



Edward B. Davis

Article

Prophet of Science—Part Three: Arthur Holly Compton on Science, Freedom, Religion, and Morality

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The final part of this article examines Compton’s views on immortality and the morality of atomic warfare. He affirmed life after death, basing this on his faith in the value that God places on the conscious persons produced by the divinely guided process of evolution; however, he did not accept the bodily resurrection of Jesus. He also used a type of “just war” theory to defend the decision of the American government to use weapons of mass destruction against Japan – a decision in which he himself had a prominent voice. Related to this, Compton suggested that divine providence had enabled a free nation to win the race to develop nuclear weapons. Anti-Semitism drew his opposition before, during, and after the war, as he served as Protestant Co-Chairman of the National Conference of Christians and Jews.

We could, in fact, see the whole great drama of evolution moving toward the making of persons with free intelligence capable of glimpsing God’s purpose in nature and of sharing that purpose. In such a case we should not look upon consciousness as the mere servant of the biological organism, but as an end in itself. An intelligent mind would be its own reason for existence.

–A. H. Compton, 1935¹

Prophet of Science: Immortality and the “Supernatural”

Simultaneously with his new thoughts on freedom, Arthur Compton was also revisiting his belief in immortality, the subject of his second Terry Lecture at Yale and the final chapter in *The Freedom of Man* (1935). The two topics were very

closely related in his mind. Indeed, the Terry Lectures themselves grew out of a chapel talk that he presented to students and faculty at the University of Chicago, as part of an Easter 1930 symposium on “Immortality.”

Four faculty members spoke at this seminal event. Compton and theologian Shailer Mathews favored immortality, while the opposite side was advanced by ethicist Thomas Vernor Smith and the great physiologist Anton Julius Carlson. Smith, who later served in the Illinois Senate and the United States Congress as a New Deal Democrat, was a member of the University Church of Disciples despite his skepticism about eternal life. In constant demand as a lecturer all over the nation, he was also

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a regular on radio forums, including the University of Chicago Round Table, a half-hour Sunday afternoon program on the NBC-Red Network. Compton, Smith, and Carlson did a Round Table together at least once, in November 1936, although I do not know the topic they discussed.²

An immigrant from Sweden, Carlson had served as a Swedish Lutheran minister in Montana for just one year before religious skepticism and a growing interest in nature took him to Stanford University for his doctorate. He began teaching at the University of Chicago in 1904, two years after Jacques Loeb moved to California, but his intellectual outlook was nevertheless shaped substantially by Loeb's reductionist writings. A few years before the symposium, Carlson had been president of the American Physiological Society. In 1941 he appeared on the cover of *Time* magazine, and three years later he was elected president of the American Association for the Advancement of Science. The American Humanist Association made him the first recipient of their Humanist of the Year award in 1953.³

Compton talked about this 1930 symposium on immortality many years later, at a week-long Institute on Religion and Contemporary Civilization,



**NBC radio program,
"The University of Chicago Round Table,"
November 5, 1936.**

Left to right: T. V. Smith, A. H. Compton, and A. J. Carlson. Photo by NBC Universal Photo Bank, used with permission. Courtesy of Arthur Holly Compton Personal Papers, University Archives, Department of Special Collections, Washington University Libraries.

held on the campus of UCLA in November 1944. It was arranged "at the request of a group of students," he recalled, and "the results of this symposium have continued far beyond events of the evening." Mathews "elaborated his thoughts in a little book," *Immortality and the Cosmic Process* (1933). Smith "became so convinced that the ultimate values are those that can be expressed only in working with people that he left the University halls for politics." And Carlson "was invited to elaborate his thoughts at a public lecture in the University auditorium," probably early in 1931; this longer address, which was printed twice, induced Compton to reply formally in *The Scientific Monthly* at the end of 1946 (see below). Rounding out the story, Compton said that his own lecture "became the starting point" of the Terry Lectures.⁴

If students had asked for the symposium, others in Chicago also wanted it—especially Shailer Mathews and his associates at the American Institute of Sacred Literature (AISL), a correspondence school for Protestant ministers based at the University of Chicago Divinity School. Founded in 1880 at the old Morgan Park Theological Seminary in Chicago to provide instruction in Hebrew, it had become, by the late 1920s, a very important part of the University of Chicago. Thousands of Protestant clergy and lay people enrolled in correspondence courses written by Divinity School faculty, and many more received some of the dozens of pamphlets on various topics printed by the Institute.⁵

In 1922, responding to the growing influence of William Jennings Bryan's crusade against the teaching of evolution, the AISL initiated a series of pamphlets on "Science and Religion" by distinguished scientists and clergy, which were distributed much more broadly than their other publications. With financial support from the Rockefeller Foundation and more than one hundred individual scientists, pamphlets were sent unsolicited to tens of thousands of high school principals, legislators, scientists, and clergy across the nation, spreading liberal religious opinions about science at a time when many conservative Christians saw science as inherently anti-religious.⁶ Pamphlet authors included Mathews, Caltech physicist Robert Millikan, Princeton biologist Edwin Grant Conklin, Columbia physicist Michael Pupin, and the famous Manhattan pastor Harry Emerson Fosdick (among others), all

Article

Prophet of Science – Part Three: Arthur Holly Compton on Science, Freedom, Religion, and Morality

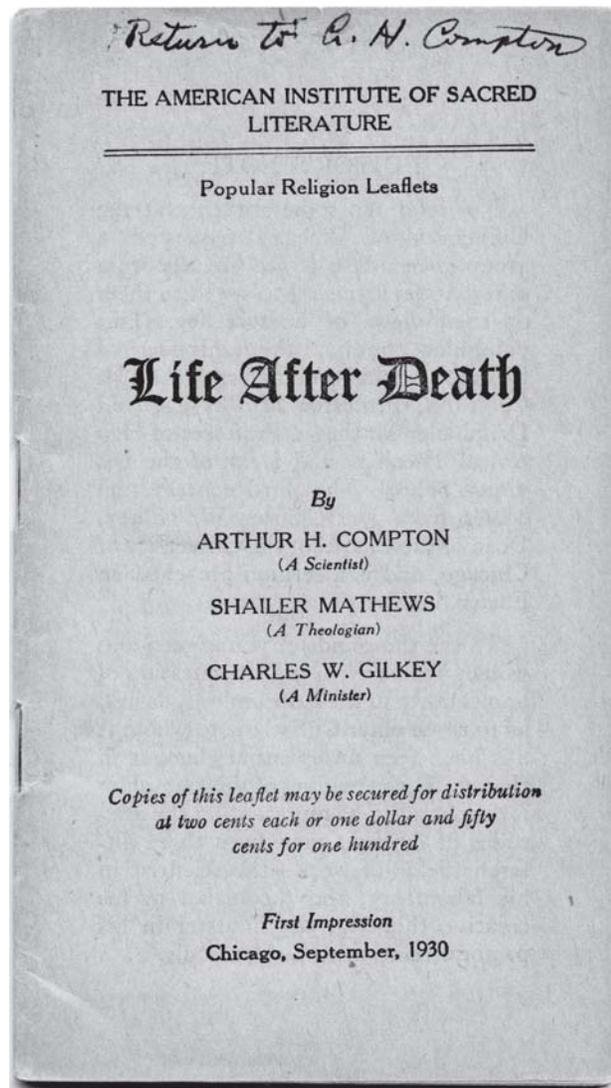
of them among the leading public intellectuals of the day.

