 I, 135)

In the face of these attacks, Galileo sought "[i]n vain . . . to try and prove the existence of satellites by showing them to the doubters through his telescope," most of whom refused even to look (1897 I, 132). Though "the little telescope of Galileo still swept the heavens," he failed to convince his enemies "that biblical interpretation should not be applied to science" (1897 I, 132). Besieged on all sides, Galileo was eventually silenced by Rome, and in a final act of humiliation was "forced to perjure himself . . . and to swear that he would denounce to the Inquisition" anyone else teaching the Copernican system (1897 I, 142).

That White's account of the Galileo affair fails to do justice to the facts is well known. In his analysis of the Galileo affair, Finocchiaro (2001) examines how White's account rests on erroneous assumptions, the most important of which is that there was a clear divide to be made between scientific supporters and religious detractors. To be sure, Galileo and his research represented a new and provocative foray into experimental research that would force many people to think differently about how they looked

at the physical world. But in his own day, one looks in vain to find either a scientific consensus defending him or a religious consensus arrayed against him. As Finocchiaro points out, there was a wide spectrum of opinion on the merits of his science as well as on the theological implications of his research, and Galileo had supporters and detractors on both sides. Indeed, in sharp contrast with the clear-cut battle-lines White sketches, one must remember that Galileo received significant support from a variety of figures within the Church, including Pope Urban VIII, who was initially a patron of his work. Like Finnochiaro, Lindberg and Numbers (1986) argue that the crux of the debate was not between science and religion, but stemmed from biblical hermeneutics. In a post-Tridentine context, Galileo's attempt to buttress his findings with passages in the Bible challenged the basis on which a Counter-Reformation Church sought to ground itself. Under the circumstances, such interpretive flexibility was no longer an option, since it contested the Church's claim to be the sole correct interpreter of scripture. They thus conclude that, though "this dramatic tale has come . . . to symbolize the theological assault on science," what should not be overlooked is how "[a]ll of the participants called themselves Christians, and all acknowledged biblical authority" (346, 347).

This latter fact is crucial to understanding correctly a whole host of historical figures that White discusses, including Christopher Columbus and Isaac Newton. Though Columbus might not loom large as a combatant in the history of the war between science and religion, nevertheless for White, his bold spirit of discovery embodied the heroic revolt against theological limitations. Therefore, he writes:

> The warfare of Columbus the world knows well: how the Bishop of Ceuta worsted him in Portugal; how sundry wise men of Spain confronted him with the usual quotations from the Psalms, from St. Paul, and from St. Augustine; how even after he was triumphant, and after his voyage had greatly strengthened the theory of the earth's sphericity . . . the Church by its highest authority solemnly stumbled and persisted in going astray. (1897 I, 108)

What complicates this heroic picture of Columbus is the fact that, as David Noble (1997) points out, Columbus saw his own voyages in deeply apocalyptic terms. Deriving "both his scientific geography and his apocalyptic outlook" from Pierre D'Ailly's *Imago Mundi*, Columbus was much more deeply influenced by medieval cosmology than White's image of him as a bold trailblazer suggests. White does note that Columbus possessed a copy of the *Imago Mundi*, and that he based his voyage in part on what he found there, but in a way that denies entirely Columbus's religious motivations: "It is a curious fact that this single theological error thus promoted a series of voyages which completely destroyed not only this but every other conception of geography based upon the sacred writings" (1897 I, 112).

As Noble shows, however, Columbus's apocalypticism provided the basic framework for how he understood the significance of his explorations; believing that history was nearing the end of days, Columbus firmly believed that the "new" world he saw might well be the new Eden (32). And yet, in White's treatment, Columbus is the iconoclast who is contrasted precisely with Pierre D'Ailly, who White characterizes as "one of the most striking examples . . . of a great man in theological fetters" (1897 I, 310). The same desire to downplay a particular figure's religion—all the better to emphasize how they embody a deeper "scientific" spirit of discovery—also influences how White treats Isaac Newton. In our own day, of course, it is well known that Newton was deeply immersed in a variety of esoteric interests (Ramati 2001). For White, however, these dalliances are explained away by affirming Newton's unflagging commitment to reason. In the following passage, one can sense how hard it was for White even to imagine that Newton might be perfectly content with the variety of his interests:

> It is hard to believe that from the mind which produced the *Principia*, and which broke through the many time-honoured beliefs regarding the dates and formation of scriptural books, could have come his discussion regarding the prophecies; still, at various points even in this work, his power appears. From internal evidence he not only discarded the text of the Three Witnesses, but he decided that the Pentateuch must have been made up from several books . . . (1897 II, 310)

No matter what Newton's purpose, or other interests, White helps guarantee that the scientific spirit wins in the end.

