

Claiming Complementarity: Twentieth-Century Evangelical Applications of an Idea

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Over the course of the twentieth century the concept of complementarity earned considerable support among evangelical scientists. Leading figures in both the USA and Britain argued that science and theology offered distinct perspectives of the natural world that were reconcilable, if recognized as complementary descriptions rather than mutually exclusive claims. Though not without critics, this logic was employed by the most conspicuous evangelical researchers who attempted to ease the tension between Christianity and modern science. The benefit of such a view, they argued, was the avoidance of reductionism: neither Christians nor scientists could claim that their view of the world invalidated the other perspective. Drawing on the history of the American Scientific Affiliation and the Research Scientists' Christian Fellowship (now Christians in Science), this article examines the past use of complementarity in light of recent criticism and asks why it became so broadly espoused by leading members of these groups.

As disheartening as it was to some, twentieth-century evangelicals earned a reputation as passionate critics of modern science. Characterized most clearly by the Scopes Trial of 1925 and the birth of the creationist movement in the 1960s, outspoken leaders and laypeople often claimed irreconcilable differences between the biblical and scientific views of the world.

Over the past generation, scholars have done much to remind us that such conflict is not the whole story. Even as antievolutionism and scientific creationism were reaching a fevered pitch, significant numbers of American and British evangelical scientists challenged these notions.¹ These groups saw the conclusions of modern science not as conflicting claims that challenged the Bible's authority but as alternative perspectives of God's creation. Central for much of their thinking was an idea known as complementarity: the view that science

and the Bible offer distinct perspectives of the natural world that are reconcilable if recognized as complementary descriptions rather than mutually exclusive claims.

Though not without critics, this logic was employed by the most conspicuous evangelical scientists who worked to ease the tension between Christianity and modern science throughout the second half of the twentieth century. Complementarity, they were convinced, avoided reductionism by affirming the perspectives of both science and theology without rejecting either or superficially conflating the two.

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At the 2009 annual meeting of the American Academy of Religion, Cambridge theologian Sarah Coakley questioned the value of complementarity for contemporary discussions. Rather than fostering genuine dialogue, she argued, its logic treats science and religion as distinct, unaffected categories and allows for a fully reductionist view of the issues. Coakley's is not the first critique of complementarity, but it serves as a useful reminder of the challenges facing those who attempt to reconcile science and religion and of the questions one should ask about the methods one chooses. This article attempts to ground such a conversation in the history of those within evangelical circles who first employed complementarity in science-faith dialogue.

Recalling the Context

Two key developments shaped the twentieth-century evangelical engagement with science. First was the dramatic decline in science and faith dialogue among conservative evangelicals after 1920, a reversal of the trends that began in the last quarter of the nineteenth century. Between the 1880s and the 1920s, notable scientific and religious leaders worked to overcome the apparent antitheses between science and religion—particularly, evolution and Christianity—that had characterized the preceding decades. Among church leaders were the Scottish Presbyterian minister James Orr (1844–1913), the American Reformed theologian B. B. Warfield (1851–1921), and the Scottish philosopher and Princeton University President James McCosh (1811–1894). Among scientists, none was more prominent than the American botanist Asa Gray, a close friend of Charles Darwin and staunch advocate for a Christian interpretation of evolution. Yet, beginning in the 1920s and extending through the next decade, a resurgence of social and religious conservatism undermined efforts at reconciliation. Economic depression, the growing threat of war, and theological responses to liberalism led many conservative Christian leaders to abandon their efforts to integrate science and theology.² At the same time, science's increasingly specialized and esoteric areas of research hindered meaningful dialogue with other disciplines. At its best, these trends led scientists to ignore religion and compelled theologians to turn their attention toward other more fundamental issues. At its worst, it triggered a bitter struggle for the right to define reality.

The second development was the extraordinary rise in the level of deference shown to scientists and their research overall. As science and faith dialogue declined, science enjoyed a period of extraordinary growth and professionalization. In the century following the publication of Charles Darwin's *Origin of Species* (1859), scientific discoveries and technological achievements brought a sweeping revision of our understanding of the universe and helped propel the field as a major force in popular thought. These events effected a dramatic transformation in science itself and strengthened its appreciation by the broader culture. As the world became increasingly dependent upon scientific developments, research received unprecedented support, while scientists were increasingly heralded as the most reliable source of truth.

