SCIENCE AND RELIGION IN THE THEOLOGY OF DIETRICH BONHOEFFER

by Rodney D. Holder

Abstract. The German theologian and martyr Dietrich Bonhoeffer is not widely known for engaging with scientific thought, having been heavily influenced by Karl Barth's celebrated stance against natural theology. However, during the period of his maturing theology in prison Bonhoeffer read a significant scientific work, Carl Friedrich von Weizsäcker's The World View of Physics. From this he gained two major insights for his theological outlook. First, he realized that the notion of a "God of the gaps" is futile, not just in science but in other areas of human inquiry. Second, he felt that an infinite universe, as considered by science, would be self-subsistent and could exist as if there were no God. Bonhoeffer replaced Barth's radical critique of religion with the even more extreme view that it is a mere passing phase in history that grown-up humanity can dispense with. At the same time Bonhoeffer began an important critique of Barth's reaction, namely, the latter's retreat to a "positivism of revelation." While Bonhoeffer did not go quite as far as one might like, his approach opened up hopeful avenues for an answer to "the liberal question" and even a revived place for some kind of natural theology.

Keywords: Karl Barth; Dietrich Bonhoeffer; Charles Coulson; God of the gaps; infinite universe; natural theology; positivism of revelation; Carl Friedrich von Weizsäcker; world come of age

Dietrich Bonhoeffer was brought up in a scientific household. His father was a professor of psychiatry at the University of Berlin and his brother Karl-Friedrich became an outstanding physical chemist. Moreover, Bonhoeffer began his theological studies at Tübingen under Karl Heim, who wanted to incorporate natural science into his theology. There is not much sign of Bonhoeffer's engaging with scientific thought directly, however, in

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his earliest works, with the notable exception of his exposition of the early chapters of Genesis, *Creation and Fall* (Bonhoeffer [1933] 1997). Here, while he effectively denied any relationship between the Christian doctrine of creation and scientific cosmology (as did the Abbé George-Henri Lemaître, the father of the Big Bang theory), he fully embraced the Darwinian account of human origins. Indeed, it could be argued that Darwinism and Christian theology were thoroughly integrated in that work, in particular in the chapter expounding Genesis 2:7 where he asserts the thoroughgoing materiality of the human person in Genesis: "Even Darwin and Feuerbach could not use stronger language than is used here" ([1933] 1997, 76). I argue elsewhere (Holder 2008) that Bonhoeffer's insights here link naturally with modern debates in the science-religion area, for example that surrounding nonreductive physicalism, some form of which Bonhoeffer may well have embraced.

In *Creation and Fall* and in other, later, works, Bonhoeffer interpreted scripture theologically, specifically christologically, a much richer hermeneutic approach than engaging in a futile war with science. However, skepticism regarding natural theology is there, too—for example in Bonhoeffer's concept of "orders of preservation" as opposed to the traditional "orders of creation" ([1933] 1997, 140), although I argue (also in Holder 2008) that he provides opportunities for natural theology, even if unintentionally.

BONHOEFFER'S READING OF WEIZSÄCKER

The highly cultured Bonhoeffer read widely, and this continued in prison. During the critical period leading up to the July 20, 1944, plot and the discovery of Bonhoeffer's links with the conspirators, he is thinking most creatively, and this is when he reads physicist Carl Friedrich von Weizsäcker's book *The World View of Physics* ([1943] 1952). He first refers to it in a letter of 24 May 1944 (Bonhoeffer [1951] 1971, 308), where he says he hopes to "learn a great deal from it" for his own work and longs to read and discuss things with his friend Eberhard Bethge as of old. He returns to the topic in a letter of 29 May 1944 ([1951] 1971, 310–12). Comments in the seminal letter of 16 July 1944 (pp. 357–61) also reflect this reading matter.

Letter of 29 May 1944. Early on in this letter Bonhoeffer describes the one-dimensional life of his fellow inmates: all fear when there is an air raid, all greed when food is around. In contrast, "Christianity puts us into many dimensions of life at the same time." He tells people trembling under an air raid that it is much worse for a small town. "We have to get people out of their one-track minds," he says. But there is a circularity here. Getting people out of their one-track minds is a "kind of 'preparation' for faith," yet it is faith that makes possible a multidimensional life!

Maybe there is a parallel in Bonhoeffer's thought here with the ambiguity of natural theology: as a *praeparatio evangelica* (preparation for the gospel) on the one hand but, conversely, as the idea that nature is appreciated properly in all its richness as creation only from within a theological perspective.

Reading Weizsäcker gave Bonhoeffer the important insight that God is not to be used as a stop-gap (*Lückenbüßer*) for the incompleteness of our knowledge:

If in fact the frontiers of knowledge are being pushed further and further back (and that is bound to be the case), then God is being pushed back with them, and is therefore continually in retreat. We are to find God in what we know, not in what we don't know; God wants us to realize his presence, not in unsolved problems but in those that are solved. That is true of the relationship between God and scientific knowledge, but it is also true of the wider human problems of death, suffering, and guilt. . . . God is no stop-gap; he must be recognised at the centre of life, not when we are at the end of our resources. ([1951] 1971, 311–12)

This is a crucially important passage, and it is a pity Bonhoeffer was disturbed at this point, although he does return in later letters to the vital topic of the centrality of Christ, which is probably the key to the whole of his thought. He is of course right to inveigh against a "God of the gaps." Weizsäcker later described how he was moved to learn that Bonhoeffer got this insight from him in prison (Weizsäcker 1992, 471). He remarks in the same work how the importance of science in Bonhoeffer's upbringing would have impressed on him the unshakeability of scientific progress (pp. 460–61).