Each of those men had already written for the series by the fall of 1928, when the AISL told the Rockefeller Foundation of their plans to add a pamphlet based on “A Symposium of Several Scientists—My Feeling about Immortality.”⁷ Plans for this did not materialize until the spring of 1930, but Compton was ready to go several months earlier. A carbon copy of his chapel talk, missing the first page, is dated October 28, 1929—an ironic fact, that his confession of faith in immortality was written simultaneously with the collapse of the stock market and the mortality of several of its desperate, overextended investors.⁸ *The Presbyterian Banner* published it two weeks after Christmas, in advance of the symposium, and reprinted it at Easter the following year, accompanied by the sermon that Charles Gilkey had preached on Easter Sunday 1930, outside of but in conjunction with the symposium. *The Christian* printed an abridged version of Compton’s talk at the same time. Compton gave a similar address to the annual convocation of Presbyterian leaders at Wooster in June 1931.⁹ All four chapel talks were published by the *University of Chicago Magazine* in November 1930.¹⁰

Then, in September 1930, the AISL published 25,000 copies of a shirt-pocket-sized, 45-page pamphlet, *Life After Death*, containing the talks by Compton, Mathews, and Gilkey.¹¹ Compton no doubt helped to distribute this on campus, just as he must have distributed other AISL pamphlets on science and religion. Mathews and Gilkey were his friends, he had organized the symposium, and he chaired the university’s Board of Social Service and Religion through which, Mathews told the Rockefeller Foundation, the AISL pamphlets “get into the hands of the student body.”¹² At around this time, Compton apparently agreed to support the AISL in a further way, by writing a pamphlet to be called, “Why I Do Not Believe in a Mechanistic Universe,” but for some reason this did not materialize.¹³

As this last fact underscores, Compton saw immortality and freedom as part of a single package, so it is hardly surprising that most of his Terry Lectures were devoted to these two topics. I will take the concluding chapter of *The Freedom of Man*, published five years after the Chicago symposium, as his definitive statement on immortality. Multiple

drafts of this chapter survive, probably written mostly around 1932 but completed while he was at Oxford in 1934–1935. The original manuscript version was probably written at home, since he used the back of stationery apparently borrowed from his wife—it bears the letterhead of the College Club of Saint Louis, a branch of the American Association of University Women. Compton’s clear handwriting is interspersed frequently with individual paragraphs and whole pages cut out of the AISL pamphlet and pasted into the rest. The first twenty-five pages in the published chapter, constituting about three quarters of the whole, overlap substantially



Arthur Compton’s own copy of his pamphlet, *Life After Death* (1930), endorsed “Return to A. H. Compton” across the top.

Courtesy of Arthur Holly Compton Personal Papers, University Archives, Department of Special Collections, Washington University Libraries.

with the pamphlet, with about 55% of the text in this section coming directly from the pamphlet. However, the epigram for the published chapter, Jesus' famous words about eternal life in John 14:2-4 ("In my Father's house are many mansions ..."), was apparently written separately, on the back of letterhead from the Ryerson Physical Laboratory. This suggests at least the possibility that Compton was thinking about this biblical passage in his laboratory one day, although it might mean only that he grabbed the closest piece of paper when the idea came to him at home.¹⁴

Regardless of where he wrote it, Compton followed his quotation of Jesus with an unfinished paragraph, originally intended to be the opening lines of the chapter, but later discarded. The hesitation evident in the corrections he made is no less interesting than the incomplete thought that he left unpublished:

It has not of recent years been considered very good form ~~for a man of science to express~~ in scientific certain scientific circles for ~~one~~ a member of the scientific fraternity to express any views whatever regarding religion. This has been <primarily> due, I think, to the fact that [unclear word here, crossed out] science prides itself on dealing with tested truths, whereas many aspects of religion are not subject to the type of tests which can be presented as evidence [ends abruptly in mid-sentence]¹⁵

In the book, after Jesus' words, we find simply the statement that science "has a deep-seated reluctance to present evidence which can only be considered as suggestive. Yet many who profess to speak for science have drawn the definite conclusion that death is the end of all." Mirroring his approach to free will, in this chapter Compton sought only to make room for religious faith, not to offer a knockdown proof of immortality. Science itself could neither confirm nor deny "an aspect of life which is not physical," and thus belief in a future life must "be based upon religious, moral, or philosophical grounds rather than upon scientific reasoning."¹⁶

At this point in his life, Compton's belief in immortality was probably grounded on "good old Cartesian dualism," to borrow the words of his philosopher son — despite the fact that he had expressly rejected dualism in favor of philosophical idealism twenty years earlier.¹⁷ The reality of free will, in

his opinion, showed that "there must be at least some thinking possible independent of any corresponding physical change in the brain," so that "consciousness may persist after the brain is destroyed." Scientific evidence points to "a supreme Intelligence, which directs evolution according to some great plan," suggesting the possibility "that the evolutionary process is working toward the development of conscious persons rather than toward the development of a physical organism." If so, then "the whole great drama of evolution" terminates in "the making of persons with free intelligence capable of glimpsing God's purpose in nature and of sharing that purpose."¹⁸ In such a world, he proclaimed,

The thoughts of man, which have come to control to so great an extent the development of life upon this planet, are conceivably to the Lord of Creation among the most important things in the world. From this point of view we might expect nature to preserve at all costs the living souls which it has evolved at such labor. This would mean the immortality of the individual consciousness.¹⁹

If nature could do all this, he concluded, what an "infinite waste" it would be if death were the end.²⁰

This was the shape of the argument for immortality that Compton made in his chapel address at the University of Chicago in 1930 and again at Yale in 1931. As far as I can tell from newspaper accounts and surviving documents, he did not add any biblical arguments to these philosophical and psychological suggestions — he did not even quote the passage in John's Gospel mentioned above, let alone make reference to the resurrection of Jesus. This was a very significant omission for a Christian, but frankly consistent with Compton's lack of belief in a God who can work miracles. "So much for the reasoning of the scientific mind," one traditional Christian responded curtly in the newspapers.²¹

In the published version of the Terry lectures, Compton added five vitally important pages about the Bible that show in stark relief the place where his modernist faith had taken him, five pages that (as the original draft shows) he struggled to phrase precisely. Possibly he penned these as a response, the best he could offer, to those Christians who found the absence of the Bible in his previous statements too glaring. In any event, he described Jesus

Article

Prophet of Science – Part Three: Arthur Holly Compton on Science, Freedom, Religion, and Morality

as the first great religious leader “who saw immortality as a necessary consequence of his cardinal principle that God is a loving Father,” and he readily admitted that the testimony of Jesus’ disciples about the resurrection “made immortality a cardinal doctrine of Christianity,” even “an essential element in the vitality of the new religion.” This much Compton knew that modern scholarship could not undermine. At the same time, in a scientific age, “this evidence is, however, not such as can carry weight to one who approaches the religion from the outside. The witnesses are gone.” Thus, “the bodily resurrection which may then have seemed easy of acceptance, now becomes an impossible barrier to one whose thinking is bound within the limits set by science.” There follows then a crucial sentence: “If this is not accepted, what weight can be given to the record of the witnesses?”²²