The prestige science earned during this period is hard to overstate. In 1931, Sir William Dampier, a Fellow of the Royal Society, expressed the views of many when he declared that “the vast and imposing structure of modern science is perhaps the greatest triumph of the human mind.”³ Arguably, the most dramatic example of this mood came at the British Association for the Advancement of Science conference held at the Royal Institution in London in 1941. Confronted by the immediate realities of World War II, researchers from twenty-two nations asked what science should do to begin healing the world once the fighting had ended. In his report of the meeting, J. G. Crowther boldly stated, “If democracy does not learn to seek guidance from, and utilize, science, then it will not survive.”⁴ Science, which had only recently emerged from the shadows of other disciplines, was increasingly recognized as essential for future prosperity.⁵

Scientists were not alone in touting their own significance. As the 1939 World's Fair in New York City made clear, political and business leaders gladly boasted how science and technology were “Building the World of Tomorrow,” the phrase chosen as the theme for the fair. Many of the leading philosophers of the day praised the epistemological potential of science. Figures such as Bertrand Russell (1872–1970) and Ludwig Wittgenstein (1889–1951) influenced a generation who came to see their task as verbal precision rather than discovery.⁶ The new goal was to deconstruct language and problems into their most basic parts in order to analyze them and

to understand the complex entities they formed. These ideas were radically advanced by the logical positivists, who claimed that anything that could not be verified empirically was metaphysics and by definition, in the words of A. J. Ayer (1910–1989), the leading figure of the movement in the English language, “neither true nor false but literally senseless.”⁷ “The philosopher,” he wrote, “is not in a position to furnish speculative truths, which would ... compete with the hypotheses of science,” but “is to clarify the propositions of science by exhibiting their logical relationships” and to “define the symbols which occur in them.”⁸ Such was the level of deference offered to science.

The scientific establishment was not uniformly materialistic. Some, such as Arthur Eddington (1882–1944), Plumian Professor of Astronomy, Cambridge University, maintained a robust Christian faith. Yet there was a prevailing naturalistic mood within the laboratories and—as the renowned theoretical chemist C. A. Coulson (1910–1974) later recalled about his matriculation to Cambridge in 1928—a growing sense that the “divorce between science and religion was almost absolute.”⁹ Furthermore, increasing numbers of people claimed that religion itself was a product of the natural world. The avowed humanist Julian Huxley could hardly have been clearer when he declared in 1923 that “God is an inevitable product of biological evolution, arising when the human type of mind first came into being, and taking shape and form as a definite God or Gods.”¹⁰ British embryologist C. H. Waddington (1905–1975) drew heavily on Sigmund Freud’s thought to claim that science had reached the point at which it could function as a religion and do a better job. “Science is not ethically neutral,” he argued. “It has, in fact, something to say about the most important questions of the world, and it could therefore be a candidate for the position of super-ego.”¹¹ He continued:

One might have a scientific society, officially based on the practice of empirical reason; but ... the other side of man’s nature would have to be satisfied by a belief in some authority, a thrill for some romance. We have now reached the conclusion that science can also provide their thrill and this authority. Science by itself is able to provide mankind with a way of life which is, firstly, self-consistent and harmonious, and, secondly, free for the exercise of that objective reason on which

our material progress depends. So far as I can see, the scientific attitude of mind is the only one which is, at the present day, adequate in both these respects.¹²

In other words, science could make traditional religion irrelevant by dispelling its false views while still providing its psychological benefits.

Such was the attitude at the end of World War II. While most conservative religious leaders were ignoring or attacking modern science, scientists were increasingly seen as the suppliers of useful knowledge. Science had won the war, would help establish the peace, and would be essential in rebuilding societies that had been destroyed. It was within this intellectual and cultural milieu that groups of evangelicals who were professional scientists began exploring new ways to understand the relationship between their faith and work. For many of them, complementarity became the most useful framework for this relationship.