Bonhoeffer preempts here by a decade the better-known discussion of the God of the gaps by Charles Coulson ([1955] 1958a). Coulson wrote about how the gaps have a habit of shrinking as science advances, and he popularized the "God of the gaps" terminology to describe this strategy as adopted by some Christians. Coulson too argued that God must be found in what is known, not in what is not known ([1955] 1958a, 35). In his 1958 Eddington Memorial Lecture Coulson goes even further and says, "When we come to the scientifically unknown, our correct policy is not to rejoice because we have found God: it is to become better scientists, and to think a bit more deeply and imaginatively until we can devise some model, or some concept, that will bring the previous unknown into the pattern of the known" (Coulson 1958b, 16).

Long before Coulson made the term well known, the idea was in Weizsäcker and Bonhoeffer. The term itself can be traced back to the nineteenth century when the evangelical Henry Drummond contrasted the God of the gaps with the immanent God of evolution who is far grander:

There are reverent minds who ceaselessly scan the fields of Nature and the books of Science in search of gaps—gaps which they will fill up with God. As if God lived in gaps? What view of Nature or of Truth is theirs whose interest in Science is not in what it can explain but in what it cannot, whose quest is ignorance not knowledge, whose daily dread is that the cloud may lift, and who, as darkness melts from this field or from that, begin to tremble for the place of His abode? (Drummond 1894, 426–27)

Some Christians still make the mistake identified by Bonhoeffer and these other writers. Bonhoeffer specifically mentioned theology's "taking up arms" against Darwinism, although in reality Darwinism was readily accommodated by mainstream theology. There are biblical literalists today who reject Darwinism despite the overwhelming evidence for it. The Intelligent Design movement, while more subtle, does precisely what Bonhoeffer describes-seeks to explain particular features in the natural world by invoking design when there may well be scientific explanations. Indeed, the idea that the bacterial flagellum (the almost invariably quoted paradigm) is "irreducibly complex" in ID terminology and therefore requires a particular act of God, whereas the vast majority of other features that on the face of it would seem to be equally complex can be explained by natural causes, seems a disastrous strategy from an apologetic point of view, because the gaps may well be filled. On the other hand, to view God as responsible for the whole of nature, and to see that there is an ordered structure to nature and argue that this points to God, is logically entirely different. God is in the Big Bang, and God is in the whole process of evolution—in what we can explain scientifically, not just what we cannot.

However, some developments in natural theology today may still be open to the God-of-the-gaps charge. Let us examine briefly two of them, both advocated by John Polkinghorne, for example. These are (1) seeking to explain divine action in the supposedly open processes of an unpredictable and indeterminate universe and (2) explaining the fine-tuning of the universe as the product of divine design. Interestingly, there are scientific alternatives in each case—or, more accurately, there are alternative ways of interpreting the scientific data. In the first, there is the alternative interpretation of quantum theory in terms of hidden variables, which makes the theory deterministic (interestingly, Weizsäcker in the book Bonhoeffer read was of the view that quantum theory is ontologically indeterminate); and in any case classical chaos theory, Polkinghorne's more favored locus of divine action, is deterministic even if unpredictable. Polkinghorne has to make a metaphysical leap in his claim that "epistemology models ontology" (1994, 156). This is a bold claim that requires some justification. Nevertheless the claim is different in kind from that of ID because it relates to the nature of scientific laws (as ontologically indeterminate or unpredictable), not supposedly inexplicable lacunae in the processes of nature.

In the second case one needs to be open to the possibility that the anthropic coincidences might conceivably be explained scientifically, either by a better theory or by a multiverse. It is then a question of arguing why design is a more satisfactory explanation, and the explanation relates even more strongly to the nature of scientific laws—Why are they conducive to the appearance of intelligent life?

It is to be noted that in both cases the explanations are metaphysical rather than scientific (in the case of a multiverse, because of its lack of contact with observation in principle). Also a key criterion in both is that of simplicity: Which is the simpler of competing explanations? And that brings us right back to another line of argument found in Weizsäcker.

Although not using this terminology, Weizsäcker would seem to be open to a form of natural theology that appeals to the simplicity of mathematical laws that are found to obtain in physics. Why should the laws of nature take such a form? Even if Bonhoeffer did not pick up this particular line of argument, he was nevertheless correct to highlight the God-of-the-gaps problem from Weizsäcker.

In a crucial passage Weizsäcker notes a remarkable development in the interpretation of astronomical data from Johannes Kepler to Sir Isaac Newton (Weizsäcker [1943] 1952, 151–57). Kepler devised his laws of planetary motion to fit the careful observations of Tycho Brahe. He set two conditions for this derivation: agreement with observation, and mathematical simplicity. This latter condition, found time and again to be successful in physics, Weizsäcker likens to a miracle. Kepler, in discovering the mathematical laws of nature, was "thinking again God's thought at creation" ([1943] 1952, 153). He thought of nature as a "symbol" pointing to God.