Not surprisingly, White devotes considerable attention to Darwin. But in his treatment, he not only misrepresents the deeply divided spectrum of opinion surrounding Darwin's work by offering glib generalizations, but actually misrepresents facts about the legendary debate between Thomas Huxley and Bishop Samuel Wilberforce in June of 1860. According to White, their encounter allegedly featured the following exchange:

> Referring to the ideas of Darwin, who was absent on account of illness, . . . [Bishop Wilberforce] congratulated himself in a public speech that he was not descended from a monkey. The reply came from Huxley, who said in substance: "If I had to choose, I would prefer to be a descendant of a humble monkey rather than of a man who employs his knowledge and eloquence in misrepresenting those who are wearing out their lives in the search for truth." (1897 I, 70–1)

White called Huxley's retort a "shot that reverberated through England, and indeed other countries," and his description of the episode became nothing short of a legend among scientists. But as Lucas (1979) has shown, there is sufficient discrepancy in the contemporary sources to question whether the conversation is correctly reported at all, and there is evidence to suggest that Wilberforce was far more interested in taking Darwin to

task for his science, rather than his theology. So, for example, Wilberforce questioned whether there was sufficient evidence of a change in species ever having occurred, and wondered whether the sterility of hybrids was not the evidence in favor of the immutability of species. Whatever the ultimate merit of these, and other doubts Wilberforce had, they were legitimate questions about the empirical evidence supporting Darwin's ideas, but are ignored by White. This is because, as Lucas argues, the real issue was not about what happened, but with exploiting a certain version of events to maximum benefit in the context of the changing relevance of science as an institution in society. As professional scientists struggled to claim autonomy from those they increasingly saw as amateurs and dilettantes, Huxley's rejoinder to Wilberforce had all of the force of a manifesto. In contrast with the reigning assumption heretofore, namely that investigation into the nature of things was part of a larger and mutually compatible set of learned endeavors that included religion, Huxley's summary denunciation of any further cooperation signaled that scientists would henceforth increasingly police the boundaries of theirs as a professional enterprise. In this context, according to Lucas, Huxley's remarks were as important for their style as for their content, because they gave scientists a "form of expression in their communications with the learned world" whose hallmark was professional seriousness, above all else (330).

In spite of these errors and exaggerations, we need to resist the urge simply to expose White's history as bad history. There is no question that his book makes mistakes. Some of these are garden variety mistakes that are perhaps inevitable in such a big project; others are much more serious. For Lindberg and Numbers, such mistakes show how "White read the past through battle-scarred glasses," preferring to see conflict when evidence suggested more complex interaction. Citing his treatment of Darwin, for example, they conclude that "White's seeming compulsion to reduce every episode . . . to a simple warlike confrontation blinded him to the possibility that Darwin's critics might have been motivated by honest scientific objections, or that his supporters might have been attracted for theological reasons" (1986, 340). Though it is essential to identify White's mistakes, I would suggest that it is not enough merely to show how White "and his imitators . . . distorted history to serve ideological ends." We need to understand just what those ends were, and how they were served by a particular way of writing history. Doing so will help us better understand how this view continues to exert such a powerful hold on the public imagination. While I therefore agree with Lindberg and Numbers that "discrediting the warfare thesis" is not enough, I do not follow them in seeking to "construct a satisfactory alternative" from "a more neutral starting point." In this instance, the quest for neutrality (i.e., historical 'objectivity') seems ill-suited to sounding the depths of White's historical desire to herald a new age of history.

## Writing the History of Civilization

White was a historian invested in a vision of things that cannot properly be assessed from the point of view of a professional scientist, and his conviction that science and theology necessarily conflicted was not one that he learned in the laboratory (Turner 1978). Instead, it emerged as a function of his effort to understand convergent events in historical time and to interpret them as part of the broader course of history. Modern historical consciousness is predicated, as Reinhart Koselleck (1985) has shown, on the transformation of "history" into the singular; for it is in the singular that events become relativized as markers of history (34). In contrast with earlier modes of historical consciousness, in which events have transcendent significance and the potential to rupture time, history in the singular defines a homogenous space in which all variants of human action can be compared and judged for their relative efficacy, in moving humanity forward. In this way, "progress" is embodied in those forces moving history forward, and "tradition" in those holding progress back. Modern historical research and writing serves an especially important role in defining this movement, especially to the extent that it reduces religion to mundane and strictly secular motives or social functions. Though modern history is still full of narratives about religion, modern historical consciousness is based on the conviction that it alone understands the dynamic of human action in a radically contingent world. This became especially prominent during the Enlightenment, when, as Pocock (2008) observes, "[t]he intention of reducing or eliminating the independence of the sacred from the civil" took root (83). At the same time, however, this effort never fully succeeds in liberating history from the sacred. Thus, according to Pocock: "It can be said that historiography, the construction of an ever more complex narrative of secular circumstances, contingencies and changes has been a principal instrument in the reduction of the divine to the human, but if 'Western' history has been related as, and through, the supersession of the sacred, it cannot be related without the constant presence of the sacred it claims to supersede" (96).

