



Two Biologists on Church and Faith: A Problem of Language and Knowing

DON ALSTAD

In conversation with the editor of this journal, I have been asked to explain why, as a scientist, I have become uncomfortable with the religious tradition in which I was raised. While I fear it might be seen as arrogant or naïve to think that my views would interest professional practitioners of that tradition, I will attempt to honor the request. For me, two fundamental issues arise at the interface of religion and my training and life as a practicing scientist.

First, I have come to realize that I neither speak nor understand the language of religion. My professional experience has taught me to observe the world. From these observations, I derive models, inductive explanations, and mechanistic guesses about processes of interest; I usually phrase those models in mathematical language, because the math gives us a clear and rigorous set of logical rules for the deductive process of working out consequences. Many years ago, I was conducting a seminar with graduate students, and one of them made a remark that has stuck with me; she said, “Mathematics is not the language of diplomats.” By implication, she was defining diplomacy rather cynically, as the art of finding common language upon which people with different objectives and intentions could agree.

Some choose to take the words of religious liturgy in their literal, vernacular senses. For others, the same words are clearly figurative and metaphorical. If one grows up in this figurative tradition, sooner or later one must confront the meaning of metaphor. One sees all manner of interpretations proposed, and it is probably essential to the spread and wide acceptance of religion that meaning be both individualized and personal; but that also makes meaning obscure. I have come to view the language of religion as a diplomatic language.

The second source of my discomfort has to do with the relation of spirituality, faith, and knowledge. A central procedural foundation for any intellectual tradition is to decide *how* one knows *what* one knows. In the scientists’ cycle of inductive and deductive logic, the inductive, hypothetical model or mechanism comes out of our observation and experience. It could just as well be called a speculation. It may or may not be correct, but it has little intellectual standing except as the basis for a deductive test, which it either passes or fails. The ideal test checks some unique feature of the model, some implication that distinguishes it from alternative models, consequently falsifying one or the other. It is very important carefully

(continued on page 86)

Two Biologists on Church and Faith: A Call for Building Partnerships

EVELYN E. GAISER

The church's stance on science, faith, and societal responsibility is near and dear to me as an ecologist and person of faith, and I am frustrated in my academic and spiritual life as I observe the calamitous environmental and societal consequences of discordant rates of scientific advancement and cultural change. Society's reluctance to embrace scientific progress culminates in a paralysis that stalls our response to today's severe environmental crises. The public is increasingly bombarded with misinformation from the media that confuses instead of illuminates both the science involved and the urgency of its acceptance by society, while our environmental problems worsen. However, Christians are playing a growing role in healing this paralysis by building partnerships with environmental professionals to advocate informed conversation and motivate reform in response to a spiritual and moral calling to live in a mutually beneficial relationship with one another and with all creation.

One example is the Eco-Justice Program of the National Council of Churches (www.nccecojustice.org), providing congregations with a diversity of educational resources including scientifically rigorous lessons in contemporary ecological theory, global change, and mechanisms for environmental advocacy. Practical resources include environmental audit guides for congregations and "tool kits" that can help churches become more energy efficient and cognizant of their impact on surrounding air, land, and water resources. Their website provides access to environmental statements from partner churches, including *Caring for Creation: Vision, Hope, and Justice*, a social statement for the environment adopted by my church, the ELCA, in 1993 (www.nccecojustice.org/downloads/anth/elca.pdf). This document holds society culpable for debasing creation while raising us from despair by reminding us that we can respond to the call to environmental justice through God's gifts of action and hope. In the spirit of such statements, church leaders have approached the political process, such as in the July letter by Lutheran leaders to the presidential candidates, urging the United States to take a much more active role in global environmental justice (<http://archive.elca.org/bishop/messages/candidatesletter.html>). Church institutions seem to have a sound plan for action, realizing the complexity of the problem and that education of both leaders and members is at the heart of any forward movement.