Newton's great achievement was to derive Kepler's laws from his own more fundamental laws of motion and law of gravity. The problem was that this still left a lot to be explained, for example why the solar system is so stable. This was where Newton saw the need for God to be at work that is, precisely as a God of the gaps. Then as now, the gaps got filled, in this case by Pierre-Simon, Marquis de Laplace, whose nebular hypothesis removed the need for such interference by God. "I have no need of that hypothesis," Laplace famously remarked. Interestingly, Gottfried Wilhelm Leibniz had already criticized Newton for demanding that, in effect, God needed to correct his faulty workmanship.

All of this took place within a theistic framework shared by all the scientists involved, not least the Roman Catholic Laplace. Nevertheless, the turn from Kepler's approach to that of Newton was fundamentally flawed, and Bonhoeffer was correct to see this. Kepler saw God indicated positively from what he knew from science; Newton saw the gaps in what he knew as pointing to God. Weizsäcker points out the mistake; Bonhoeffer recognizes it and takes it further, arguing that God must be at the center, not the periphery, of life.

Letter of 16 July 1944. In this highly theologically significant letter Bonhoeffer picks up on another important point from Weizsäcker. Just before he comes to the sequence of thought of Kepler, Newton, and Laplace, Weizsäcker discusses how Nicolas of Cusa was the first to teach that the world is infinite; the second proponent of this view was Giordano Bruno a short while later. This represents a remarkable departure from the classical view of the finiteness of the world, which spoke to the Greeks of order and intelligibility. The medieval view maintained the finiteness of the world, contrasted with the infinitude of God. Cusanus gets his view that the world is also infinite from the idea that God infuses the world with as much of his own perfection as is possible while still making the world different from himself. The geometric symbol of God as the infinite sphere is transferred to the world as concretely imaging God. This gives rise to the twin dangers of identification of the world with God and total separation. Bruno still admits the distinction between God and world but speaks only of the world. The glory of the infinite God has been transferred to the infinite world.

This line of thought leads in three possible directions, says Weizsäcker: pantheism, the unlimited technological exploitation of the world, and, connected with this second, disenchantment.

In modern times the critique of the inference from the finite to the infinite has led to a crisis in science, says Weizsäcker. All the conclusions of modern physics and cosmology depend on the laws of physics being valid throughout space and time, and many strands of evidence point to their being so. However, physics is showing limits to the infinitely small (through quantum theory with its minimum quantum of action) and the infinitely large (through the second law of thermodynamics, which leads to a finite period between maximal order at the beginning and heat death at the end).

We have better estimates of the finite age of the universe than Weizsäcker did. The current estimate from the Big Bang theory is 13.7 billion years. Moreover, general relativity, coupled with non-Euclidean geometry, leads to the possibility of either a spatially finite universe or an infinite one. Indeed, at present (again long after Weizsäcker's book) there is tentative, if controversial, evidence that such a finite model may be right controversial because the universe actually sits on a knife edge between spatial infinity and finitude making an empirical determination difficult if not impossible (see Luminet 2005).

The striving for the infinite—now this is not God but the world—leads to disillusion, says Weizsäcker. There are limits to human knowledge; we cannot get behind the appearances of things to the things in themselves. Does this mean that the world, which as infinite and open to human exploration had been invested with ultimate meaning, is meaningless after all? For Weizsäcker the question demands a decision: whether we wish to hear God at all. *Where* does God speak to us? Do we have to move away from science to find God?

Weizsäcker calls us back to Kepler, who, he says, achieved the "last great union of natural science with objective symbolism" ([1943] 1952, 179). The criterion of mathematical simplicity in the search for the laws of physics remains as valid now as for Kepler, if not more so. The success of this criterion cannot be explained from within science but is presupposed in order to do science. Immanuel Kant tells us that lawful order is the precondition for meaningful experience, but not why such order should exist in the first place. The explanation of this order as God-given is in fact a powerful argument of modern "natural theology," advanced convincingly by such thinkers as Polkinghorne and Roger Trigg.

Bonhoeffer picks up this theme of the infinity of the world in the July 16 letter in the following important (even though bracketed in the original) statement:

It seems that in the natural sciences the process begins with Nicolas of Cusa and Giordano Bruno and the "heretical" doctrine of the infinity of the universe. The classical *cosmos* was finite, like the created world of the Middle Ages. An infinite universe, however it may be conceived, is self-subsisting, *etsi deus non daretur*. It is true that modern physics is not as sure as it was about the infinity of the universe, but it has not gone back to the earlier conceptions of its finitude. (Bonhoeffer [1951] 1971, 359–60)

The "process" to which Bonhoeffer refers is the movement of the world and humanity toward their own autonomy. This is also at work in other disciplines. In theology reason is sufficient for religious knowledge; in ethics "rules of life" replace the commandments and Hugo Grotius's "natural law" is set up as international law that is also valid *etsi deus non daretur*, "even if there were no God"; in philosophy the deistic view is of the world as a mechanism running by itself.

Is Bonhoeffer correct, at least with regard to science? It is certainly interesting that in modern cosmology the idea of an infinite universe (usually because allowing a multiverse in some form) is conceived by many proponents (Rees 1999; 2001; Susskind 2006) in an antireligious sense, as eternally self-subsisting and thus removing the need for God as creator. An infinite cosmos is, as Peter Bussey argues (2006), put forward as an alternative causal explanation to God. Moreover, through its throwing up all possibilities an infinite cosmos is also said to explain the particularity (the fine-tuning referred to earlier) of our "neck of the woods," as our world is just something that is likely to arise sometime somewhere in an infinite universe.