What weight, indeed? For the Christian believer, Compton noted, “personal tests of the Christian doctrines have given confidence in their essential reliability.” One senses, however, that he meant the reliability of belief in an afterlife, not the bodily resurrection. Certainly he did not unambiguously affirm miracles, not even the central miracle whose undeniable effect had been in his own words “an essential element” in the life of the early church. He went on to identify two groups of Christians. Some have “such a faith in the Bible’s literal accuracy as a revelation that their thinking refuses to remain limited by scientific principles.” I cannot believe that Compton saw himself within this group. He can only have belonged to the other group: those who, “having felt the companionship of a God such as Jesus taught, will have gained a confidence in his religious intuitions, and will try to interpret these intuitions as best they may in light of his recorded sayings and of the data of science.” Such persons, he concluded, “may see in the principles of Jesus’ teaching reason to believe in an immortality of consciousness which is not vetoed by the data of science.”²³ In the end, Compton had gone as far as his modernist Christian convictions and his views on the limits set by science would allow him to go—right up to the door of the empty tomb, but no further.

Compton’s overall attitude toward immortality might best be described as one of faith in the midst of doubt—a faith in God that had real practical value. Near the end of World War II, anatomist

B. C. H. Harvey, a fellow member of Hyde Park Baptist Church, asked for advice about how to console the father of a young aviator who had died in battle. “As to a future life,” Compton replied, “he knows, as we all do, how the example of bravery, loyalty and other virtues lives on, frequently multiplied many fold, in the lives of those who have come in contact with a noble person.” Concerning “the continuation of the individual’s consciousness,” however, “I find no evidence that is convincing to me one way or the other. I have come to doubt whether it is after all a matter of prime concern, since I find that a good and satisfying life can be lived with either a positive or a negative answer to this question.” He was nevertheless “firmly convinced ... that there is a controlling Intelligence working in the world which has a friendly concern for our welfare,” and awareness of “the presence of this fatherly God is to me a precious stabilizing influence in these difficult days.” Science had only increased his faith “in such an intelligent Power,” but it remained “a *faith*, i.e., it is the proposition on the basis of which I build my attitudes and my life.” Such a faith was “a working hypothesis,” the “exact form” of which was for him “continually under revision in the effort to make it fit more accurately with my experience.”²⁴

In his final years, reflecting in his unpublished autobiography on the “thrilling adventure” that had been his “eventful life,” Compton saw himself “making rapid progress toward home, where welcome and rest await me.” In language evoking his youthful fascination with airplanes, he wrote that “the short period leading to the landing is the best part of the flight. It is the time when one makes most rapid headway toward his goal. And the vision of the goal itself becomes more clear.” His words end in hope: “the restful end of the journey with its welcome at home is greatly to be desired.”²⁵

Obviously, not everyone shared Compton’s faith. At the original chapel symposium on immortality in 1930, physiologist A. J. Carlson argued against the plausibility of personality surviving after the dissolution of the body.

All the present evidence points to the fact that the nervous system goes to pieces with the rest of the body at death ... I cannot conceive of environments in the future that would exactly reproduce my heredity and personal experience so that I could live again.²⁶

As for the purpose of evolution, a key point in Compton's argument for immortality, Carlson denied that science could know any. "We think we can detect trends in evolution," he said, "but as to purpose, nobody knows. And our wishes in the matter do not change the events." Thus, wishing for immortality "does not make it a fact, though it may render belief in it possible in people with little information in biology."²⁷ One wonders whether he was looking straight at Compton when he uttered that particular point.

He must have been looking at Compton when he delivered a more formal paper that same year on "Science and the Supernatural," as the William Vaughn Moody Lecture at the University of Chicago, which was soon published in *Science*. When Carlson became president of the American Association for the Advancement of Science (AAAS) in 1944, it was reprinted in the opinion magazine published at that time by the AAAS, *The Scientific Monthly*.²⁸ Always a forthright person, Carlson began by admitting, "On the topic before us it is preposterous for any man to speak for science as a whole and, by inference, for all scientists." He had nothing new to say, noting the existence of "able works on the conflicts between science and the supernatural," other "attempts at reconciliation of the supernatural with science," printed "confessions of faith in traditional religions by otherwise competent scientists," and "rejections of the supernatural by preachers and teachers of religion." For his part, he offered "the confession of a physiologist of lack of faith in the supernatural, and his reasons." Carlson stressed the importance of "the scientific method," by which he meant "the rejection *in toto* of all non-observational and non-experimental authority in the field of experience," which he equated with a refined form of common sense.²⁹

Another important factor is "the *attitude* of the scientist" to challenge authority, whether human or divine, coupled with "a serious attempt on the part of the scientist to control his own emotions and his own wishes in the matter." Knowledge excludes faith or belief, and "if he does not know he has no right to faith or belief." The supernatural, on the other hand, involves "events contrary to known processes in nature, such as the production of wine from water alone; the resurrection from the dead of persons in advanced states of decomposition," and several other examples taken from the Bible or

Roman Catholic tradition by the former Lutheran minister. The supernatural "is in direct conflict with science." Surely thinking of Compton and other Protestant modernists, Carlson recognized that "many intelligent people" rejected "the more palpably absurd phases of the supernatural," but in his view

they usually retain a distillate of the super natural in [the] form of beliefs in a "moral purpose" of the universe. And having injected human ethics into an obviously a-moral universe, they endow man with personal immortality.³⁰

The reprinting of Carlson's address did not warm the heart of Compton, who had been AAAS president himself two years earlier, and apparently he sent a letter of concern to F. R. Moulton, the distinguished astronomer who was serving as permanent secretary for the AAAS. Moulton had already received several letters, so he invited Compton to write "a few brief comments," to be published with some of the others in a future issue. Compton thought that "it would be much more worthwhile for me to prepare a rather carefully developed article" in the next few months, but it was not until December 1946 that it was actually published.³¹ Although Compton's heavy involvement with the atom bomb must have been a factor in the delay, he had, in fact, started to work on a reply at the time. His personal papers include what appears to be an early, aborted effort to write the promised article, along with the handwritten outline and typed introduction for an address he gave in Los Angeles in November 1944, which was clearly a forerunner of the essay he sent Moulton two years later.³²

In his published reply, Compton sidestepped Carlson's attack on miracles, which he probably accepted fully. Indeed, he took a standard modernist position on the nature of religion in a scientific age, praising Carlson for the "real service" he had done, "by showing the danger that comes from basing our greatest values on evidence that science cannot accept." In Compton's opinion, "Science requires of religion that the language in which its great truths have been stated," deriving from a pre-scientific age, must "be translated into a language of verifiable fact." What Compton could not accept was the positivism implicit in Carlson's position, which "denies significance to anything other than physical events, that is, events observable by the senses or measurable by physical instruments."