Development of the Idea

The concept of complementarity originated with the work of Danish physicist Niels Bohr (1885–1962) and his attempt to explain how mutually exclusive sets of experimental data could be equally true, though seemingly contradictory. He argued that the apparent contradiction implied by the use of competing models for understanding some quantum particles, e.g., light, can be reconciled as long as one understands that the models measure distinct aspects of the object of study and that each model is unable to detect and may obscure the data of the other. The wave model can only detect the wave-like aspects of light, the particle model only the particle-like aspects. Neither model disproves the validity or predicts the outcomes of the other.¹³

Thinkers quickly applied complementarity to the science-faith dialogue. Bohr recognized the implications of his ideas and attempted to establish complementarity as a new epistemological principle that could inform a wide range of disciplines.¹⁴ Some have found traces of complementarity in the metaphysical writings of A. N. Whitehead (1861–1947).¹⁵ Historian of science Peter Bowler has noted C. A. Coulson as marking the start of a new direction in science and faith discourse and credits his *Science and Christian Belief* (1955) as the first significant discussion of complementarity within evangelicalism.¹⁶

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Coulson's ideas developed in the early 1950s. Although he denied that religion, in its broadest sense, was merely one view of the natural world, he affirmed that science and theology, one component of religion, were complementary.¹⁷ Coulson is often remembered for his description of the differing perspectives of architectural drawings. Floor plans are different from elevations, he noted, and each elevation is different from the others. Still, they all describe the same building because they imagine the final product from distinct perspectives. Although initially the drawings may seem to contradict, upon further investigation, their complementary relationship becomes clear. However, if one wishes to envision the building before it is complete, one cannot simply lay the drawings on top of each other, but must use an "act of reflection" to imagine the finished product. It was through this act of reflection that one could reconcile science and theology.¹⁸

Around the same time that Coulson was developing his views, a Scottish brain scientist named Donald M. MacKay (1922–1987), a younger colleague of Coulson at the University of London at the time, began articulating similar ideas.¹⁹ MacKay and Coulson had much in common. They both denounced the god-of-the-gaps mentality (the idea that God could be found only in those areas in which science was ignorant). They considered science as a means of revelation. And they saw complementarity as a useful model for reconciling scientific and theological claims.²⁰ If Coulson's use of complementarity came first, it was MacKay who has been remembered as the one who drew out fully its logical ramifications. Through a series of books, articles, and BBC broadcasts that appeared between the 1950s and 1970s, MacKay helped popularize complementarity among British and American evangelicals. His message was simple and consistent: Scientists looked at the world as a self-contained, closed physical system and attempted to understand it on its own terms. Christians looked at the world as an open system with more processes and events occurring than meet the scientific eye. Only when one accepted the validity of both perspectives could one avoid the potential conflict between them.²¹ For MacKay's work in neuroscience, this meant that it would be foolish to expect scientists to locate some aspect of the brain where physical laws were disobeyed, thus proving the mind as something other than a product of natural forces. The scientific understanding of the mind

as a product of matter in motion was perfectly justified; the naturalistic claim that it was merely such a product was not. As MacKay wrote,

The scientific method has been compared to a net, which can give knowledge only of those aspects of reality which it can catch. The kind of description which it can give "passes by" spiritual truths; the Christian's belief that God controls the universe, for example, has never had any bearing on scientifically ascertained probabilities, far less any inconsistency with them.²²

Christianity and science, in other words, do not offer competing claims because each is incapable of addressing the other's concerns.

Yet there was more to complementarity than merely distinguishing between the Christian and scientific views of the world. If applied correctly, it also prevented one from combining their descriptions in the wrong way or unnecessarily claiming conflict between them. As psychologist and Research Scientists' Christian Fellowship (RSCF) leader Malcolm A. Jeeves described it, "The somewhat negative point which arises from all this is that before religious and scientific statements are debated as rivals, it is obligatory that we should establish that they are not in fact complementary."²³ More positively, MacKay described the process of reconciliation thus:

To keep scientific and Christian doctrines rigidly apart would be silly as well as potentially dishonest. To try to make them into one by chopping bits from each and pasting them together, or by treating them as rival ways of giving identical information, would be equally to miss the point. We can come to relate them properly only by holding both constantly together in our minds, until little by little there comes to us some glimmering of that greater whole of which they present complementary aspects, the activity and character of God himself: not God seen only in the gaps of the scientific picture, not God deduced only as the conclusion of a scientific argument, but God revealed as the Author of the whole story.²⁴

Thus, complementarity not only justified Christian and scientific views, it also suggested the proper way of relating the two.