That these arguments are put forward, however, does not make them valid. Leibniz's question "Why is there something rather than nothing?" has no explanation on the basis of an infinite cosmos, just as it had no explanation on the basis of a finite one. The cosmological argument remains. Leibniz formulated the principle of sufficient reason, according to which nothing exists without a reason for its existence and for being the way it is. And even if one does not accept the necessity of the principle it is surely metaphysically more satisfactory to have an explanation than not, and God conceived as necessary being in the manner of Thomas Aquinas does provide an explanation for the existence of a contingent universe, whereas even an infinite universe cannot explain its own existence. Moreover, there are cogent arguments that God provides a much more satisfactory answer for the fine-tuning than does an infinite cosmos (see Holder 2004).

These are not knockdown arguments, however—only arguments on the basis of balance of probabilities. It is certainly open to atheists to accept an infinite cosmos, and, to the extent that atheistic scientists use the concept in an attempt to shake off any reliance at all on God, Bonhoeffer is correct.

Christ the Center. For Bonhoeffer, it is clear from the quotations we have noted, rejection of the God of the gaps goes much further than natural science, although it includes it. In the letter of 29 May 1944 we saw how in the "wider human problems of death, suffering, and guilt" God is also not to be used as a "stop-gap" solution. In the letter of 8 June 1944 Bonhoeffer says:

Man has learnt to deal with himself in all questions of importance without recourse to the "working hypothesis" called "God". In questions of science, art, and ethics this has become an understood thing at which one now hardly dares to tilt... As in the scientific field, so in human affairs generally, "God" is being pushed more and more out of life, losing more and more ground. (Bonhoeffer [1951] 1971, 325–26)

He traces the development of this human autonomy from the thirteenth century on. He thinks that Christian apologetics has been wrong to try to persuade a "world come of age" that it still needs the tutelage of God. The ultimate questions—death and guilt—remain, but what if they too can be answered without God? The "secularized offshoots" of Christian theology, existentialist philosophy and psychotherapy, try to persuade the perfectly contented and happy that they are really in despair. This tactic Bonhoeffer labels "secularized methodism." He says a few might succumb to this, but the ordinary man "has neither the time nor the inclination to concern himself with his existential despair, or to regard his perhaps modest share of happiness as a trial, a trouble, or a calamity" ([1951] 1971, 327).

Richard Bube, who also has noted Bonhoeffer's use of "God of the gaps" (Bube 1978), argues that although Bonhoeffer may be exaggerating in this passage, it is nevertheless true that the Christian should see God at work in modern psychiatry and reject the God of the gaps in this context too as the only hope for curing mental illness.

Bonhoeffer charges that the attack on the adulthood of the world is pointless, ignoble, and unChristian—pointless because it attempts to take humanity back a stage in its development; ignoble because it is exploiting a weakness for ulterior purposes; and unChristian because it confuses Christ with a human law. Bonhoeffer here repeats the charge of "despair or Jesus" that he made against Karl Heim in a review (Bonhoeffer [1958] 1965, Appendix I) of the latter's book of 1931, *Glaube und Denken*: "Heim sought, on pietist and methodist lines, to convince the individual man that he was faced with the alternative 'despair or Jesus.'" However, there seems to be an even more radical shift in Bonhoeffer's thought here since the Heim review, because Bonhoeffer then had allowed despair at one's sin, if not at meaninglessness, to be the problem to which Christ is the answer. Bonhoeffer was equally critical of Paul Tillich's religious socialism, which attempted the interpretation of culture (though Bonhoeffer simply uses the word *Entwicklung*, development or evolution), religion giving culture its *Gestalt*. However, "the world unseated him and went on by itself" ([1951] 1971, 327).

Bonhoeffer praises Karl Barth as being the first to realize the error in all this in "leaving a clear space for religion in the world or against the world." Barth "brought in against religion the God of Jesus Christ, '*pneuma* against *sarx*." However, Barth's failing was to give no guidance in the "non-religious interpretation of theological concepts." This brings Bonhoeffer to repeat the charge of "positivism of revelation" against Barth, raised in earlier letters of 30 April and 5 May (Bonhoeffer [1951] 1971, 278–87), a topic to which we return in a later section.

At the end of the letter of 8 June 1944 Bonhoeffer picks up a question of Bethge's, namely, "whether Jesus didn't use men's 'distress' as a point of contact with them" ("an der 'Not' der Menschen angeknüpft hat" [emphasis added]), and therefore whether the "methodism" that Bonhoeffer had criticized earlier was not right ([1951] 1971, 329). He breaks off at that point and says he will come back to this. This happens in the letter of 30 June 1944 ([1951] 1971, 341–42). Here he again sees God "being increasingly pushed out of a world that has come of age ... since Kant he has been relegated to a realm beyond the world of experience." On the one hand, while theology has "taken up arms-in vain-against Darwinism," on the other hand "it has accommodated itself to the development by restricting God to the so-called ultimate questions as a *deus ex machina*." Bonhoeffer repeats the point that existential philosophy and psychotherapy are rather good at showing those who do not feel despair that they really do suffer. He goes on to say that Jesus, in contrast, while blessing sinners, calls them away from their sin, not into it. Saint Paul realized he was a sinner after conversion, not before it (Bonhoeffer may have had Philippians 3 and Romans 7 in mind). And although Jesus cared about those on the fringes of society, he never questioned "a man's health, vigour, or happiness, regarded in themselves as evil fruits; else why should he heal the sick and restore strength to the weak?" Bonhoeffer's point is that Christ claims the whole of human life in all its manifestations for himself and his kingdom.

