Two Realms and Their Relationships

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Three recent books add to the growing interest in the relationship between science and religion. Two of these share a common premise: Given science's task of defining the natural world and religion's goal of providing a moral universe, science and religion should coexist peacefully and respectfully in separate spheres. The third volume illustrates this premise.

Rocks of Ages
Science and Religion in the Fullness of Life
by Stephen Jay Gould
Library of Contemporary Thought (Ballantine), New York, 1999. 250 pp. $18.95, C$26.50. ISBN 0-345-43009-3.

Of the three, perhaps the best written is *Rocks of Ages* by Stephen Jay Gould, professor of zoology and geology at Harvard. It begins with a critique of the current penchant for unifying science and religion. While acknowledging a deep human need for synthesis and resolution, Gould draws sharp distinctions between science and religion in subject matter, method, and intent. "Science tries to document the factual character of the natural world and develop theories that coordinate and explain these facts. Religion, on the other hand, operates in the equally important, but utterly different, realm of human purposes, meaning, and values—subjects that the factual domain of science might illuminate, but can never resolve." Acknowledging "scientists must operate within ethical principles," Gould holds that "the validity of these principles can never be inferred from the factual discoveries of science."

Seduced by Science
How American Religion Has Lost Its Way
by Steven Goldberg
New York University Press, New York, 1999. 230 pp. $27.95. ISBN 0-8147-3104-X.

Accepting this premise, Gould sets forth his central principle of "non-overlapping magisteria," a "respectful noninterference—accompanied by intense dialogue between the two distinct subjects." In the first half of *Rocks of Ages*, Gould marshals support for his thesis from such scientific notables as Huxley and Darwin and from religious leaders and theologians including the Apostle Thomas and Pope John Paul II. Gould then explores what he finds amazing, the resistance to his notion of non-overlapping magisteria. He discusses two sources of this resistance. The first, an historical reason, affects scientists who inappropriately violate this principle by offering moral argument and theologians who attempt to cling to the areas now legitimately occupied by scientists. The second, which he labels psychological, stems from our needs for comfort and meaning, despite the seeming meaninglessness and horror of life. Gould's illustration of this second reason—interpretations of the "cruel" ichneumonid wasps (whose larvae eat their living, often paralyzed hosts from the inside)—is worth the price of his book.

Steven Goldberg's *Seduced by Science* presents a variation on the theme of non-overlapping magisteria. Goldberg, a professor of law at Georgetown University, argues that religion has lost its theological nerve and identity by attempting to find acceptance and validity in science and by speaking the language of science. He chides the clergy and religious scholars for selling their religious birthright for scientific porridge. For Goldberg, ministers, priests, and rabbis trivialize religion when they expound on double-blind studies and genetic causes of behavior. Like Gould, Goldberg cites two distinct domains of inquiry—science as a descriptive enterprise and religion as prescriptive. Unlike Gould, who describes himself as an "agnostic [with] great respect for religion," Goldberg, the son of a physicist, writes as a devout Jew who respects science.

In describing what he considers the "unfortunate tilt of the Judeo-Christian perspective toward science," Goldberg calls for a redirection of religion, a return to its function of addressing central moral concerns. He illustrates this tilt in religion's involvement in debates over cloning and the patenting of the human genome. Then, with an insightful and critical treatment of "creation scientists," he explores the incursion of science into religious understandings of the Bible. Before turning to legal matters, Goldberg addresses what he considers to be an obsession of mainstream religion, the medical power of prayer.

On legal themes, Goldberg offers helpful analyses of free speech, free exercise of religion, and the disestablishment of religion as a prelude to where he thinks religion can and should contribute humility, faith, and values to public discussion and debate. He believes that "religion can play a more vital role if it strips itself of unneeded scientific trappings." Goldberg writes with theistic interest and commitment. His call for the religious community to provide a faith-based perspective in public debates of scientific advances points to the limits of science. In short, Goldberg offers a variation of Gould's non-overlapping magisteria principle.

The Sacred Depths of Nature
by Ursula Goodenough
Oxford University Press, New York, 1998. 219 pp. $24. ISBN 0-19-512613-6.