White's *History* embodies precisely this tension between the secular and sacred, and challenges the presumption that the former always supersedes the latter. White was passionately convinced that the pursuit of historical truth revealed something about God's plan, and if he believed science must be absolutely free to pursue research it was because scientific progress was integral to the sacred evolution of religion. White was determined to offer a true account of the warfare between science and theology precisely because he believed science offered a crucial instrument for a "gradual and healthful dissolving of this mass of unreason, [so] that the stream of 'religion pure and undefiled' may flow on broad and clear, a blessing to humanity" (1897 I, 322). To see these goals as complementary, rather than competing presents

us with the challenge of seeing faith in history as consubstantial with the historian's craft rather than history's "other." And to meet the challenge means accepting that history operates, in some ways, as a rival religion. Constantin Fasolt (2006) makes this point forcefully when he argues that "[e]very act of reading and writing history is . . . accompanied by tacit affirmation of this creed: 'I believe that human beings are free individuals with the ability to shape their own fate and with responsibility for the consequences.' The ritual affirmation of this belief is constitutive of religion in the modern age" (25). According to Fasolt, who draws on Wittgenstein's philosophy of language, religion aims "to contain the problems arising from the asymmetry between first-person and third-person statements" (15); that is to say, it reconciles what people experience and what they claim to know about the world. If religion neutralizes this difference "by revealing the sacred will of God," however, it is also true that "[h]istory puts them at ease by revealing the sacred will of human beings" (25).

In his own way, it seems, White sought to neutralize the asymmetry of seemingly inexorable scientific progress and conflicts with religion by revealing this conflict to be fraught with meaning. To do this, it was necessary to frame the conflict as one of cosmic significance, in which individuals' actions always mean more, and in which the significance of events derives from broad insight into the course of history *in toto*. That he was ultimately writing history on the grandest scale was always evident to White, who in *The Warfare of Science* of 1876 declared:

> My thesis . . . is the following: In all modern history, interference with science in the supposed interest of religion, no matter how conscientious . . . has resulted in the direst evils both to religion and to science—and invariably. And on the other hand, all untrammeled scientific investigation, no matter how dangerous to religion some of its stages may have seemed, for the time, to be, has invariably resulted in the highest good of religion and of science. I say "invariably." I mean exactly that. It is a rule to which history shows not one exception. (1876, 8)

White thus offers a thesis about world history, one he substantiates with case after case of the brave and inspired genius who "discovers" truths about the inner workings of the physical world, but who must battle against theological narrow-mindedness. Part of a strong tradition of history writing in the nineteenth century, a focus on great men and their "deeds" is not just a question simply of style or historical bias, but says something deeper about how White understood the nature of history. Of course, it is a truism now to acknowledge that historians do not just report facts about the past. They select, interpret, and emplot them in ways that allow those facts to take shape as a narrative that readers can understand, as Hayden White has shown: "[b]efore the historian can bring to bear upon the data of the historical field the conceptual apparatus he will use to represent and explain it, he must first prefigure the field—that is to say, constitute it as

an object of mental perception." And this prefigurative effort of historical consciousness is "indistinguishable from the linguistic act in which the field is made ready for interpretation as a domain of a particular kind" (Hayden White 1973, 30). The decisive "prefigurative effort" in this instance, of course, is to characterize the choice confronting individuals between science and theology as a mutually dichotomous and exhaustive one. By telling the history of science in this way White reduced scientific discovery to what Schaffer (1986) calls "single events of individual mental labor whose analysis requires the examination of logical or psychological maneuvers" (388). Shorn of their connection to broader contexts, convictions or inner conflicts, such maneuvers are presented as so many ratchet-like advances along the line of progress. As just such "an heroic model of discovery in which analysis concentrates on the inspired genius," White's narrative gives both "an account of how science changes" and of how history works.