Again in the letter of 8 July 1944 Bonhoeffer writes that we should recognize that the world has "come of age" and confront humanity with God "at his strongest point" ([1951] 1971, 346). He seems to be saying that it is wrong tactically and indeed morally to go for a person's weakness—sin, despair, ill health—and say Jesus is the answer. God meets us at our strongest point, which presumably is in what we know, not what we do not know, in science and so forth, and in our health and psychological self-satisfaction and reliance rather than existential despair or, now, even our sin. And Bonhoeffer seems to see worldliness or the "world come of age" as a good thing, a positive development.

The attack on "religion" goes back to the letter of 30 April 1944, that is, before his reading of Weizsäcker. Bonhoeffer states that the whole history of Christian preaching rests on the "religious *a priori*" of humankind, which he had in fact criticized years before in *Act and Being* (Bonhoeffer [1931] 1962, 47) but which no longer exists because it belonged to a historically conditioned period of human self-expression. Bonhoeffer apparently does not regard this development as a bad thing, but his question is, How can Christ become the Lord of the religionless as well?

Barth began this line of thought, Bonhoeffer says, but did not complete it, ending with a "positivism of revelation" (an expression we explore in the next section). Nothing was gained, because this was in reality a restoration. The questions needing to be answered are to do with how we speak of God without religion—that is, "without the temporally conditioned presuppositions of metaphysics, inwardness, and so on" ([1951] 1971, 280).

Bonhoeffer's thoughts are tantalizing here because they are incomplete and raise many questions. However, it is clear that he is concerned fundamentally with the centrality of Christ. If Christians regard themselves from a religious point of view not as especially favored but as belonging wholly to the world, Christ becomes not an object of religion but "really the Lord of the world" (p. 281).

That is the key to which all of this is pointing, and in his resumption of this letter after a break Bonhoeffer makes the point more explicitly: "Religious people speak of God when human knowledge (perhaps simply because they are too lazy to think) has come to an end," and then God is "the *deus ex machina* that they bring on to the scene." But Bonhoeffer wants to speak of God "not on the boundaries but at the centre . . . God is beyond in the midst of our life. The church stands, not at the boundaries where human powers give out, but in the middle of the village" (p. 282).

In the letter of 27 June 1944 Bonhoeffer repeats the point: "Christ takes hold of a man at the centre of his life" ([1951] 1971, 337). The unanswered question is how God does this, because, as for Barth, there is no *Anknüpfungspunkt* (point of contact in human nature). One can see in Bonhoeffer how a Christian might live but not perhaps how one becomes a Christian.

The frustration from our point of view is that Bonhoeffer was unable to spell out for us what his "religionless Christianity" would look like, although in the letter of 16 July he sees the starting point for his "secular interpretation" in the suffering God who "lets himself be pushed out of the world on to the cross":

Christ helps us, not by virtue of his omnipotence, but by virtue of his weakness and suffering. Here is the difference between Christianity and all other religions. Man's religiosity makes him look in his distress to the power of God in the world: God is the *deus ex machina*. The Bible directs us to God's powerlessness and suffering; only the suffering God can help. To that extent we may say that the development towards the world's coming of age outlined above, which has done away with a false conception of God, opens up a way of seeing the God of the Bible, who wins power and space in the world by his weakness. ([1951] 1971, 360–61)

This notion of the suffering God has been vital in postwar, post-Auschwitz theology, notably in the writing of Jürgen Moltmann. For Bonhoeffer the key to what it means to be a Christian is to be found in sharing the sufferings of God in the world. This goes back to his cry that "When Christ calls a man, he bids him come and die" in *Cost of Discipleship* ([1937] 1959, 79). It also is central to the nonreligious interpretation being expounded in the prison letters, and expressed clearly for example in the poem "Christians and Pagans" (noted helpfully by Selby 1999, 237).

POSITIVISM OF REVELATION

What did Bonhoeffer mean by the expression "positivism of revelation" in the charge leveled against Barth? It puzzled Barth himself, who after the war expressed the hope that "in heaven at least he has not reported about me to *all* the angels (including the church fathers), with just this expression" (quoted in Selby 1999, 231).

The charge first appears in the letter of 30 April 1944. Bonhoeffer argues that the religious a priori has gone and asks what a religionless Christianity might look like. He says that Barth began this line of thought but did not bring it to completion but arrived at a positivism of revelation, which is essentially a restoration. This does not help the nonreligious person (Bonhoeffer [1951] 1971, 280).

The most serious formulation of the charge comes in the letter of 5 May 1944, where Bonhoeffer says that Barth replaces religion with "a positivist doctrine of revelation which says, in effect, 'Like it or lump it!': virgin birth, Trinity, or anything else; each is an equally significant and necessary part of the whole, which must simply be swallowed as a whole or not at all. That isn't biblical" (Bonhoeffer [1951] 1971, 286). Bonhoeffer goes on: "There are degrees of knowledge and degrees of significance; that means that a secret discipline must be restored whereby the *mysteries* of the Christian faith are protected against profanation. The positivism of revelation makes it too easy for itself, by setting up, as it does in the last analysis, a law of faith, and so mutilates what is—by Christ's incarnation!—a gift for us."