In his attempts to explain the differing perspectives of science and theology, MacKay emphasized the different levels from which they achieved their

conclusions, and he saw this as an important distinction between his views and Coulson's. While Coulson focused on differing perspectives based on the direction from which one addressed the subject, MacKay emphasized differing logical levels or planes. Two people, he argued, might examine a subject from the same direction and still arrive at equally valid though vastly different interpretations, because each asked a different set of questions. Each applied a different kind of logic to the situation. Take a simple math problem on a chalk board, he often noted. A chemist could describe with complete accuracy the chemical composition of the writing without ever attempting to discern the equation present. The message that would be plain to everyone else, that $2 + 2 = 4$, would be a distraction from the chemist's examination. It would be foolish, MacKay would say, to argue that because the chemist missed the meaning of the message that his analysis was wrong. It would be equally foolish to assume that the message was somehow less true than the chemist's conclusions. If one is to fully understand the writing on the board, both views must be considered. The failure to accept either one, MacKay insisted, led to reductionism, what MacKay called the fallacy of "nothing-buttery" — "the idea that because in one sense, at one level, or viewed from one angle, there is nothing there but chalk, therefore it is unnecessary, it makes no sense, it is superfluous to talk about what is there in any other terms."²⁵ By the early 1970s, MacKay had labeled his own emphasis on the different levels of analysis "hierarchical complementarity."²⁶

Influence

For the generation of American and British evangelical scientists working between 1955 and 1985, complementarity offered an effective means for reconciling science and religion. By the late 1950s, the idea essentially served as the official view of the leaders of the RSCF, now Christians in Science, an association of evangelical scientists and those interested in science throughout the UK. This development was due in no small part to MacKay's popularity among British evangelical scientists and to a series of publications aimed for a popular audience, including *Where Science and Faith Meet* and *Science and Faith Today* (both BBC broadcasts published in 1953), *Science and Christian Faith Today* (1960), and *Christianity in a Mechanistic Universe* (1965).

The American Scientific Affiliation's (ASA) appreciation for complementarity grew more slowly and, though the idea failed to win broad support within the ASA until the 1970s, reveals the developing relationship between the American and British organizations. In 1956, physicist Richard Bube published an article in the *Journal of the American Scientific Affiliation (JASA)* on the relevance of complementarity to Christian theology. He argued that the concept helped validate theological paradoxes that some critics saw as signs of the incoherence of Christian faith. Bube repeated this line of reasoning in his chapter on physics in *The Encounter between Christianity and Science* (1968). In 1967, W. Jim Neidhardt, physicist at Newark College of Engineering, similarly employed complementarity as a profitable means for affirming paradox and undermining the goals of "extreme reductionalists [sic]."²⁷ In 1961, John Sinclair, then research assistant at the University of California Medical School, San Francisco, attempted to apply complementarity to the mind-brain problem.²⁸ One commonality shared by each of these publications was that none of them suggested complementarity as a way for reconciling science and theology.

There were some references to this aspect of complementarity before 1970. In 1964, the current ASA logo first appeared. Commenting on the figure, sociologist and ASA Fellow David Moberg, then *JASA* editor, wrote that the figure could be interpreted in many ways but suggested that it represented "two perspectives, two types of truth, two sources of knowledge, two commitments" that confronted each other in the ASA.²⁹ Complementarity was also suggested in a 1969 *JASA* symposium on biblical interpretation, in which twenty-one ASA leaders offered their perspectives of the relationship between science and the Bible. Most of the contributors expressed ideas consistent with complementarity, which might suggest a relatively widespread awareness and acceptance of the idea by this point. Richard Bube, then *JASA* editor, clearly believed it did so. In his summary of the symposium, he claimed that by a margin of three-to-one the contributors described the Bible and science as providing "complementary insights into the nature of the world."³⁰ Referring to the overarching themes of the participants, he wrote,

The majority opinion appears to us to be consistent with the growing realization that the description of

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the world requires a multilevel approach in which different terms and concepts may be needed to describe the physical, the biological, the psychological and the spiritual.³¹

Bube's summary may have read complementarity into the majority of the comments and perhaps reflected his own appreciation of MacKay, whom he had met at an important, though largely forgotten, international meeting of evangelical scientists at Oxford in the summer of 1965. Only two contributors, Baylor University psychology professor C. Eugene Walker and Newark College of Engineering physicist W. Jim Neidhardt, made explicit reference to complementarity. Nevertheless, its underlying principles seem to have gained some support by this time.

Complementarity became broadly popular within the ASA only after the publication of three important works. The first was *The Scientific Enterprise and Christian Faith* (1969), the product of the 1965 meeting in Oxford, which was hosted by the RSCF and funded by Norman Lea, a Canadian engineer of vigorous evangelical faith and considerable generosity. The event laid the foundation for an enduring relationship between the ASA and RSCF and helped make MacKay and other RSCF members highly esteemed among ASA leaders. The next publications, both by MacKay and both published in 1974, were an article in the journal *Zygon* entitled "'Complementarity' in Scientific and Theological Thinking" and the InterVarsity Press publication *The Clockwork Image*.