By foregrounding science as the activity of the lone mind, White frames the relationship between science and religion as a strict either/or, rather than as a fluid, complimentary, or potentially contradictory relationship between multiple desires. But the focus on individuals, in turn, provides what he takes to be the proof for an intractable pattern of movement in history that transcends individuals. For if every example he analyzes can be reduced to a simple story of contending deep impulses—truth versus dogma, courage versus fear, science versus religion—then the story of individuals is really the story of humanity itself; individuals and their struggles serve merely as exemplars of a deeper truth in history. This Manichean vision of opposing forces is clearly evident in the following description of the rise of modern medicine, where White writes:

> Men of science also rose, in the stricter sense of the word, even in the centuries under the most complete sway of theological thought and ecclesiastical power; a science, indeed, alloyed with theology, but still infolding [*sic*] precious germs. Of these were men . . . all of whom cultivated sciences subsidiary to medicine, and in spite of charges of sorcery, with possibilities of imprisonment and death, kept the torch of knowledge burning, and passed it on to future generations. From the Church itself, even when the theological atmosphere was most dense, rose here and there men who persisted in something like scientific effort. (1897 II, 35)

Or consider his way of summarizing the origins of modern meteorology:

> But at a very early period we see the beginning of a scientific view. In Greece, the Ionic philosophers held that such phenomena are obedient to law. Plato, Aristotle, and many lesser lights, attempted to account for them on natural grounds; and their explanations, though crude, were based upon observation and thought . . . . But, as the Christian Church rose to power, this evolution was checked; the new leaders of thought found, in the Scriptures recognized by them as sacred, the basis for a new view, or rather for a modification of the old view. (1897 I, 323)

In both these passages science and theology contend, not merely for rational assent on the part of individuals, but for the space of history as such. In the classic sense, of a zero-sum game, White treats a gain for one as automatically a loss for the other, and so it goes throughout history. Though he acknowledges the fact that there are men within the Church who have sometimes been drawn to science, this happens in spite of their theological convictions and is never nourished by them. By treating everyone in this way White weaves together a horizon against which various "logical or psychological maneuvers," as Schaffer puts it, can be compared and contrasted in order to establish the inevitable progress of science.

In the end, White is not concerned to track the rise of institutions promoting scientific activity or the refinement of method; he is not interested in the evolution of new scientific instruments or the global diffusion of knowledge among networks of scientists. His goal is to establish "science" and "religion" as trans-historical categories, for it is precisely as trans-historical realities that science and religion come into competition and take on colossal, world-historical, proportions as part of the divine plan (Harrison 2006). That this was White's goal emerges even more clearly if one looks at a number of shorter essays about religion and science and their role in the progress of civilization. In a review of two continental works of "universal history" published in 1857, a young White insisted on the primacy of universal education to the liberal arts. "A good Universal History is not a dry compend . . . [b]ut it is what may serve as a foundation for all special study of history, or philosophy, or politics—what may counteract the mechanical tendency to study single points—what may lift the new race of young men above the plane of our old demagogues . . . " (1857, 400). To achieve a "healthy mental discipline" it was crucial to immerse oneself in the kind of history in which "the story of a country is made Life," for "God is ever giving growth through all new light from new history" (1857, 427). In *The Message of the Nineteenth Century to the Twentieth,* published in 1883, White lamented the prevalence of a mercantilist spirit in American society, and suggested that "the great thing to be done is neither more nor less than to develop above all things other great elements of civilization now held in check which shall take their rightful place in the United States, which shall modify the mercantile spirit" (1883, 22). Important "counter-elements of civilization" included philosophy, religion, science, literature, and art, but White insisted that their animating spirit be an "ideal of a new and better civilization." If refashioned correctly, these elements could each contribute to regenerating American civilization. With respect to religion and science more specifically, White declared: "In the individual minds and hearts and souls of the messengers who are now preparing for the next century is the source of regeneration. They must form an ideal of religion higher than a life devoted to grasping and grinding and griping with a whine for mercy at the end of it. They must form an ideal of science higher than increasing

the production of iron or cotton goods" (1883, 24). That historians had a decisive role to play in revitalizing civilization was the impulse behind White's 1885 essay *On Studies in General History and the History of Civilization*. In this paean to big 'H'istory, White stressed that comprehensive studies must move beyond mere summary. "The great deep ground out of which large historical studies grow is the ethical ground—the simple ethical necessity for the perfecting, first, of man as man, and, secondly, of man as a member of society; or, in other words, the necessity for the development of humanity on the one hand and society on the other" (1885, 51). By divining the "laws of religious, moral, intellectual social, and political health or disease," the study of civilization can promote the evolution of a better future.