At first sight this seems a strange accusation. Positivism (due originally to Auguste Comte) says that only direct sense experience can be the object of human knowledge and the criterion of knowledge. Positivism denies the existence of a personal God. In the twentieth century it transmuted into the even stronger logical positivism, whose verifiability criterion stipulated that statements that could not be verified by sense experience (synthetic truths) or directly from the meaning of the words (analytic truths) were meaningless. Bonhoeffer now seems to be applying the term positivism to theological statements that one is expected to accept as meaningful and true on the basis of revelation rather than either empirical evidence or logical reasoning.

Andreas Pangritz tells us that Bonhoeffer may have got the phrase "positivism of revelation" from his teacher Erich Seeberg, who uses the expression twice in his Luthers Theologie. By it Seeberg seems to mean that "the word of God revealed in Jesus Christ is accepted as something positively given, that is to say, as a truth of faith natural reason cannot analyze or question" (Pangritz [1989] 2000, 73). Even more pointedly it is "the 'irrational' assertion of divine revelation as the 'positively given' reality against all reason, in opposition to the possibility of natural knowledge of God" (p. 75). Pangritz argues that Bonhoeffer had accepted a revelation positivism like this in his *Habilitationsschrift* (university lectureship qualifying thesis), Act and Being. He invokes the emphasis on the contingency of revelation from the medieval nominalists Duns Scotus and William of Ockham. In its contingency revelation transcends reason and "can only be welcomed or rejected in its positivity-that is to say, received as a realitybut not elicited from speculations about human existence as such" (Bonhoeffer [1931] 1962, 80).

There is, nevertheless, a counterargument to this. As noted by Bethge ([1967] 1970, 134), *Act and Being* also contains Bonhoeffer's most critical questioning of Barth, even if Bonhoeffer means to criticize from a position of enthusiasm for the Barthian message. After that point it became much more important to unite in the church struggle.

Perhaps the main criticism is that, as a Lutheran, Bonhoeffer was convinced of the *finitum capax infiniti* (the finite can hold the infinite) whereas for the Reformed Barth humans are *incapax infiniti* (incapable of holding the infinite) (Bonhoeffer [1931] 1962, 84). At the time of the Reformation these terms applied to the Eucharistic elements and distinguished the respective Lutheran and Reformed doctrines. By extension, for Bonhoeffer God is accessible despite everything—"haveable" or "graspable" as he puts it ([1931] 1962, 91)—whereas Barth's Kantian transcendentalism makes God remote. This point reinforces what we have already noted from the much later *Letters and Papers from Prison* ([1951] 1971), namely, the importance for Bonhoeffer of finding God in what we know and not what we do not know.

According to Pangritz, in *Letters and Papers* Bonhoeffer is more critical of positivism of revelation in conservatives because they have moved from positivism to "conservative restoration" (Bonhoeffer [1951] 1971, 328). Pangritz believes, quite plausibly, that Bonhoeffer has Hans Asmussen in mind (Pangritz [1989] 2000, 77ff.). Asmussen rejected the demythologizing paper of Rudolf Bultmann outright as incompatible with the theology of the Confessing Church. Bonhoeffer welcomed it although he did not

agree with it. He admired Bultmann's intellectual honesty, which he had also seen in his teacher Adolf von Harnack.

Let us examine the matter in a little more detail. Our conclusion may be somewhat different from that of Pangritz.

Barth is accused of "positivism of revelation" because the virgin birth, resurrection, and so on have to be taken as a whole package (letter of 5 May 1944). This sets up a "law of faith" that negates Christ's incarnation, which is a gift for us. The conservatives are accused of taking this even further (letter of 8 June 1944). They reject Bultmann's demythologizing approach. Bonhoeffer believes that Bultmann's approach should be on the table. In one sense he believes Bultmann has not gone far enough; indeed Bultmann's approach leads in the opposite direction from Barth to a total reductionism.

Bultmann is right that miracle, eschatology, and the rest are essential to the New Testament but wrong to say that we have to reject them since they are unbelievable to anyone who switches on the radio: "It is impossible to use electric light and the wireless and to avail ourselves of modern medical and surgical discoveries, and at the same time to believe in the New Testament world of daemons and spirits" (Bultmann [1941] 1953, 5). No, says Bonhoeffer, they are indeed essential (they are not "mythological clothing of a universal truth" but "the thing itself") but must be interpreted in a "non-religious" fashion. Just what does this mean? One thing he says in the letters of 30 April and 8 June 1944 is that religion must not be made a precondition of faith in the same way that circumcision could not be made a precondition for Paul: "Only in that way, I think, will liberal theology be overcome . . . and at the same time its question be genuinely taken up and answered" (letter of 8 June).

The letter of 5 May also pointed to a way of holding to the truths of the New Testament, namely through the *disciplina arcana* (secret discipline), whereby the "mysteries of the faith are preserved from profanation." It would seem that what Bonhoeffer is saying is that the *Church Dogmatics* (Barth, beginning with volume I.1 in 1932)—indeed the Barthian theology from the *Epistle to the Romans* ([1919] 1933) on—can be accepted by the church, but it is of no use for the "religionless."