Unremarkably, complementarity did not win unanimous approval among RSCF and ASA members, but those who accepted it often exemplified two characteristics. First, they were staunch defenders of both science and the Bible. The histories of the ASA and RSCF are marked by their attempts to affirm the validity of modern science against its critics, Christian or not, while defending the relevance and truth of the Scriptures against secular and liberal challengers. Second, they accepted the epistemological limitations of both. That is, they rejected reductionism—both biblical and scientific.

Accepting the epistemological limitations of science meant understanding that the methodological reductionism science requires does not necessitate philosophical reductionism. In 1965, for example,

Frank H. T. Rhodes, then professor of geology, University College of Swansea, argued that science provided an accurate mechanistic understanding of the world, but insisted that it remains

only one view, only one description, only one model, only one interpretation. Because it is limited by its own self-chosen method, abstractions and restrictions, it can never claim to do justice to the whole of reality.³²

In a 1952 BBC broadcast, R. L. F. Boyd (later Sir Robert Boyd, the patriarch of the British space program) made a similar point when he argued that the Aristotelian distinction between efficient and final causes made reconciliation between science and Christianity possible. There are two kinds of explanations for every event, he insisted. Some answer the question "how"; others, the question "why." The difference between the questions reflects the differences between the scientific and Christian agendas.³³ "Trouble is," Boyd wrote, "that we have now swung to the opposite extreme and have become so impressed with the usefulness of asking 'How?' that we are liable to forget ever to ask 'Why?'"³⁴ Recognizing the epistemological limitation of science meant, to use MacKay's metaphor, accepting that the scientists' net is unable to catch all truth.

Accepting the limitations of Scripture often entailed moving beyond a commonsense-literalistic view of the Bible. For some, this meant remembering Calvin's emphasis on divine accommodation, the idea that God necessarily accommodates himself to our finite intellect and knowledge. Thus, the Bible may be seen as being one hundred percent true, though not one hundred percent of the truth. For others, it meant appreciating the literary, poetic, or symbolic meaning of the Bible. For a growing number of ASA members during the 1970s, it meant distinguishing between the revelational and nonrevelational aspects of Scripture, a hermeneutical approach advocated by Fuller Theological Seminary professor Daniel Fuller.³⁵ This topic reveals an important distinction between the broader contexts of the ASA and the RSCF.

Among the many important differences between twentieth-century British and American evangelicalism were the differing approaches to Scripture that developed at the end of the nineteenth century, especially regarding the inerrancy of Scripture. Stephen

Holmes' recent study in this area is particularly illuminating.³⁶ Conservative Christians have always held a high regard for the accuracy of the Bible. In late nineteenth- and early twentieth-century America, however, theologians at Princeton Seminary, notably Archibald Alexander Hodge (1823–1886) and B. B. Warfield, helped elevate the latent belief in the accuracy of the Bible to a full-blown articulation of plenary verbal inspiration, the idea that even the words of Scripture are inspired, infallible, and errorless. As a result, Holmes argues, inerrancy became the primary lens through which to understand Scripture. These views remained popular among American evangelicals throughout the twentieth century, with the fullest expression coming through a series of international conferences on the Bible that produced the so-called Chicago Statements of 1978 and 1982.³⁷

The situation in the UK was considerably different. By 1900, the majority of British evangelical scholars had rejected the need to defend the Bible as completely free of error.³⁸ As a result, they gave more attention to the inspiration and authority of the Bible in matters related to "faith and conduct" than to its inerrancy. The consequences, Holmes argues, was that whereas twentieth-century American evangelicals tended to see the Bible as a collection of facts to be believed, British evangelicals saw the Bible as rules to be obeyed. There are, of course, important exceptions on both sides of the Atlantic. Still, both the relative ease with which British evangelicals accepted evolution and the antievolutionary impulse in American fundamentalism may be seen as a logical outcome of a particular understanding of the nature of the Bible.

