

diurnal rotations of the planets could not be derived from gravity, but required a divine arm to impress it on them" (p. 20). The contrast was that the theory of gravitation was able to explain the orbital motion of the planets around the sun.

Pointing to gaps in our scientific understanding and suggesting that religion explained these was described by Coulson as the "most serious and wasteful of our errors" (p. 20), the errors of Christians (who were scientists). I don't know if he was the first to use the phrase "God of the gaps" (p. 20) but I think this next quote sums up the matter, why GOG will not do, "Either God is in the whole of Nature, with no gaps, or He's not there at all" (p. 22). However, I do not believe Coulson's version of GOG was actually considered by Snoke.

What Snoke's useful essay does is show us clearly two mistakes that appear to be very common among Christians including those who are scientists.

The first mistake is to suppose that there is only one valid explanation for anything. In general this supposition is false. If I enter a room and see a kettle boiling, and ask, "Why is the kettle boiling?" some joker there might give me the scientific explanation, but what I was hoping for was the more informative explanation, "because I'm making tea." The arguments presented against AGOG use this false supposition.

The second mistake in thinking is to use God as an explanatory tool, to use him (taking his name in vain?) "to scratch our mental itches," as I once heard the late Donald MacKay describe this action. If we believe in God, as revealed in the Scriptures and mediated to us by the Spirit of the living Christ, then this particular God is the explanation of everything, and therefore, cannot be the explanation of gaps in our understanding.

I agree with Snoke that the existence of gaps indicates inadequacies in our theories or models. Such gaps should be examined. But I am arguing that the existence of the God of Jesus Christ is not a theory or model, but the basis for our living and thinking. I claim that this exchange I am having with him points to gaps of a different sort, gaps in our concepts of God; such gaps, however, have nothing to do with the existence or nature of God.

It is everyone's experience, I imagine, as it has been mine, that my conception of God undergoes change, as a result of his doing things I did not expect (predict), but that I could, after the fact, recognize as his working. These failures of prediction lead me to revise my conception. This process is also experienced normally in my relations with other persons. It is what you might expect if the God we trust is personal, as we claim.

So I am AGOG; against GOG, which stands for mistaken Christian understanding, and against MAGOG, which is our use of God for our magical purposes of control.

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Abandon GOG Arguments

David Snoke's "In Favor of God-of-the-Gaps Reasoning" (PSCF 53, no. 3 [September 2001]: 152) may or may not be, as he suggests, "heretical" but it is wrong. It neglects basic theological questions, and the attempt to present the God of the Gaps (GOG) as a scientific theory has several flaws.

To begin with, the paper does not consider serious theological objections that can be made to this approach. GOG seems to assume that God is either the type of deity who insists on showing off and getting credit for what happens in the world, or a god who would create a universe that is in a sense incomplete, that has not been endowed with full functional integrity, or both. (Such a god might contrive to get attention by leaving gaps in creation.) One may, of course, argue that this is an accurate representation of God's character but such a claim is highly problematic from a Christian standpoint, as I have argued several times in this journal.¹ The God of whom it is said "Truly, you are a God who hides himself" (Is. 45:18) and whose mark is the cross is not the one who is proclaimed by GOG arguments.

The hiddenness of God does not, however, mean that God is inactive. Traditional Christian views of providence have held that God is at work in everything that happens in the world. GOG arguments, on the other hand, draw attention away from divine activity in the things that we are able to understand and encourage people to think of God as a kind of specialist who intervenes in the universe sporadically only to do a few things that science will not be able to explain.

In brief, Snoke has taken no notice of the arguments of Bonhoeffer, whose reflections on the subject have been one of the most influential challenges to GOG reasoning. Some attention to Bonhoeffer's statement that "We are to find God in what we know, not in what we don't know" and its grounding in the theology of the cross would have given the article some theological substance.²

So much for the issues with which Snoke does not deal. The situation is not much better with the arguments he does make.

It's true that it is legitimate, in discussing a scientific theory, to point out its "gaps," the things that it doesn't explain. Pointing out a defect in theory A, however, is not the same thing as supporting rival theory B. But there are deeper problems here.

Snoke's application of this procedure to help in deciding between the rival "theories" that there is a God and that there isn't is mistaken. "There is a God" and "There is no God" should not be thought of as scientific theories but, in the present context, as philosophical meta-theories. "There is a God" provides one answer to the limit question, "Why does a universe exist?" a question that the atheist may simply have to ignore. But GOG does not contribute anything useful to an attempt to understand details of the world which is given.

When presented as a scientific theory, GOG means making the statement "God did it" about phenomena which remain unexplained for a sufficient length of time. No Christian who holds the traditional belief that in an ultimate sense God does *everything* will argue with this,

though he or she will point out that God's activity is not restricted to those aspects of the world. But if God acts in the gaps through lawful natural processes then those gaps can in principle be filled by scientific investigation of those processes, so that GOG is superfluous. If, on the other hand, God acts in the gaps directly, without the mediation of natural processes, then GOG amounts to the erection of a STOP sign for scientific investigation when particularly puzzling phenomena are discovered. So much for explanatory power!