This is the crux of the whole argument with Barth. As Pangritz explains ([1989] 2000, 84–85), Barth was aware of this problem in Martin Luther. In his Tambach address, "The Christian's Place in Society" (Barth [1919] 1928), he says that Luther bids us give up thinking, slay the harlot reason, and accept the doctrine of the Trinity, for example. Even for Barth that will not do, because humankind's question about God is thereby quashed! ([1919] 1928, 202). There is an ambivalence in Barth. While in *The Epistle to the Romans* he quotes Luther approvingly ([1919] 1933, 143–44), in his book on Anselm he brings reason back in by saying that "the *quaerere intellectum* [seeking understanding] is really immanent in *fides* [faith]" (Barth [1931] 1960, 16).

I think there is a lot in this latter position. We learn and grow in our faith by exploring from within the fold. I do believe in the virgin birth and the Trinity as well as the resurrection, although I think the last is the best grounded empirically and will stand up to rational scrutiny and can count as public knowledge. The first two doctrines are more likely to arise as convictions from within by seeing their coherence with other tenets of belief, including the resurrection. The question is how to get someone across the threshold so as to begin these deeper explorations. For this step it is no good, as with Luther, denying the place of reason. That is like a red rag to a bull for atheist Richard Dawkins, who vilifies belief in God precisely because he sees it as irrational (see, for example, The God Delusion [2006]). If one is to engage with the thought of Dawkins and other atheists one needs to start from a position that the Christian faith is rational, notwithstanding Luther. For Bonhoeffer the way will be through the "nonreligious interpretation," which precludes at the least "the temporally conditioned presuppositions of metaphysics, inwardness, and so on" (Bonhoeffer [1951] 1971, 280). In this way Christ will become center stage.

What does the "nonreligious interpretation" mean? This comes out in the poem "Christians and Pagans" referred to earlier and in the letter of 18 July 1944. It is the reversal of seeing God at humanity's beck and call. It is human beings sharing the sufferings of God in a godless world. "Could you not watch with me for one hour?" Jesus asked the disciples (Matthew 26:40 RSV). In the poem, both Christians and pagans go to God "when they are sore bestead," but the difference is that "Christians stand by God in his hour of grieving" (Bonhoeffer [1951] 1971, 348–49, 361).

Bethge ([1967] 1970, 776) thought that the difference between Barth and Bonhoeffer was that the former saw religion as a natural condition of humanity and the latter saw it as merely a temporary phase in human history. Notwithstanding Pangritz's wanting to play this down, it does seem to be an obvious point of difference. A question mark over Bonhoeffer's view might arise in more recent times, because religion seems resurgent, so much so that Alister McGrath could write *The Twilight of Atheism* (2004). It is perhaps critical for Bonhoeffer's view that Europe's passing through the Enlightenment led ultimately to its loss of religion, and other cultures have not as yet had that experience.

Bonhoeffer considers Christian life at the time he is writing to consist of "prayer and righteous action" within the silence of the arcane discipline ([1951] 1971, 300, baptismal letter May 1944). This is because the church has only fought for its own self-preservation during these years and effectively abdicated its right to speak. When it does speak again it will be in a new, "perhaps quite non-religious" (p. 300) language and will once again proclaim God's peace and righteousness and the coming of God's kingdom.

As we have seen, Bonhoeffer says that Barth demands we take the whole package, "virgin birth, Trinity, or anything else," and that is to set up a law of faith. Instead, "a secret discipline must be restored whereby the *mysteries* of the faith are protected against profanation" ([1951] 1971, 286).

In responding to the 1933 Altona Confession of Asmussen, which he welcomed, Bonhoeffer remarked that doctrine (Lehre), proclamation (Verkündigung), and confession (Bekenntnis) are to be distinguished. The first two are for the world, but the last is only for the Christian community (Arkandisziplin) (in Bethge 1972, 339). This statement puzzles me somewhat, because in the creed (Glaubensbekenntnis) we confess doctrinal truths, making it difficult to distinguish doctrine from confession. However, what it is right for the church to say, and when, was clearly a topic exercising Bonhoeffer's mind at that early date. It also features in the Ethics, in his discussion of the ultimate and the penultimate (Bonhoeffer [1949] 1964), as well as in the baptismal letter of May 1944. This section of the Ethics is another place in Bonhoeffer's later writings where one may get a glimmer of hope for natural theology, as Bonhoeffer develops there what looks like a natural law ethic. The ultimate is the word of grace, of justification, but it is necessarily preceded by the penultimate, and penultimate works of justice and compassion receive validation for the sake of the ultimate (see Holder 2008).

Both Barth and Bonhoeffer recognize that we are dealing with mysteries and that there always will be an irreducible sense of mystery in Christian dogmas. Their understanding of the Trinity is similar, and orthodox, but, as Pangritz notes (2000, 106–14), their understanding of the virgin birth differs significantly, even though they both accept the Chalcedonian definition, with all its paradox, and therefore the truth of the incarnation. Barth sees the virgin birth as part of the historic faith and to be believed as historical, despite the critical questions of the liberals (Barth [1938] 1956, 172–200). Bonhoeffer finds the virgin birth more problematical. In a brief reference in *Christology* he writes, "It is both historically and dogmatically questionable. The biblical evidence for it is uncertain" (Bonhoeffer [1960] 1971, 109). In arguing that it is less well attested he is more accepting of the liberal agenda; indeed, he claims that the liberal question has still not been answered by Barth or the Confessing Church—and it needs to be (Bonhoeffer [1951] 1971, 329).