The British view of Scripture, combined with MacKay's complementarity, helped the RSCF develop a clear approach for relating science and the Bible. As Christians, they felt little need to align particular passages of Scripture with specific scientific ideas, while as scientists they were free to pursue their research without fear of undermining theology. In a 1952 BBC broadcast, RSCF founder Oliver Barclay expressed this view clearly. "There was a time," he stated, "when the relationship between science and faith was generally thought of in terms of disagreement about matters of fact."³⁹ Such attempts, he insisted, missed the point. Efforts to align

specific verses with particular scientific conclusions fail by trying to solve the wrong problem. The goal is not to reconcile contradictory claims about creation. "The real problem is how to reconcile two different habits of mind," how to appreciate two distinct views of the same event.⁴⁰

For the ASA, it was already noted that key publications helped determine the timing of the group's acceptance of complementarity. Key also for this acceptance was the group's wrestling with questions of biblical interpretation. Between 1960 and 1980, the ASA experienced a dramatic, sometimes painful, and often hotly contested shift in its general approach to the Bible. The transition was led largely by Richard Bube and his appreciation for Fuller Seminary theologians. The result was that by 1980, the majority of ASA leaders had nearly abandoned strict inerrancy. It is not surprising, then, to find that as increasing numbers of ASA members moved further from the Hodge-Warfield understanding, they also developed a greater appreciation for complementarity.

Criticism and Defense

These generalizations are not meant to suggest that the ASA unanimously accepted complementarity. In 1975, a reviewer of *The Clockwork Image* criticized MacKay for not doing more to prove the Christian perspective as essential. The reviewer described complementarity as an "illegitimate tool with which to loosen the grip of the 'clockwork image' on the minds of modern men."⁴¹ There is a sense in which this critique is valid, but it missed a fundamental point: MacKay was not trying to prove the Christian view any more than he was trying to prove the scientific view. Neither was he trying to prove that one of the views was somehow incomplete without reference to the other. In fact, MacKay's logic insisted that each perspective remain self-consistent and able to provide its own complete view without appealing to the other.

The most thorough critique of complementarity came from two 1983 articles by ASA Fellow J. W. Haas. The first examined the concept broadly. The second focused on MacKay's ideas. Haas concluded by suggesting that MacKay offered an "imaginative approach" that avoided many of the errors found in other attempts to reconcile Christianity and science.

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Yet he criticized MacKay for not being more philosophically consistent. "It appears," Haas wrote, "that an exposition of the ontological-epistemological status of complementarity is needed before a full evaluation of this approach can be made."⁴² Haas seems to have desired a level of certainty about the conclusions of complementarity that exceeded MacKay's intentions.

Still, in the same 1983 issue of the *JASA*, retiring editor Richard Bube offered his support to complementarity. Bube acknowledged Haas's critique, but asked a more immediate question. What were the other choices? There were only a few paradigms through which one could view the relationship between science and the Bible, Bube asserted. One was conflict, the idea that science and theology reveal the same kind of truth about the same kinds of things, thus requiring a choice between them. Another was compartmentalization, the idea that the two say different kinds of things about different things, which Bube suggested resulted in a "schizophrenic response" toward life and meaning. The only other option, he insisted, was complementarity, which validated both science and the Bible without ending in conflict or schizophrenia. Bube concluded his article by pointing out what he saw as the obvious point:

We may debate whether one should say that science and theology are complementary, but it does not appear that there is any debate that scientific descriptions are often complementary to theological descriptions of the same event. If this were not the case, what other option do we have?⁴³

Similar arguments appeared within the pages of the *JASA* (now named *Perspectives on Science and Christian Faith* [*PSCF*]) over the next twenty-plus years. In 2004, for example, Ross H. McKenzie offered a review of Alister McGrath's *Foundations of the Dialogue in Science and Religion* (1998) in which he criticized McGrath's use of complementarity because the idea had become regarded by most physicists as an "ill-defined philosophical concept" with a long history of abuse.⁴⁴ Yet the December 2009 issue of *PSCF* included an interview of chemist Robert C. Fay by Karl E. Johnson and Keith Yoder in which Professor Fay urged that the churches need to do a better job teaching the complementary relationship between science and faith.⁴⁵ Thus, even after a half century of use, questions of the idea's value remain.

Conclusion

Thus, complementarity won considerable support among evangelical scientists during the second half of the twentieth century. Although some rejected the concept overall, many affirmed it as an effective means for reconciling ideas that on the surface appeared mutually exclusive. The ostensibly competing conclusions of science and theology, they argued, were better understood as complementary descriptions rather than contradictory claims.

