Is Scientism the Predominant Religion of Scientists?

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Before reading Walter Thorson's article, I admit I was skeptical that anything more could be added to the ongoing debates on the theological underpinnings of the scientific enterprise. My skepticism has proved unfounded: Thorson brings a solid and fresh perspective to this discussion. Part I, "Theological Basis For A 'Naturalistic' Science" does an excellent job of making a theological case for "naturalism." Thorson emphasizes the creaturely, and hence limited, nature of our knowledge of both the creation and God. From this, he makes a strong case for limiting science to creaturely explanations.

Thorson's analogy between the scientific enterprise and the activity of naming in Genesis is particularly effective. He points out that humans are given the vocation of naming the creation, but do not name God; from this he concludes that God should not be a subject of our scientific investigations in the same way that the creation is. He writes: "Science is an enterprise whose aim is to offer understanding and explanation of created things *in the (limited) context of cultivating and keeping them*" (p. 9). Therefore, "naturalism" is "a theologically based policy aiming to discuss creation in terms of reference defined by creaturely things themselves" (p. 10). Identifying God's work in the world amounts to the study of God, and thus is the province of theology rather than science; science "deliberately refrains from claims to name God or detect God's agency by our own powers" (p. 10).

Catherine H. Crouch, *Ph.D. is an ASA postdoctoral member and a research associate in Applied Physics at Harvard University. She studies material modification with ultrashort laser pulses and develops materials and teaching strategies for undergraduate science courses. She also writes for* Books & Culture *and* re:generation quarterly. *Catherine lives in Cambridge, MA with her husband and two children. Her email address is: crouch@fas.harvard.edu.*

The second part, "Scope for New Scientific Paradigms," I find less compelling, because I am not convinced that the paradigms presented are particularly new. Thorson's "new paradigm" is the idea that scientific accounts of biological systems (ranging from organisms to macromolecules and organelles) should include the function of these systems rather than being limited to physical and chemical structure and atomic-level interactions. He writes:

> Understanding such systems necessarily involves thinking about how they are organized toward the functions they achieve, quite apart from any hypotheses about their emergence or origins. Therefore, scientifically meaningful accounts of biological systems can and should be given in terms of their logical organization toward function or achievement. This logic is what explains and determines their complex physical structure (p. 17).

I am trained primarily as a physicist, but I collaborate with cell biologists on a biophysics research project, and I have completed graduate-level course work in developmental and cellular biology. Thus, I have done some reading in the cell biology literature. I completely agree with Thorson that function is a powerful explanatory concept in biology; but it seems to me that this concept is already used widely. Indeed, Thorson titles the final section of Part II, "Tacit Role of 'Functional Logic' in Current Biological Science," and writes: "Biologists in many fields are already pursuing such studies without marking explicitly the paradigm change involved" (p. 19). Presumably, the paradigm change Thorson has in mind is a change from explaining biological systems in terms of the physical behavior of the constituent parts to explaining them in terms of function. It does not appear to me that a paradigm change is needed; my perception is that both explana-

tory modes are valued and used in current biological science. What do cell biologists think?

Thorson also suggests that once biology is transformed by the paradigm of functional logic, functional logic will also offer a more fruitful way to tackle the problem of origins. But it is not apparent to me how this paradigm would contribute to thinking about origins, since functional logic does not seem to answer the basic mechanistic problem of how functions develop and change in any kind of system (biological or not). For change to take place in function, attendant mechanical changes must take place; how do these changes happen?

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It is clearly important for us as scientists and Christians to examine the theological foundations of our professional activities, and Thorson has made a valuable contribution to that process. Another equally important matter comes up as background for this work. In his two-part essay, Thorson—like many contributors to the discussion about naturalism in science—depicts the scientific community as dedicated to philosophical naturalism (or "scientism") as well as the practice of science. "Christian thinkers correctly criticize [the] prejudicial influence [of philosophical naturalism] as a tacit (and perhaps even dogmatic) bias in the contemporary scientific community" (p. 3). "The scientific community is not really neutral on underlying spiritual issues" (p. 4).

In my experience, most non-scientists think that many, if not most, scientists are at best dismissive of and at worst hostile to religion. However, few of my scientific colleagues are philosophical naturalists, and almost none are dismissive or scornful of Christianity; all the American scientists I know from my generation (born in the 1960s and 1970s) range from relatively indifferent to religious matters to having strong religious convictions of their own. The few scientists I have encountered who do express scorn or skepticism about religious beliefs are substantially older than I am (mostly my parents' age or older) or are from other cultures. While it is possible that the cohort of scientists I know are not fully representative of the scientific community, they are still a fairly broad sample. Perhaps an ASA sociologist or historian of science could shed some light on this matter by statistically documenting current attitudes of scientists toward religion.

What has produced the perception that scientism is the predominant religion of scientists? A thorough answer to this question could be a dissertation in the history of science. I suspect that part of the answer is that formerly it *was* more typical for scientists to think that science could (and should) explain everything, and this has changed over time. Few people outside of science are aware of the change, however, because the scientific community's out-of-date image is maintained by the rhetoric of a few prominent scientific popularizers such as Carl Sagan and Richard Dawkins. An important task for the community of Christians who are scientists is to correct this misconception. Let us not allow scientism to maintain greater prominence than it deserves. ◊