GOG, contrary to Snoke's belief, has no predictive power. The idea that God fills the gaps that science can't explain doesn't "predict" that there are any gaps, let alone the character of the gaps that may exist at any given stage of scientific development. The claim that "exquisite fine tuning" is an example of "successful prediction" is false. Who, before attention was drawn to the anthropic coincidences by Brandon Carter and others in the past thirty years, ever "predicted" from GOG that the electromagnetic and nuclear interactions had just the right strengths to enable heavy elements to be built up in stellar interiors?

God of the gaps arguments should be abandoned. They are of no value for serious theology or serious science.

Notes

¹E.g., George L. Murphy, "Chiasmic Cosmology and Creation's Functional Integrity," *Perspectives on Science and Christian Faith* 53, no. 1 (March 2001): 7.

²Dietrich Bonhoeffer, *Letters and Papers from Prison*, enlarged edition (New York: Macmillan, 1972), 311, 360-1.

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Does God Choose Among Hidden Options? A response to Peter Rüst

I wish to thank Peter Rüst for his thoughts on "Creative Providence in Biology" (*PSCF* 53, no. 3 [September 2001]: 179-83). The question on which he focused is one that continues to perplex many of us who seek to integrate our Christian belief system with our scientific understanding of the universe. To put the question in my own words, *In the context of what we have come to know via the natural sciences about the character of the universe and of its formational history, how can we best articulate our understanding of divine action—both creative and providential?*

I shall begin my response by saying that I believe that we do need to re-articulate our concept of divine action. I have a high respect for the theological tradition of my Calvinist heritage, but the theology that I was taught—like the theology taught to the vast majority of Christians today—was framed in the conceptual vocabulary and thought patterns of centuries long past. My own theological heritage clearly bears the marks of having been crafted within the framework of a late-medieval world picture—geocentric in both its physical structure and its focus of attention, unaware of the multi-level (quarks to quasars) structure of the universe, unaware of its formational his-

tory and its astounding array of formational capabilities, and unable to imagine that we would someday have empirical access to that history and to the creaturely processes that have contributed to it.

This inherited world picture includes a conceptual vocabulary for speech about divine action. Most of us were presented with a picture of God as an all-powerful, transcendent, person-like being who was both able and willing to engage in *supernatural intervention*—particular acts in which the continuity of the creaturely cause/effect system was interrupted and superseded by coercive divine action. I say "coercive" not to imply any lack of loving motivation but to denote divine action that forces creatures to act in ways contrary to or beyond what they could otherwise have done. Traditional portraits of the creation's formational history often made liberal use of the supernatural intervention motif. *Episodic creationism*, for instance, envisions divine creative action in a way that places great emphasis on the idea that new structures and life forms were actualized, not by creatures using their God-given formational capabilities, but by the direct form-conferring action of the Creator. Relics of these traditional portraits remain in use today—museum pieces now grandly framed with gilded claims of empirical support.

As Rüst noted, I have long sought to portray both the creation and God's creative action with a vision that is founded on the historic Christian doctrine of creation but crafted in the conceptual vocabulary of *this* day. The conceptual vocabularies of centuries past can no longer be treated as if they remained adequate in this era. We should no longer be content simply to repeat things exactly as they were said in the sixteenth century, or in the first century. It is no longer adequate simply to *say* what they *said*—be they medieval theologians or biblical writers. Instead, we must, I believe, *do* what they *did*. We, like our predecessors, must experience God's presence in the world about us and craft our portraits of divine action in the conceptual vocabulary of our own time and place.

In that spirit I have tried to introduce a few new terms into our speech about the creation and about God's creative action. I have, for instance, suggested that the creation was gifted from the outset with *functional integrity*—a wholeness of being that eliminated the need for gap-bridging interventions to compensate for formational capabilities that the Creator may have initially withheld from it.¹ In the same spirit, I have suggested that the creation is aptly and accurately described by the *Robust Formational Economy Principle*—an affirmation that the creation was fully equipped by God with all of the resources, potentialities, and formational capabilities that would be needed for the creaturely system to actualize every type of physical structure and every form of living organism that has appeared in the course of time.²

I have freely admitted that I cannot *prove* these statements in the narrow logical sense, but I find these concepts to be both theologically attractive and scientifically warranted. They are theologically attractive to me in part because they provide the occasion to celebrate both God's *creativity* (in conceptualizing a formational economy sufficiently robust to make evolutionary development possible) and God's *generosity* (in giving such wholeness/integrity of being to the creation). In the arena of science, this vision of a universe having a robust formational