Still, for those asking to what extent complementarity will remain useful in the twenty-first century, key questions remain. How reliable is the concept overall? How philosophically consistent must it be to be of value? Or, as Professor Coakley asked, does the willingness to affirm the individual conclusions of science and theology allow or even encourage reductionism? Perhaps this is the most pressing question. In the sense that complementarity grants science and theology freedom to pursue their separate agendas without fear of violating the other, the answer must be yes. Methodological reductionism was, after all, accepted by those who affirmed complementarity. Yet, they also insisted that methodological reductionism did not entail philosophical reductionism. Affirming the perspectives and conclusions of science and theology individually did not require one to choose between them.

But to stop here would be to miss the point. The value of complementarity was not merely its ability to disentangle conflated scientific and theological claims but its ability to make room for their proper reconciliation. In this way, complementarity should not be confused with Stephen Jay Gould's nonoverlapping magisteria, the idea that science and theology do not contradict because of the "lack of overlap between their respective domains of professional expertise."⁴⁶ Complementarity allows one to affirm that there are key areas in which science and theology overlap. Yet when they do so, their claims are not necessarily in competition with each other for the final say on the matter.

Only time will tell how long complementarity will remain useful for reconciling science and faith. Yet, for those of the previous generation, the answer is clear. In the context of logical positivism and scientific materialism on the one hand and conservative antievolutionism on the other, complementarity

proved a valuable approach for dealing with the challenges at hand without rejecting either the fundamental theories of modern science or biblical faith. ↖

Notes

- ¹The history of these groups is the subject of my 2010 dissertation, "Reclaiming Peace: Evangelical Scientists and Evolution after World War II." Any assertions that follow about the broader histories of the American Scientific Affiliation and the Research Scientists' Christian Fellowship (now Christians in Science) are given more detailed treatment there.
- ²See Peter J. Bowler, *Reconciling Science and Religion: The Debate in Early-Twentieth-Century Britain* (Chicago: The University of Chicago Press, 2001), 3–4, 417; see also, George M. Marsden, *Fundamentalism and American Culture*, 2d ed. (New York: Oxford University Press, 2006); Ferenc M. Szasz, *The Divided Mind of Protestant America, 1880–1930* (Tuscaloosa, AL: University of Alabama Press, 1982).
- ³William Cecil Dampier, *A History of Science and its Relations with Philosophy & Religion* (New York: Macmillan, 1931), vii.
- ⁴J. G. Crowther, *Science and World Order* (Harmondsworth, UK: Penguin Books, 1942), 18.
- ⁵*Ibid.*, 18–25.
- ⁶I.e., John Wisdom, *Problems of Mind and Matter* (Cambridge: Cambridge University Press, 1934), 1–2.
- ⁷A. J. Ayer, *Language, Truth and Logic* (New York: Dover, 1936), 31.
- ⁸*Ibid.*, 31–32.
- ⁹C. A. Coulson, *Science and the Idea of God: The Eleventh Arthur Stanley Eddington Memorial Lecture 21 April 1958* (New York: Cambridge University Press, 1958), 2.
- ¹⁰Julian Huxley, "Rationalism and the Idea of God," *Essays of a Biologist* (London: Chatto & Windus, 1923), 208.
- ¹¹C. H. Waddington, *The Scientific Attitude* (Harmondsworth, UK: Penguin Books, 1941), 169.
- ¹²*Ibid.*, 169–70.
- ¹³See Gerald Holton, "The Roots of Complementarity," *Daedalus* 117, no. 3 (1988): 151–97; Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (New York: HarperCollins, 1997), 121, 166–70; Peter J. Bowler and Iwan Rhys Morus, *Making Modern Science: A Historical Survey* (Chicago, IL: The University of Chicago Press, 2005), 265–70; John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (New York: Cambridge University Press, 1991), 329, 331.
- ¹⁴Holton, "The Roots of Complementarity," 187–92.
- ¹⁵E.g., Stephen David Ross, *Perspective in Whitehead's Metaphysics* (Albany, NY: State University of New York Press, 1983), 33–4; Michael Epperson critiques Ross's position, *Quantum Mechanics and the Philosophy of Alfred North Whitehead* (New York: Fordham University Press, 2004), 2–3.
- ¹⁶Bowler, *Reconciling Science and Religion*, 415–6; see also, Barbour, *Religion and Science*, 167–70.
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Though it cost all you have, get understanding."
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