Article

Prophet of Science – Part Three: Arthur Holly Compton on Science, Freedom, Religion, and Morality

Here he believed that “probably most American scientists would part company with Carlson and the positivists.” Compton then proceeded to articulate “a scientist’s view of the fundamentals of religion,” based on “religious sources whose traditional authenticity is unquestionable,” starting with his understanding of God.³³

The view of God Compton articulated here, it must be said, was considerably less robust than the one he had put forth in the 1930s. Perhaps this was simply an accident of omission, and I would not want to draw too many conclusions from what he did not say in this place. Nevertheless, this essay put forth a functional rather than an ontological view of God, advancing the type of view favored by Shailer Mathews and others at the University of Chicago Divinity School. Although Compton spoke here of God as “Ruler of the Universe,” he fleshed this out only in functional terms, literally comparing the hypothesis of a fatherly God in religion to the hypothesis of the luminiferous ether in physics (I will not digress on the interesting fact that he invoked the ether as late as 1946).

According to Compton, when Jesus prayed, “our Father which art in heaven,” he was referring to “the great powers that shape our destinies,” assisting “those who work in accord with their laws.” This was analogous to the ether. Just as it is hard to think of praying “without imagining a being which gives us the strength,” so “it is hard to think of waves without imagining a medium ...” God and the ether alike, he said straightforwardly, “are hypotheses which are fruitful of useful consequences.” Probably thinking of Mathews, Compton pointed out that “theologians recognize that the use of the term ‘God’ is only a convenient name for certain great powers that operate in nature and particularly in man,” and that “the concept remains very useful and no other brief description of these powers has proved to be so adequate.” He went on to stress the various ways in which the concept of God helped us, by enhancing our ability to love others.³⁴

The bottom line is this: while Carlson had stressed the complete incompatibility of science with any religion based on the “supernatural,” Compton saw “no conflict between science and religion,” because he defined religion without reference (at least in this case) to the type of “supernatural” events identified by Carlson. Millikan had given

functional definitions of both science and religion in a famous statement published in the *New York Times* in 1923, as a way of avoiding conflict, and here Compton offered functional definitions of his own: “Science is a reliable method of finding truth. Religion is the search for a satisfying basis for life.” Thus he was able to conclude, “Beyond the nature taught by science is the spirit that gives meaning to life.” Faith, hope, and love—a reference to 1 Cor. 13:13—were neither science nor nature, but “the true supernatural.”³⁵

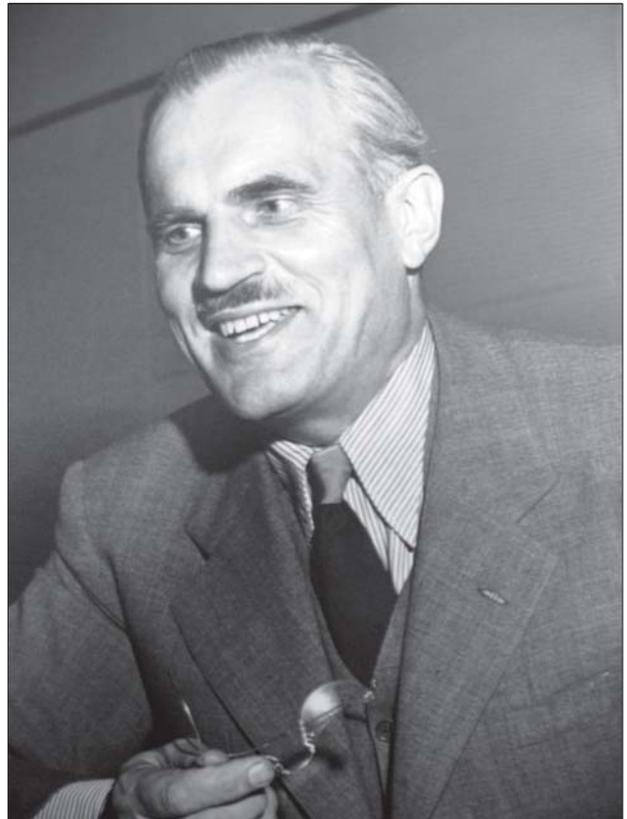
Prophet of Science: God and the Atom

It is not hard to understand why Compton took two years to finish his response to Carlson. The atom bomb was dropped on two Japanese cities exactly twelve months after Carlson’s article was reprinted. Compton was up to his ears both in the effort to produce it and also in the very intense conversations about the morality of atomic warfare that took place secretly among those who knew about the Manhattan Project. After the defeat of Germany was a foregone conclusion, the original motive for building the bomb—the dreadful fear that the Nazis would build one first—had gone by the wayside. At that point Japan was the only possible target, and it was clear that the Allies were going to win eventually—but at a cost of how many more lives, Allied and Japanese, soldiers and civilians alike? Was the mass killing of noncombatants by a single nuclear explosion any different, in principle, from the firebombings of Dresden or Tokyo? Given the magnitude of the moral dilemma created by this new weapon of mass destruction, the level of Compton’s involvement with it, and the strength of his commitment to a religion that many saw as having been founded by a pacifist, the importance of understanding his views on atomic warfare is almost self-evident. However, scholarly literature about the bomb, pacifism, and postwar politics is so extensive, and the amount of archival material relating to Compton’s personal activities is so large, that here I cannot give this topic the wide-ranging, thorough treatment that it merits.

One scholar who has studied this carefully, Barton J. Bernstein, shows that Compton wrestled with nuclear warfare more than one might conclude from what he said about it in the partly autobio-

graphical book, *Atomic Quest* (1956), in which he wrote at length, almost in a matter-of-fact way, about the moral calculus behind his own support for the fateful decision. (Interestingly, the working title for his book-in-progress, "I Chose Atomic Strength," succinctly captures his overall view quite well.³⁶) According to Bernstein, Compton and three other physicists who served as scientific advisers to the government—Italian émigré Enrico Fermi and Ernest O. Lawrence and J. Robert Oppenheimer of Berkeley—all agreed that the bomb should be used on Japan, but within weeks they also agreed, for moral reasons, not to support development of the hydrogen bomb, reversing a recommendation they had made about a month before the Trinity test at Alamogordo. Speaking unofficially for himself, Compton told former Vice President Henry Wallace, an old friend, that the hydrogen bomb "should not be undertaken primarily because we should prefer defeat in war to victory obtained at the expense of the enormous human disaster that would be caused by its determined use." This directly contradicts what he would tell the general public in subsequent years, when he had reconciled himself to thermonuclear weapons as the Soviet military threat loomed ever larger—despite the fact that he continued to believe that the intentional mass killing of noncombatants was immoral. Overall, as Bernstein observes, Compton was "caught in a moral quandary that he had long sought to avoid" and that he did not fully recognize. However, he was not alone in this. The profound moral dilemma "would also ensnare others in the strange new world of nuclear weapons."³⁷

This is all consistent with the recollection of Samuel Allison, who worked directly under Compton on the Manhattan Project, that Compton "felt a gnawing doubt about the morality of the whole effort."³⁸ Compton himself said in 1950 that "I arrived at my decision in this matter only after deep soul-searching and examination of conscience."³⁹ Yet sometimes his public utterances seem much more confident, even self-assured. He framed his overall perspective in a luncheon address he gave in Chicago in December 1952, marking the tenth anniversary of the first sustained chain reaction. "How could peace-loving scientists turn their skill to building such terrible weapons as atomic bombs? The answer is simple. These men found themselves with the power in their hands to stop the most



Arthur Compton in 1948, while he was Chancellor of Washington University.