My position includes elements of both Barth and Bonhoeffer. Yes, the virgin birth is a clause of the creed and to be accepted as part of the historic faith, but, as Bonhoeffer says, the liberal question remains. Surely, the liberal question is best answered by better scholarship in the area of historical Jesus research, and that research should be without the kinds of anti-supernatural presuppositions of nineteenth-century liberals. In my view, one should accept the miracle on the basis of reliable testimony (although not as a precondition of faith), following critical analysis, including analysis of its coherence within the Christian belief system as a whole.

Interestingly, in the letter of 3 August 1944, Bonhoeffer seems to suggest precisely that the liberal question is valid and must be answered in its own terms: "We must move out again into the open air of intellectual discussion with the world, and risk saying controversial things, if we are to get down to the serious problems of life. I feel obliged to tackle these questions as one who, although a 'modern' theologian, is still aware of the debt that he owes to liberal theology" ([1951] 1971, 378). In the outline for a book he encloses with this letter he writes, "Karl Barth and the Confessing Church have encouraged us to entrench ourselves persistently behind the 'faith of the church', and evade the honest question as to what we ourselves really believe." For Bonhoeffer the answer will involve characteristic features of his theology—relationship to God through participation in Christ, the "man for others," and so on—but the way he expresses this indicates that there must be a place for reasoned argument and debate with both the church and the world. And that represents a distinct departure from the assertive theology—or "revelation positivism"—of Barth.

CONCLUSION

Perhaps contrary to expectations, it transpires that Bonhoeffer did engage with scientific thought in several places in his writings. Notable examples are his acceptance and integration of Darwinian thought in *Creation and Fall* and his reading of and commentary on von Weizsäcker's *The World View of Physics* in the prison letters. It is also the case that from early in his career he was heavily influenced by Barth's stance against natural theology and critique of religion. Nevertheless, while firmly in the Barthian camp, in prison he sees signs of its weakness and begins a criticism from within. There also are indications in the *Ethics* that there is a place for natural law, and this line of argument might be extended to yield a place for natural theology, even if Bonhoeffer himself never did that.

Weizsäcker's book led Bonhoeffer to two main thoughts. The first was that a God-of-the-gaps strategy is completely wrongheaded. God is not to be used to fill gaps in the scientific account of natural processes both because God gets squeezed out as science advances and, more important, because God is to be found in what we know, not in what we don't know. Second, Bonhoeffer considered the notion of an infinite universe. In modern physics this arises as a possible solution to Albert Einstein's equations of general relativity applied to the cosmos as a whole (although a finite universe is also a possibility). An infinite universe would be self-subsistent and could exist as if there were no God (*etsi deus non daretur*). One may disagree with Bonhoeffer about this, but some modern cosmologists are treating an infinite universe in precisely this way.

Bonhoeffer extended these insights to other areas of human inquiry and experience, for example ethics, existentialist philosophy, and psychotherapy. Thus he attacked as ignoble the Christian's trying to persuade his neighbor of a despair he does not feel, and indeed this is futile because it is putting God into yet another gap. Most important is that he sees religion as a passing phase in human history and Christian preaching on the basis of the religious a priori mistaken. His critique of religion is thus more radical than that of Barth. Bonhoeffer's whole thrust is that Christ should be at the center of life, not confined to small niches not yet filled by either the natural or human sciences.

How to help a person make Christ the center is not spelled out, but Bonhoeffer comes back to the "liberal question" that has not been answered by Barth or the Confessing Church. Barth is charged with "positivism of revelation" in expecting a person to accept various dogmas of Christianity lock, stock, and barrel. Bonhoeffer recommends protecting the dogmas within the worshipping life of the community of believers because their public presentation is of no use for the "religionless" whom Bonhoeffer wishes to reach. His "non-religious interpretation" involves the Christian sharing in Christ's sufferings in the world, unlike the religious person who seeks God only when in trouble. The Christian is to be involved in prayer and righteous action, and all Christian thinking will stem from that. In his day the Christian cause was to be a hidden affair, and the church's prime concern for self-preservation made it incapable of speaking the word of redemption and reconciliation to the world.

In the West today Christians are engaged in both self-preservation and righteous action. There is concern to guard the church against laws passed by a secular state that might compromise its moral stance. This is understandable but would be dangerous were it the only public face of the church. Thankfully, Christians also are engaged in matters of justice, such as debt relief for third world countries, fairness in trade, and the eradication of poverty. Global warming is another very important issue as this will affect the poor far more than the affluent. It is vital that Christians stand with the poor and those who suffer, for they are then, as Bonhoeffer would say, sharing in Christ's sufferings in the world. As for Bonhoeffer, that may well mean cooperating with others who are similarly concerned but do not confess Christ. It would mean, in his terminology in the *Ethics*, being engaged with the penultimate for the sake of the ultimate.

Bonhoeffer's thought is immensely impressive. His own life and martyrdom testify powerfully to the Christian faith involved in "righteous action." Perhaps one way of helping the nonreligious to faith is by living an exemplary life—identifying with the outcast, sharing Christ's sufferings, doing "penultimate" works of justice, and so on. I am sure that is true. Nevertheless the intellectual battle goes on. The place for reason and evidence in grounding Christian belief is not thereby removed, and engaging with scientific thought could also be regarded as a penultimate task. In the end, there must also be a place for the "liberal question" to be answered in its own terms, and in that endeavor natural theology still has a significant part to play. It seems to me that Bonhoeffer was pointing in that direction as he began to distance himself from his master, Barth.

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