(continued on page 87)

to consider these alternative models, understanding what distinguishes them and which results support one or the other. What I *know* as a result of this process is which set of alternative speculations have failed their tests. I do not know that the surviving speculations are true, only that I've not succeeded in disproving them. To be sure, we cut corners around this idealized framework. Inevitably, one's confidence in a model increases with the number of difficult tests that it has passed. I've even found myself thinking that a particular model is so logical, elegant, and sufficient that it *must* be right; but any scientist would recognize this as a dangerous indulgence. The problem is that spirituality and faith throw monkey wrenches into this machinery of critical thinking. To have faith is to deny the necessity of testing ideas. It sidesteps the process by which we can know what we know.

Some choose to apply faith in almost every aspect of their life and experience. To me, that is a disinclination to take logical responsibility for one's interaction with the world; it makes one both oblivious and gullible. For others, faith seems to be a single existential leap, beyond which one is free (and obligated) to apply all the intellectual tools of science and scholarship. I find the difference to be only a matter of degree. This leads me to ask what benefit follows from the illogical step. One possibility is that it acknowledges uncertainty and makes us humble, fitting us appropriately to our place in the larger world. But uncertainty is the very *stuff* of science, something that we measure as a statistical probability and quantify with confidence intervals. Moreover, it was appropriate to be humble in the context of a larger world when the number of humans was small, but that is no longer true. Human activity now doubles the nitrogen fixation metabolism of the planet. We are rapidly melting the high-latitude ice sheets. The nonlinearities and complex feedbacks in these processes mean that there are uncertainties about the rates at which these processes are happening, but no thoughtful person can doubt the trend or fail to fear the consequences. They will profoundly affect human experience. I feel obligated to confront our place on Earth with all the rational tools at my disposal, because it is our only home. ⊕

DON ALSTAD is professor of ecology, evolution, and behavior at the University of Minnesota in the Twin Cities.

As a result of this heightened awareness, many churches have made significant changes in their energy consumption and are allocating more resources to local and global environmental justice. For instance, Advent Lutheran Church of Madison, Wisconsin, completely converted their church to solar power, singing “Shine in my Heart, Lord Jesus” at the installation of the solar panels (www.wbofcreation.org/GettingStarted/SuccessStory/index.htm). Other churches are using a liturgy, “Season of Creation,” prepared to raise environmental awareness. Some are hosting community Earth Day training camps, while others are committing 10% of their resources to environmental causes. A common theme to all of these stories is that once members understand and are exposed to progressive ways of addressing environmental problems, constructive response escalates through the community.

However, while some congregations are exhibiting increased environmental consciousness, there are still more that seem to be functioning in some alternate universe. At the Eco-Justice website, you can click on a map to find out what churches in your state are actively involved in environmental advocacy. Florida has only one, and Ohio, my home state, has none. This is partly because this is a new program, but it is also telling us that the goals of our church leaders are not translating into awareness or action on the part of members. How can we bridge this gap?

It seems that the answer needs to come through a commitment by both scientists and Christian communities to strengthen existing partnerships. Environmental professionals need to be more aware and less skeptical of the role that the church can play in advocating a more active response to today’s environmental crises. Churches could take a more aggressive role in training leaders to understand and communicate environmental issues and advocate environmental responsibility by their members, made easy through the progressive materials now readily available. At a recent meeting of the Ecological Society of America, I attended some talks in a session called “Faithful Environmentalists: Working with Churches to Save the Natural World,” where scientists explored mechanisms to better connect ecological issues to the institutional life of churches. There are also concrete plans to modify existing research frameworks across the fields of ecology, technology, sociology, and education to improve our understanding of the feedbacks within and between ecosystems and human behavior. By building these research and institutional partnerships, we will not only expose the roots of today’s complex socio-ecological problems but also address them more effectively through a common goal of sustaining creation in a changing world. I find it encouraging and exciting that at the same time that the ecological community is calling for transformational engagement of social institutions in science, churches are calling for socio-ecological reform in faith communities. This is indeed cause for hope! ⊕

EVELYN E. GAISER is associate professor in the department of biological sciences and the Southeast Environmental Research Center at Florida International University, Miami, Florida.