White's stress on the "ethical ground" of historical study seems to reinforce the conclusion that his primary aim was to purify "religion" into "ethics." On this view, White's thought represents a de-Christianized ethics of universal brotherhood in which "revealed" religion is exposed as a mythical ways of defining what is really better understood as ethical insights into how to live together peaceably. This is, in the main, the view proposed by Altschuler, who characterizes White as encouraging a move "from religion to ethics," and who draws support for this interpretation from White's biography. Thus, Altschuler points to the decisive fact that White was raised in a nonconformist Christian household, whose "gentle humanism" and "absolute standard of ethical conduct" had a lasting influence on his whole life (1979, 323–4). I want to argue otherwise. To be sure, one way of understanding "the simple ethical necessity for the perfecting" of civilization and its components—at least *vis-a-vis* religion—is to see it as a process of distillation; to wit, White endorses the idea that religion will only serve again as a noble goal after a process of winnowing away superstition, intolerance, the dead hand of ritual, and the like. This view is seemingly reinforced by White in particularly forceful terms in the essay *Evolution and Revolution*, published in 1890:

> What then shall we glorify? What shall be the ideal of political conduct? The answer is simple: let us glorify the evolution of a strong moral sense in individuals and nations of well-being and well-doing; of clear and honest thinking; of right reason; of high purpose; of bold living up to one's thought, reason, and purpose; let us glorify these, let these be our ideals. And what shall be the aim of practical effort? The answer to this question, too, is simple: let us strive to clear the way for a steady, healthful evolution; for the unfolding of a better future. (1890, 13)

This passage confirms the idea that reason and morality are what remain when religion is taken away; when it is, to quote Charles Taylor (2007), "subtracted" from the historical accretions obscuring what is the more basic, fundamental truth of human life and society (22). And yet, this way

of reading White requires that we ignore outright his constant references to God's activity in history. It requires that we ignore his commitment to the idea that "God is ever giving growth through all new light from new history" (1857, 427).

It also depends on how one interprets what White means by "evolution." In spite of his role in promoting the value of Darwin's work, White did not hold to Darwin's understanding of evolution by natural selection, at least not when it came to history. The process was not dependent on conflict, inexplicable mutations, and random changes in the environment. On the contrary, when White spoke of evolution in history, he generally characterized the process as the unfolding of an immanent pattern. Turning again to the essay *Evolution and Revolution*, it is important to note that White distinguished

> between two uses of the word Evolution: first, its larger use, which includes every sort of development, regular or irregular, rapid or slow, revolutionary or of natural growth; secondly, its more restricted use, which confines it to the more regular, natural processes, to growth in the main, quiet, steady, and peaceful. In this latter restricted sense I shall use the word evolution in this address, and I purpose to deal with the distinction between development by natural growth and development by catastrophe—between progress by evolution and progress by revolution. (1890, 13)

In contrast to the abrupt and violent change wrought by revolution, White favored the less obvious but equally decisive effects of "regular, natural processes," whose action in history was "in the main, quiet, steady, and peaceful." Surveying the high human cost of violent upheavals such as the American and French revolutions, and the Civil War, he asked whether this was a "necessary law of human progress? Must the future of mankind be no better than the past in this respect?" (1890, 11). In response, White pointed to multiple instances of slow, "steady, healthful evolution." Slow but steady progress in material conditions, art, literature, government, law, and morality all attest to deeper evolutionary possibilities of progress without "catastrophe." And it is in this context that White's ideas about the evolution of religion might be read in a very different light; for instead of describing a process of disenchantment at the hands of cold, hard science, it seems that White saw religion as subject to transformation from within. Instead of emerging "pure and undefiled" from a process of subtraction, religion changes in accordance with the same "steady, healthful evolution" evident in so many other arenas of history. In a special section titled "evolution in religion," he again decried the "attempt at advance by revolution" in religion, which produced "a thousand horrors; in the terrible Thirty Years' War; in the religious wars of France; in the driving out of the Protestants from Austria, of the Huguenots from France," and

multiple other painful and bloody episodes (32). Instead, White celebrated religion's

> advance in modern history by more steady evolution, through the efforts of Melanchthon, Contarini, and Cranmer, of the Wesleys, Edwards, Bishop Butler, and Channing, of Emerson, Theodore Parker and Newman, of Arnold, Maurice, and Robertson—working indeed apparently at cross purposes, but each leaving something for the enrichment of the world, and all together, no matter what their purpose, enforcing more and more upon the world the idea that dogmas and metaphysics are but the mere husks and rinds enclosing the precious kernel of truth. (1890, 32)