Photographer: Edward H. Goldberger, Courtesy of Photographic Services Collection, University Archives, Department of Special Collections, Washington University Libraries.

disastrous war in history," and their decision to use the weapon saved millions of lives. "Only one answer was possible to responsible men," he added brusquely, implicitly dismissing the views of many other responsible people. If we had not done this, he believed, we "would have been traitors to mankind" for failing to end the war, just as we would "now be failing our evident duty if we did not give free men" in the postwar world "the means of maintaining their freedom." For his part, Compton was

glad that in God's good wisdom it was the world of free men and not the tyrants who first had these weapons. My hope and prayer is that the free world may retain its atomic advantage until the nations shall have found a way to unite in controlling the use of *all* weapons so that the danger of disastrous war will be gone.⁴⁰

His belief that a world government would accomplish this "within fifty or a hundred years" now seems overly optimistic, but a number of atomic scientists at the time thought it might happen.⁴¹

Article

Prophet of Science – Part Three: Arthur Holly Compton on Science, Freedom, Religion, and Morality

In arriving at his position during the war, Compton had considered the Christian pacifism of his Mennonite mother and her family. Two weeks before Hiroshima was vaporized, the army engineer in charge of the massive uranium processing project at Oak Ridge, Tennessee, Colonel Kenneth D. Nichols, asked him what the atomic scientists thought of using the bomb—their opinions had been solicited and competing petitions had been circulated—and what Compton himself thought. At first, Compton hesitated to answer, turning the question back on Nichols, and several years later he recalled having “thoughts of my pacifist Mennonite ancestors” at that moment.⁴² A few months earlier, Chicago physicist Volney C. Wilson had come to Compton in a vain effort to persuade him not to drop the bomb on Japan. “His reason was the straightforward one of Christian compassion,” Compton stated. Wilson, whom Compton described as “a brilliant young Methodist,” had originally asked Compton to leave him out of the bomb project, but he changed his mind after Pearl Harbor.⁴³ Compton had also thought about this before America was attacked, when his pastor asked him in 1940, “why I was not supporting his appeal to the young people of our church to take a stand as pacifists.” Compton replied as follows:

As long as I am convinced, as I am, that there are values worth more to me than my own life, I cannot in sincerity argue that it is wrong to run the risk of death or to inflict death if necessary in the defense of those values.⁴⁴

His minister promptly dropped the subject.

It was obviously the other half of Compton’s family background that won his allegiance on this issue. Elias Compton was a Presbyterian, trained in the Reformed tradition, in which pacifism was relatively uncommon and the dominant view has been that Christians should participate in wars that are fought for morally justifiable reasons, as long as noncombatants are not deliberately targeted. Arthur developed his own version of this theological position in an essay on “The Moral Meaning of the Atomic Bomb,” written in 1946 for a committee headed by William Scarlett, the Episcopalian bishop of Missouri. “Human life has its high values,” he argued, “because man is a child of God, made in His image and beloved of Him. Man shares with his Father the responsibility for shaping the world and the lives of his fellow men,” such that “our

highest duty to God is to serve our neighbors.” At this point, Compton’s uncompromising commitment to human freedom and dignity entered the picture, in a decidedly political form. He wrote,

The true child of God understands and appreciates the things that make a good life, and enjoys working toward such a life for himself and his fellows. Such a person is in the Christian sense free. Promoting for all men such freedom thus becomes to the Christian perhaps the supreme goal of his life.⁴⁵

Therefore it was not simply a political problem, “when a militaristic group usurps the Government of Germany, murders the Jews who seem to be in their way, and starts a military campaign whose evident objective is reducing Europe and eventually perhaps the rest of the world to the status of vassal states ...” It was equally a theological problem. In addition to the traditionally pacifist Mennonites, quite a few modernist Christians from various denominations embraced pacifism after World War I. Compton understood their reluctance to endorse American involvement in another foreign war, and they shared his opinion that war is “an evil, whose elimination is a major goal of Christendom.” But freedom itself was too much to sacrifice: without it, life had no value, so war in this case had to be accepted as “the lesser evil.”⁴⁶

Compton did not believe that nuclear weapons had changed the answer. “The morality of the atomic bomb is identical with the morality of war,” he stated. In order to force capitulation of the enemy, their industrial capacity must be destroyed, and, in the process, noncombatants will inevitably be killed. Nevertheless, he did think that atomic warfare would make the scope of destruction so large, even for the victor, that he foresaw “the time when we can safely lay our plans on the assumption that wars will not come again.” Adding a theological gloss to his political optimism, Compton concluded by comparing our plight today to that of Adam and Eve after they had been expelled from the Garden of Eden and were barred from returning by an angel with a flaming sword. “If we long to return to a pre-atomic age,” he said, “the same angel with a fiery sword blocks our path. Atomic power is ours, and who can deny that it was God’s will that we should have it?” In struggling to use it for the better, we will get “a growth of the human spirit.”⁴⁷

Ernest Lawrence held a similar view, without a theological component, and I wonder whether he may have influenced Compton (or vice versa).⁴⁸

Compton went much further four years later, when *The American Magazine* published his short essay "God and Atom." After reviewing his reasons for supporting the use of the bomb, he confessed that "God's mercy became very real to me" as "we had to choose the lesser of two great evils." His faith had been a great support, especially prayer. "God understood that what you were doing was the very best that you knew, under extraordinary circumstances," and this realization helped him maintain his "emotional equilibrium. I feel that God recognizes the frailty of man and in His mercy accepts him for companionship despite human mistakes." But Compton did not believe he had made a mistake; God had even participated, in some sense, with the entire Manhattan Project:

I think that not only did God condone our act of dropping the bombs, but that it was only with His help and inspiration that the job was done in time. I consider it a true act of Providence that the ability to make and use atomic bombs first became available to a nation whose primary international concern was a free and stable world.⁴⁹

Recalling the day in December 1942 when Fermi's group had produced the first chain reaction, Compton described it as "a supreme moment of consciousness that I was working with my God and that the outcome of our efforts was a part of His great plan" – an implicit reference to what was apparently his favorite biblical verse, John 5:17. Although the knowledge of fission "had always been available in the basic physical laws that govern the Universe," God, "in His wisdom, had held it back until He thought that in learning to use it, man's stature would grow."⁵⁰

Not surprisingly, these comments hit a lot of raw nerves. Numerous angry letters interspersed with some supportive ones survive among his papers, representing people with a range of religious opinions. A California atheist wanted to know whether Compton was "the witless person who clearly will exhibit your imaginary god to be impotent nuisance, as it must be, if your puny vote was to cause the use of the bomb? And further may I ask, who th'hell do you imagine yourself to be?" A Christian

woman from Omaha felt that "promoting work on such an ungodly creation as the atom bomb and recommending its use at any time under any circumstances cannot be reconciled with any religious belief or concern for human brotherhood ... God is no respecter of persons," she admonished him, quoting Rom. 2:11. "The yellow, the red, the black, the brown are as dear to their Creator even as you and I." Another correspondent wanted to know, "Did God give the Italians airplanes from which young Mussolini had the 'sport' of dropping bombs on Ethiopians because the subjection of the Ethiopians was best for a free and stable world?" A friend who worked for *The Christian Century* found his remarks "both amazing and depressing," scolding him, "How we strut our virtue!" "Christ practiced what he preached," wrote a retired Presbyterian minister, "and He died loving and trying to save the enemies who murdered Him. His principles and practice contradict those of the world. One or the other is wrong."⁵¹ Even from a distance, it is painful to read much of this correspondence.