Though White opposes here the "husks" of dogma to the "kernel of truth," the list of religious innovators he cites hardly suggests a group whose goal is to define a deracinated, universal ethics somehow different in substance from religion. Though White refers disparagingly to "dogmas and metaphysics," he does not endorse a principle of anything goes, but cautions a middle way between conservatives and radicals. Indeed, he is particularly afraid of "extreme radicals" who "too frequently produce, prematurely, a vacuum sure to be filled by some new belief more absurd than the old." Against the threat of these "ultraists," White points to "those who are laboring for a more quiet, beautiful, and effective evolution of religious thought and effort." Imitating the life of "the Master" (Christ) these defenders of Christianity lead "simple and beautiful lives, preaching . . . great vitalizing truths, devoting themselves more and more to the essentials of religion." That this group runs the entire range of Christian thought and practice confirms that these "vitalizing truths," though cutting across denominational lines, are fundamentally Christian. They are, moreover, concrete, historical figures, whose central place within Christian history makes it hard to conceive of them divested of that history. Indeed, when trying to understand what White means by evolutionary processes that are "in the main, quiet, steady, and peaceful," it is hard see these as anything other than immanent evolutionary process. In the case of religion, individual figures might "apparently [work] at cross-purposes," but "no matter what their purpose," they are guided by an evolutionary impulse towards religious truth that is immanent to history itself. White's pursuit of the "kernel of truth" in religion involves far more than merely stripping extraneous trappings away to reveal a purely ethical core. On the contrary, this kernel is contiguous with, and directly dependent on, the unfolding of Christian history.

## The Good News of Science

Though White did much to create the impression of an inherent conflict between science and religion, he belonged to an era that still believed in the

goodness of a "creator God" who would not deceive people about his true nature, or the world he created for them (Moore 2003, 133). As he writes in *The Warfare of Science*: "God's truths must agree, whether discovered by looking within upon the soul, or without upon the world. A truth written upon the human heart to-day, in its full play of emotions or passions, cannot be at any real variance even with a truth written upon a fossil whose poor life ebbed forth millions of years ago" (1876, 8). For White, the appearance of conflict therefore was really the result of a flawed way of apprehending the otherwise orderly universe. When understood correctly, science revealed the essentially evolutionary character of all life and creation, and this only complimented the best recent biblical scholarship. The progressive thrust of science was integral to the future of religion:

> However overwhelming then, the facts may be which Anthropology, History, and their kindred sciences may, in the interest of simple truth, establish against the theological doctrine of 'the Fall'; however completely they may fossilize various dogmas, catechisms, creeds, confessions, 'plans of salvation' and 'schemes of redemption', which have been evolved from the great minds of the theological period: science, so far from making inroads on religion, or even upon our Christian development of it, will strengthen all that is essential in it, giving new and nobler paths to man's highest aspirations. For the one great, legitimate scientific conclusion of anthropology is, that, more and more, a better civilization of the world, despite all its survivals of savagery and barbarism, is developing men and women on whom the declarations of the nobler Psalms, of Isaiah, of Micah, the Sermon on the Mount, the first great commandment, and the second, which is like unto it, St. Paul's praise of charity and St. James's definition of "pure religion and undefiled," can take stronger hold for the more effective and more rapid uplifting of our race. (1897 I, 321–22)

Far from sounding the death knell of religion, science revealed a surer foundation for a new religious era. In this context, one needs to see White truly engaged in what he himself called a "sacred struggle for the liberty of science." For White, science illuminated the deeper truths of religion as much as it revealed the laws governing the physical world. It perfected religious insight, and helped lay the foundation for a true grasp of revelation. Thus he claimed:

> If, then, modern science in general has acted powerfully to dissolve away the theories and dogmas of the older theologic interpretation, it has also been active in a reconstruction and recrystallization of truth; and very powerful in this reconstruction have been the evolution doctrines which have grown out of the thought and work of men like Darwin and Spencer. In the light thus obtained the sacred text has been transformed: out of the old chaos has come order; out of the old welter of hopelessly conflicting statements in religion and morals has come, in obedience to this new conception of development, the idea of a sacred literature which mirrors the most striking evolution of morals and religion in the history of our race. (1897 I, 394)

Though readers have interpreted White's conclusions as diminishing Christianity, one must not forget how White saw this process as divinely ordained. White insisted that this evolution in religious sensibility was "only possible under that divine light which the various orbs of science have done so much to bring into the mind and heart and soul of man—a revelation, not of the Fall of Man, but of the Ascent of Man—an exposition, not of temporary dogmas and observances, but of the Eternal Law of Righteousness—the one upward path of individuals and for nations" (1897 I, 395). How do we read passages like this? As a demolition of religion? Hardly. This passage and others like it clearly show that White was not heralding a purely scientific age as much as announcing a new religious epoch.