Prophet of Science: Anti-Semitism and the Social Role of the Christian Church

If Compton's views on the bomb were more pragmatic than prophetic, this did not spill over into his activities for American religion and education in the years surrounding World War II. Consistent with family tradition, for two decades he advised the Laymen's Missionary Movement, at a time when Americans constituted about 40% of all Christian missionaries worldwide.⁵² He also advised the Presbyterian Board of Christian Education, which oversaw the denominational colleges, and many other religious organizations. These roles, which brought him numerous opportunities to address large audiences at conferences and on national radio broadcasts, dovetailed perfectly with his belief in the fundamental importance of altruism.

In the late 1930s, amidst war and rumors of war, Compton believed that religion still had a crucial message for a modern, scientific, and increasingly interdependent society. Science had greatly accelerated social change, giving us new powers to use for good or ill, underscoring the need for cooperation and love for our neighbors. Thus, "the importance of good will among men becomes a matter of unprecedented urgency," and "Christian education

Article

Prophet of Science – Part Three: Arthur Holly Compton on Science, Freedom, Religion, and Morality

is the most effective method that we know” for advancing the spirit of love and good will. Within this vision, science and religion were allies: “The growth of civilization under the stimulus of science thus demands the growth of Christian education.”⁵³ By advancing our understanding of nature, he said in a Thanksgiving message on the Mutual Broadcasting System in 1939, science has made us “better acquainted with the God of nature, and with the part we have to play in His cosmic drama.”⁵⁴ Three years later he told an NBC radio audience what an alternative vision might be like. Where Jesus offered “the surest as well as the most effective means of bringing people to live in the spirit of friendliness toward each other,” Adolf Hitler offered

a method more effective than love for getting the active cooperation of his people. This was by stimulating pride of race and nation and hate of all that was foreign. Anti-Jewish and anti-Catholic propaganda, the despising of so-called “weaker” peoples, the dominance of the world by a master race—these reflections of Nietzsche’s [sic] doctrines he recognized as anti-Christian. They proved remarkably effective.⁵⁵

But hate is destructive, and love is constructive, so hope for a better world remained.

Compton’s pointed reference to Hitler’s hatred of Jews and Catholics was not simply that of an American shocked by what was happening in Europe. He was no less concerned about religious prejudice at home. From 1938 to 1947, he was Protestant Co-Chairman of the National Conference of Christians and Jews, an important interfaith organization founded in 1927 as a united front to combat bigotry and promote understanding, and he served three terms on its Board of Directors after the war. In this connection, he wrote an article called “The Jews: A Problem or an Asset?” published in October 1941 by the *Atlantic Monthly*.⁵⁶ This was in response to a two-part article on “The Jewish Problem in America,” by the influential libertarian writer Albert Jay Nock, published in the same magazine a few months earlier.⁵⁷ At the same time he appeared on the NBC broadcast of a University of Chicago Round Table discussion of anti-Semitism.⁵⁸ In both venues, Compton’s main concerns were to challenge religious and racial prejudice in the name of democracy and to refute the claim, widespread at the time, that Jews had an undue influence on American foreign policy.



Compton with Broadway actress Katharine Cornell (left) and Austrian-born physicist Lise Meitner (right) on June 6, 1946.

Meitner and Cornell received awards for science and the arts (respectively) from the National Conference of Christians and Jews. These awards recognized women who had contributed to improving human relations and welfare. Compton was Protestant Co-Chairman of the National Conference of Christians and Jews from 1938 to 1947. Meitner had collaborated with Otto Hahn and Fritz Strassmann on the discovery of nuclear fission, but only Hahn was awarded the Nobel Prize for chemistry in 1944. Compton nominated her for the Nobel Prize for physics in 1947, when it was awarded to Edward Victor Appleton. Courtesy of Smithsonian Institution Archives, Science Service Records, 1902–1965 (Record Unit 7091), Image SIA2008-1175.

Another dimension of Compton’s extensive interaction with the Jewish community was his relationship with a leading thinker in the Conservative Jewish tradition, Rabbi Louis Finkelstein of the Jewish Theological Seminary in New York. Finkelstein invited Compton to speak about science and religion at the seminary’s Institute of Interdenominational Studies, and in November 1938, he spoke there on “The Religion of a Scientist,” which the seminary issued as a pamphlet.⁵⁹ A year later, Compton was invited back to help plan the ongoing annual conferences that began in 1940 under the general heading Conference on Science, Philosophy, and Religion in Their Relation to the Democratic Way of Life. Finkelstein and Compton had identical views on the vital importance of both science and religion in a democratic society, and on how science could serve religion.⁶⁰

Six months after the war, Compton was inaugurated as the ninth chancellor of Washington University in St. Louis, a position he relinquished in 1953, although he remained at the university as Distinguished Service Professor of Natural Philosophy

and taught a course on science and human responsibility. Regrettably, he did not bring to this assignment the aggressive stance on human brotherhood that he had shown in his involvement with the Jewish community: he dragged his feet on admitting African-Americans to the university and failed to use his authority to advance conversation on campus.⁶¹

With his work on the Manhattan Project, Compton's own research had effectively ceased, but as chancellor he advanced the work of others. He remained very active as a writer, speaker, and advisor to various corporations and organizations right up until his death on March 15, 1962, in Berkeley, where he was lecturing on "Man, Science, and Society." The "almost unique combination" of talents he had brought to his second career as a public intellectual was noted by physicist Alexander Langsdorf Jr., who had contributed a minute quantity of plutonium to the Manhattan Project but strongly opposed the use of the bomb. "His voice was mellifluous, his personality felicitous, and his appearance remarkably handsome and distinguished." Langsdorf's deceased friend had been "a cordial and considerate person, genuinely interested in other people" and "always faithful to the ideas of service to mankind which were a strong tradition of his family and of Wooster College."⁶²

Of course, not everyone appreciated his religious utterances, and it would be a mistake to conflate the high personal regard most of his colleagues had for him into a favorable attitude toward his religion. After a visit to Chicago in 1933, Niels Bohr offered his impression to fellow Danish physicist J. Rud Nielsen. He "spoke highly of Compton as a physicist and a man," Nielsen related not long after Bohr's death, but he was not impressed with his philosophy. "Compton would like to say for God there is no uncertainty principle," Bohr had told Nielsen. "That is nonsense. In physics we do not talk about God but about what we can know. If we are to speak of God we must do so in an entirely different manner."⁶³

As physicist John A. Simpson wrote decades later, the "dualism of the brilliant scientist versus the devout man of the church with his public religiousness was a mystery to many of his contemporaries in the sciences," and sometimes even led Compton's colleagues on the Manhattan Project

"to question his leadership."⁶⁴ Indeed, as Samuel Allison pointed out, Compton "was one of the few scientists of stature who could and would address religious groups," and for that reason he was always being invited to do so. It is nevertheless easy to agree with Allison's overall assessment: "There was an intensely religious and idealistic side to his nature, coexisting in a truly remarkable way with his ability to reason in the rigorous and objective manner of physics."⁶⁵ *

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Notes

¹Compton, *The Freedom of Man* (New Haven, CT: Yale University Press, 1935), 140.

²Smith's church membership is reported by Charles Harvey Arnold, *God Before You and Behind You: The Hyde Park Union Church through a Century, 1874-1974* (Chicago: The Hyde Park Union Church, 1974), 230; for information on his career, see *Dictionary of American Biography*, suppl. 7, 701-2; Theodore C. Denise, "Thomas Vernor Smith, 1890-1964," *Proceedings and Addresses of the American Philosophical Association* 38 (1964-1965): 104-5.

³R. W. Gerard and A. C. Ivy, "Anton Julius Carlson," *Science* 99 (January 21, 1944): 51-2; *Dictionary of Scientific Biography*, vol. 3, 68-70; *Dictionary of American Biography*, suppl. 6, 99-100.

⁴"Religion and the Scientific View of Man," incomplete typescript "Rough Draft," November 6, 1944, Arthur Holly Compton Personal Papers, University Archives, Department of Special Collections, Washington University Libraries, series 6, box 9, folder 17. Further references to this collection are given as AHC Papers. On the Institute and Compton's role there, see "Religious Meet to Draw Noted Scholars Here," *Los Angeles Times*, November 12, 1944, p. 3; "Dr. Compton Say [sic] Religion Has Much to Offer," *Los Angeles Times*, November 16, 1944, p. 10.

⁵The AISL went out of existence in 1944. See Kenneth N. Beck, "The American Institute of Sacred Literature: A His-

Article

Prophet of Science – Part Three: Arthur Holly Compton on Science, Freedom, Religion, and Morality

torical Analysis of an Adult Education Institution” (PhD diss., University of Chicago, 1968), and the information accompanying the finding list for the American Institute of Sacred Literature Records, Special Collections Research Center, University of Chicago Library, cited henceforth as AISL Records.

⁶Edward B. Davis, “Fundamentalist Cartoons, Modernist Pamphlets, and the Religious Image of Science in the Scopes Era,” in *Religion and the Culture of Print in Modern America*, ed. Charles L. Cohen and Paul S. Boyer (Madison, WI: University of Wisconsin Press, 2008), 175–98.

⁷Summary report, “American Institute of Sacred Literature,” October 25, 1928, Rockefeller Family Archives, Rockefeller Archive Center, Sleepy Hollow, NY, Record Group 2, Office of the Mssrs. Rockefeller, Educational Interests series, box 106, folder 741, “University of Chicago—American Institute of Sacred Literature, 1921–1933.” Also see the report for November 14, 1929. Further references to this folder are given as RFA.

⁸AHC Papers, series 6, box 9, folder 6. In close proximity with this typescript are two handwritten outlines. These items are interspersed with draft chapters for *The Freedom of Man* (New Haven, CT: Yale University Press, 1935), further evidence of the intimate relationship between immortality and freedom in Compton’s mind.

⁹“Immortality from the Point of View of Science,” *The Presbyterian Banner* (January 9, 1930): 10–2; “Life After Death: From the Point of View of a Scientist,” *The Presbyterian Banner* (March 26, 1931): 10–1 and 14; cf. “A Scientist Considers Immortality,” *The Christian: A Liberal Journal of Religion* 7 (March 28, 1931): 310–2. For a later version, partly based on *The Freedom of Man*, see “Why I Believe in Immortality,” *This Week*, Easter Sunday supplement to *New Orleans Sunday Item-Tribune*, April 12, 1936, pp. 5 and 12. Compton’s address at Wooster is mentioned in “Ohio Presbyterians Meeting in Wooster,” *Marion Star*, June 24, 1931, p. 10.

¹⁰“Immortality: Four Faculty Men View the Future,” *The University of Chicago Magazine* 23 (November 1930): 5–17.

¹¹Arthur Holly Compton, Shailer Mathews, and Charles Whitney Gilkey, *Life After Death* (Chicago: American Institute of Sacred Literature, 1930). For information about the print run, see “Statement Concerning Pamphlet Work of the American Institute of Sacred Literature for the Year Ending June 30, 1930,” AISL Records, box 11, folder 3.

¹²Shailer Mathews to Arthur W. Packard, November 21, 1930, RFA.

¹³This title is said to be “promised” in the “Statement Concerning Pamphlet Work of the American Institute of Sacred Literature for the Year Ending June 30, 1930,” AISL Records, box 11, folder 3. On page 57 of the AISL ledger book for 1930–31 (box 16, folder 1), however, it is listed only as “Requested.”

¹⁴The drafts are all from AHC Papers, series 6, box 9, folder 6.

¹⁵“Life Eternal,” single handwritten page in AHC Papers, series 6, box 9, folder 6, showing deletions and <insertions>.

¹⁶Compton, *The Freedom of Man*, 120–1.

¹⁷John J. Compton to Edward B. Davis, March 15, 2008. Peter Harrison has recently questioned whether Descartes actually held a strict dualist position; see “That René Descartes Originated the Mind-Body Distinction,” in

Galileo Goes to Jail and Other Myths about Science and Religion, ed. Ronald L. Numbers (Cambridge, MA: Harvard University Press, 2009), 107–14.

¹⁸Compton, *The Freedom of Man*, 129–30 (cf. 133–4) and 139–40.

¹⁹*Ibid.*, 140.

²⁰*Ibid.*, 147.

²¹William T. Ellis, “‘Does Death End All?’ Rates as Day’s Greatest Question,” *Huntingdon (PA) Daily News*, February 26, 1932, p. 6. This story was also printed in some other local newspapers, and may have circulated nationally.

²²Compton, *The Freedom of Man*, 149–51.

²³*Ibid.*, 151–2.

²⁴Compton to Harvey, February 1, 1945, emphasis his, AHC Papers, series 3, box 5, folder “G–I.”

²⁵Compton, “Personal Reminiscences,” in *The Cosmos of Arthur Holly Compton*, ed. Marjorie Johnston (New York: Alfred A. Knopf, 1967), 3–52, on 52; this anthology is cited henceforth simply as *Cosmos*.

²⁶Carlson, in “The Physiologist” part of the symposium, “Immortality: Four Faculty Men View the Future,” 13–4.

²⁷*Ibid.*, 14.

²⁸Carlson, “Science and the Supernatural,” *Science* 73, no. 1887 (February 27, 1931): 217–25; *The Scientific Monthly* 59, no. 2 (August 1944): 85–95; citations are to the latter imprint.

²⁹Carlson, “Science and the Supernatural,” 85, his italics.

³⁰*Ibid.*, 87–9, his italics. Carlson made several other points, but a full discussion would take us too far away from our subject.

³¹Moulton to Compton, August 1944 (no date, but received by Compton on August 18); Compton to Moulton, September 16, 1944, AHC Papers, series 6, box 9, folder 17. Cf. Moulton to Compton, February 23, 1945. The diverse, highly interesting replies to Carlson’s article appeared in the October and November issues.