To write the history of a new religious age, in evolutionary terms, required a delicate handling of events that were not solely contingent on human acts and motives. This explains White's preference for using metaphors drawn from nature. As he himself put it,

> to depict the steady evolution of humanity in all these vast and various fields demands at times struggles, and even hard fighting; but it also demands, and far more constantly, the development of the great silent forces which are frequently the most powerful forces. Volcanoes explore, earthquakes come and go, but the steady power of gravitation never ceases. While battles must be fought, at times with great din and suffering, truths must be discovered, developed and spread. (1890, 34–5)

Thus, the rise of science, which at first appears as the result of individual geniuses and their tireless devotion to truth, is revealed at a deeper level to resemble more a force of nature. This is evident when White points to "the germs of a fruitful skepticism" that give birth to the scientific spirit, and recalls how it became nearly impossible to "arrest the swelling tide" of scientific progress (1897 I, 40, 61). In a related metaphor, White writes how the "current of evolutionary thought could not . . . be checked: dammed up for a time, it broke out in new channels and in ways and places least expected" (1897 I, 64). By recasting science as a force of nature, White showed how scientific progress was the work of Providence. This did not contradict his stress on individual scientific geniuses as much as help establish the larger significance of threshold events in the history of science. Consider how White describes Darwin's discovery:

> The scientific world realizes, too, more and more, the power of character shown by Darwin in all this great career; the faculty of silence, the reserve of strength seen in keeping his great thought—his idea of evolution by natural selection—under silent study and meditation for nearly twenty years, giving no hint of it to the world at large, but working in every field to secure proofs of disproofs, and accumulating masses of precious material for the solution of the questions involved. (1897 I, 66–7)

This portrait of a man absolutely devoted to quiet research was crucial for effectively immunizing him from any motives other than pure science. It was, in turn, crucial for setting the stage effectively for Darwin's "breakthrough," an event that White describes—in nothing short of a rhetorical crescendo—as providential: "Not until fourteen years later occurred the event which showed him that the fullness of time had come—the letter from Alfred Russel Wallace, to whom, in brilliant researches during the decade from 1848 to 1858 . . . the same truth of evolution by natural selection had been revealed" (1897 I, 67). For White, it is events expressing "the fullness of time" that reveal the truth to Darwin; it is not Darwin who causes events. And only the cultivation of proper, patient, and passive receptivity allowed Darwin to receive the truth.

White's use of religious motifs is more than a quaint holdover from his Christian upbringing. They drive the story he is telling, and frame it as one of religious significance. Readers are supposed to understand the stakes involved in having pursued science falsely, and appreciate the role God has played in putting science back on course. Recalling the Old Testament flood, in both its punitive and regenerative aspects, White characterizes the shift to a Darwinian world in the following terms:

> As the great dogmatic barrier between the old and new views of the universe was broken down, the flood of new thought pouring over the world stimulated and nourished strong growths in every field of research and reasoning: edition after edition of the book was called for . . . .the stagnation of scientific thought, which Buckle, only a few years before had lamented gave place to a widespread and fruitful activity; masses of accumulated observations, which had seemed stale and unprofitable, were made alive; facts formerly without meaning now found their interpretation. (1897 I, 68)

Though White never explicitly spoke of himself in this way, it is not too much to say that he sought to evangelize the good news of science. Writing the history of science put him in a position to transmit the "more ennobling conception of the world, and a far truer conception of Him who made and who sustains it" (1876, 21). Looking at things this way helps explain his otherwise puzzling reticence to engage with critics, many of whom seemed to sense all too well the theological import of his conclusions. In his correspondence, as Altschuler shows, White was keenly aware that his bid to save religion by allowing science to demolish theology was fraught with paradox. But unlike Altschuler, who calls this "White's dilemma," I would suggest that replying "weakly that he was doing his best to save the Bible" was not a contradiction, but fully consistent with "his aim . . . to provide a new stronger basis for the Christian religion" (Altschuler 1979, 320). Rather than assume that his "long and embarrassing exchange indicates all that he had to say about religion," as Altschuler does, it seems to me just as defensible to suggest that White considered it important not

to say too much (320). If, for some, "White fell short in his attempt to strengthen religion and kindled fear about the future course of Christianity and society," then avoiding debate might just as easily be taken as a sign of his faith that what he was writing was, in the last instance, not his story, but one with divine origins. Though White had little regard for miracles, rituals, or traditional conceptions of heaven and hell, he remained a firm believer in a benevolent, creator God who has acted—and continues to act—through history in order to perfect the world. This God is revealed in Christianity, and thus the new era remains continuous with Christian history. White saw history as a medium of revelation, whose course could only be explained by God.