³²The manuscript outline and incomplete essay of the discarded version are both entitled “Science & the Supernatural,” while the outline and introduction for the Los Angeles address are called “Religion & Scientific View of Man.” Both in AHC Papers, series 6, box 9, folder 17.

³³Compton, “Science and the Supernatural,” *The Scientific Monthly* 63, no. 6 (December 1946): 441–6, quoting 441. Brief comments from two readers were published in the April issue.

³⁴*Ibid.*, 442–3.

³⁵*Ibid.*, 445–6. Millikan’s statement was first published in “Deny Science Wars Against Religion, Forty Scientists, Clergymen and Prominent Educators Attack ‘Two Erroneous Views,’” *New York Times* (May 27, 1923), p. 1; reprinted in “Science and Religion,” *Science* 57, no. 1483 (1 June 1923): 630–1, and several other places.

³⁶Compton to Henry Allen Moe, January 16, 1955, AHC Papers, series 3, box 1A, folder “1955.”

³⁷Barton J. Bernstein, “Four Physicists and the Bomb: The Early Years, 1945–1950,” *Historical Studies in the Physical and Biological Sciences* 18 (1988): 231–63, esp 234–9 and 261–2, quoting Compton’s letter to Wallace on 243–4 and Bernstein’s assessment on 262.

³⁸Samuel K. Allison, “Arthur Holly Compton, Research Physicist,” *Science* 138 (November 16, 1962): 794–7, on 796.

³⁹Compton, “God and the Atom,” *The American Magazine* 150, no. 4 (October 1950): 21 and 117–9, on 21.

- ⁴⁰Compton, "The Birth of Atomic Energy and Its Human Meaning," in *Cosmos*, 243–57, on 249–51, his italics.
- ⁴¹*Ibid.*, 256.
- ⁴²Kenneth D. Nichols, *The Road to Trinity* (New York: William Morrow and Company, 1987), 188–90; Compton, *Atomic Quest* (New York: Oxford University Press, 1956), 246–7.
- ⁴³Compton, "The Moral Meaning of the Atomic Bomb," in *Toward a Better World*, ed. William Scarlett (Philadelphia: The John C. Winston Company, 1946), 157–74, on 157; *Atomic Quest*, 233 and 41–3.
- ⁴⁴Compton, "Personal Reminiscences," 44. I have also drawn on the slightly different version in *Atomic Quest*, 207–8. Compton did not identify his pastor by name in either place. Family friend James R. Blackwood said it was university chaplain Charles Gilkey; see "Arthur Compton's Atomic Venture," *American Presbyterians* 66, no. 3 (Fall 1988): 177–93, on 184. John J. Compton concurs with Blackwood. Given Compton's reference to "the young people of our church," however, I think it may have been Gilkey's successor at Hyde Park Union Church, Rolland W. Schloerb, a former army chaplain in World War I who was a staunch pacifist during World War II. Another possibility is the other pastor at Hyde Park, Norris L. Tibbetts, a navy chaplain in World War I who later served as a pastor at the Riverside Church in New York. According to Robert Moats Miller, both Gilkey and Tibbetts favored American intervention in Europe by late 1941; see Miller, *Harry Emerson Fosdick: Preacher, Pastor, Prophet* (New York: Oxford University Press, 1985), 526.
- ⁴⁵Compton, "The Moral Meaning of the Atomic Bomb," 161. For helpful comments on Compton's position, see Fred Guyette, "Theological Ethics after Hiroshima: Comparing Arthur Compton and Dale Aukerman," *Didaskalia* 17, no. 1 (Fall 2005): 37–49.
- ⁴⁶Compton, "The Moral Meaning of the Atomic Bomb," 162–4.
- ⁴⁷*Ibid.*, 164, 167, and 174.
- ⁴⁸Bernstein, "Four Physicists and the Bomb," 240.
- ⁴⁹Compton, "God and the Atom," 118.
- ⁵⁰*Ibid.*
- ⁵¹Lloyd Hermon Brubaker to Compton, September 28, 1950; Stella Dorothea Bremers to Compton, February 17, 1951; Elmer E. Fatrum to Compton, February 4, 1951; Laurel S. Morrison to Compton, September 29, 1950, emphasis hers; H. V. Lela to Compton, October 18, 1950; all in AHC Papers, series 3, box 13, folder "God and the Atom."
- ⁵²Daniel H. Bays, "The Foreign Missionary Movement in the 19th and early 20th Centuries," nationalhumanitiescenter.org/tserve/nineteen/nkeyinfo/fmmovementc.htm (accessed February 27, 2008).
- ⁵³"Science, Religion, and a Stable Society," *Association of American Colleges Bulletin* 26, no. 1 (May 1940): 204–26, quoting 213 and 216. Cf. the pamphlets, *Science and Christian Education* (Board of Christian Education of the Presbyterian Church in the United States, 1938?), and *Telling the Country by Radio*, address for Columbia Broadcasting System, October 30, 1938, AHC Papers, series 6, box 3. For another version, see "Science in a War-Stricken World," *Vital Speeches of the Day* 6, no. 3 (November 15, 1939): 70–2.
- ⁵⁴Compton, "Science and Religion," *The Reference Shelf* 14, no. 1 (1940): 421–6, on 423.
- ⁵⁵*A Transcript of the Men and Missions Sunday Broadcast over the National Broadcasting Company Network* (Laymen's Missionary Movement, 1942?), 4–5, AHC Papers, series 6, box 3.
- ⁵⁶Compton, "The Jews: A Problem or an Asset?" *Atlantic Monthly* 168 (October 1941): 482–6.
- ⁵⁷Nock, "The Jewish Problem in America," *Atlantic Monthly* 167 (June 1941): 699–700 and 703, and 168 (July 1941): 68–73 and 75–6. On Nock's thought and anti-Semitic tendencies, see Michael Wreszin, "Albert Jay Nock and the Anarchist Elitist Tradition in America," *American Quarterly* 21, no. 2 (1969): 165–89.
- ⁵⁸Compton, Robert Redfield, and Louis Wirth, *Anti-Semitism: A Threat to American Unity?* (Chicago: University of Chicago, 1941).
- ⁵⁹Compton, *The Religion of a Scientist* (New York: Jewish Theological Seminary of America, 1938).
- ⁶⁰James Gilbert, *Redeeming Culture: American Religion in an Age of Science* (Chicago: University of Chicago Press, 1997), 68–77.
- ⁶¹Amy M. Pfeifferberger, "Democracy at Home: The Struggle to Desegregate Washington University in the Postwar Era," *Gateway Heritage* 10, no. 3 (Winter 1989): 15–25.
- ⁶²Alexander Langsdorf Jr., "Arthur Holly Compton," *Bulletin of the Atomic Scientists* 18 (September 1962): 28–9.
- ⁶³J. Rud Nielsen, "Memories of Niels Bohr," *Physics Today* 16, no. 10 (October 1963): 22–30, on 27.
- ⁶⁴John A. Simpson, "Arthur Holly Compton," in *Remembering the University of Chicago*, ed. Edward Shils (Chicago: The University of Chicago Press, 1991), 69–84, on 82.
- ⁶⁵Allison, "Arthur Holly Compton, Research Physicist," 796.

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