## Conclusion

Andrew Dickson White was a religious innovator whose history of science heralded the future of religion cast in providential terms. Viewed in this way, White was nothing short of an evangelist in his own right, seeking to spread the good news of science. To be sure, this is not to be elided with an impulse toward orthodoxy or Church-building of any kind, and I am not striving here to engage in a clever interpretive reversal merely for effect. But if we are to understand how science and religion have become locked in a struggle of epic—indeed, world-historical—proportions, then revisiting White's *History* puts into perspective how this struggle both took shape in history and helped give history its shape. The necessity White attributed to the "battle" between science and theology stemmed directly from his self-understanding as a historian with a kind of scientific ministry, or prophetic mission. In a very basic sense, White experienced in his professional life a deep calling to achieve God's work. In this, he was not unlike August Comte, who envisioned science helping to promote a new religion of humanity in the final stage of history (Pitt 2000). He might also be compared with Thomas Huxley, who, as Lightman (2001) shows, "asserted that the revolution effected in the modern mind by the beneficial impact of science represented the final climax of the Protestant Reformation" (347). One might also compare him to Ernest Renan (1891), who did not just claim for his "religion . . . the progress of science," but self-consciously sought to infuse the progress of science with religious drama (x). Like these men, White believed that he "represented the bravery and independence . . . of the intellectual who realized in his work something more important, something quasi-divine" (80). But like them, he is almost universally treated as a foe of religion whose attack on existing religions seems so devastating as to preclude taking seriously his own ideas about the future of religion.

There is no better way to underscore White's sense for his calling than to contrast him with John William Draper, professor of chemistry at New York

University, and author of *History of the Conflict between Religion and Science* first published in 1875. While there are many differences between White's and Draper's tomes, including the latter's caustic anti-Catholicism, they were united in their conviction that the history of science says something about the history of civilization. Like White, Draper saw the conflict in Manichean terms: "The history of Science is not a mere record of isolated discoveries; it is a narrative of the conflict of two contending powers, the expansive force of the human intellect on one side, and the compression arising from traditionary faith and human interests on the other" (vi). But whereas White consistently explained this conflict in providential terms that placed him within Christian history, Draper insisted resolutely on the all-too human elements of power and politics. Indeed, his account of the rise of Christianity stripped it of almost any religious content, reducing its attractiveness to the advantages of "[p]lace, profit, and power," and his account of its intellectual development focused almost uniformly on the contending agendas of warring parties (39). Unlike White, moreover, Draper scoffed at the notion that science could in any way be divinely revealed (62). But perhaps the most important difference lay in Draper's decision to ignore the "more moderate or intermediate opinions," and focus on the perspective of the "extremists" in the debate since it was they whose "movements determine the issue" (x). That he did so stands in stark contrast to White, whose focus on the forces of slow, quiet evolution served to frame singular efforts of heroic genius as stages of evolutionary progress. White knew Draper's book, and even stated in his introduction to his *History* that he had considered the debate closed after reading Draper's book. All the same, he continued with his researches, since "much as . . . [White] admired Draper's treatment of the questions involved, his point of view and mode of looking at history were different" (1897 I, ix).

The goal of this essay has not been to accuse White of being insincere, or to unmask him as "still" Christian. He was neither. His faith in scientific progress was real and he was a sincere and even harsh critic of dogmatic Christianity, but not in the name of unmitigated secularism. White was serious about preparing humanity to accept the new revelation that was science, a revelation that could only take place in the "fullness of time." To grasp this, it is essential that we take stock of how his *History* was indelibly shaped by religious impulses, and that we find new and creative ways of understanding this kind of religious sensibility. Seeking to contain White's distinctly *religious vision* in terms of a rigid account of the conflict between science and religion overly schematizes what was actually a much more complex plea for better religion. While I am not proposing that we treat White as a Luther or Melancthon, I do think that it makes more sense to take him seriously as a religious innovator instead of simply dismissing his religious efforts as marginal to his more important work as a historian. In this instance they were mutually overlapping, and this fact complicates our

understanding of what is perhaps the real issue underlying these events, namely, the vexed role of the historian as a prophet of modernity. In the end, what should not be overlooked is how White's account of the "warfare between science and theology" maps the modern differently, that is to say, from within a distinctly religious vision of the future (Eisenstadt 2002). This may or may not help explain the hold his vision of conflict continues to exert on our social imaginary. But it does help us see the need for cultivating a better historical sensibility in how we approach the history of the conflict between science and religion.

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