Turning to Ursula Goodenough's *The Sacred Depths of Nature*, we find an example of Gould's principle realized. With Goodenough—a Presbyterian and daughter of a Methodist minister and theologian who inspired her book—a Christian voice enters the dialogue. A leading cell biologist at Washington University, Goodenough has an agenda differing from that of Goldberg and Gould. She wishes to provide the foundations for "an ethic that would make no claim to supplant existing traditions but would seek to coexist with them, informing our global concerns while we continue to orient our daily lives in our cultural and religious contexts." To this end, she presents an accessible account of a scientific understanding of nature and then suggests ways that her scientific account can invite a religious response. She calls her method "religious naturalism."

The book's 12 chapters provide what Goodenough calls a "walk through the epic of evolution," from the origins of the universe multicellularity, death, and speciation. Each chapter ends with the author's "reflections," which are short religious meditations.

Goodenough's "epic of evolution" is a remarkable, gentle, and sensitive tour de force. Although comprehensive, it is sufficiently specific; Goodenough is a good popularizer. She is not afraid to use scientific jargon but translates along the way for laypersons. The grace and ease with which she carries readers from macro to micro biological realities are the strength of her book. Her meditations—personal and, at times, moving—are too short; many interesting snippets beg further development. (For example, "My somatic life is the wondrous gift wrought by my forthcoming death.")

After her "epic," Goodenough offers four emergent principles for the framework of a global ethos: "ultimacy," the fact that human beings are faced with it and ask about it is the basis for all belief systems; "gratitude," a deep appreciation for the

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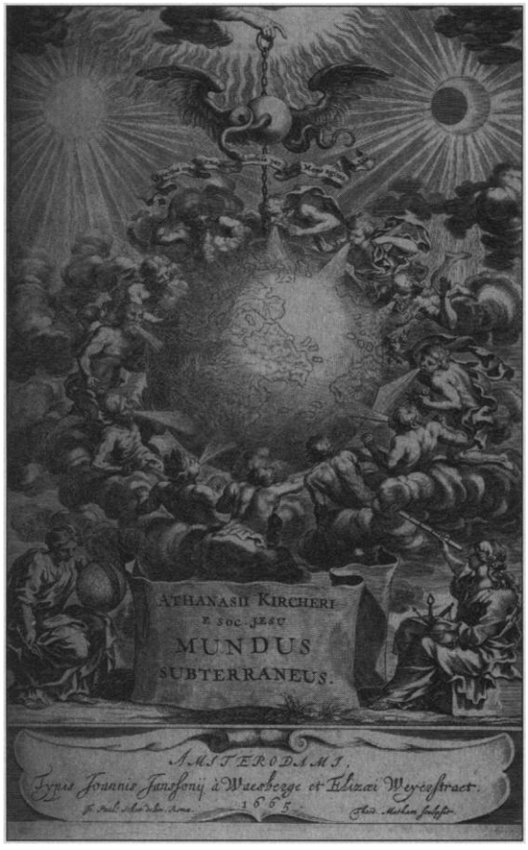
complexity of the natural order; "reverence," concomitant with gratitude as the "religious emotion elicited when we perceive the sacred"; and "continuation," a cosmic evolution in which humans have a special role and responsibility. She concludes with a metaphor—weaving—that she sees as instructive in the practice of religious naturalism. The tapestry-maker first strings the warp (the epic of evolution), then weaves a religious weft (the province of prophets, liturgists, and poets). Such a weaving is the etymological meaning of the word religion, religio.

How do we assess the contributions of these authors to the dialogue on the relationship between religion and science? From their differing perspectives, Stephen Gould and Steven Goldberg share a common concern, method, and recommendation. Gould, arguing as a scientist, and Goldberg, tackling the legal aspects of religious debate, both subscribe to what might be called the separate-but-equal genre. They call for disciplinary integrity, methodological rigor, and a clear understanding of the separate natures of religion and science as propaedeutic to any informed and helpful dialogue. They are concerned with avoiding fuzzy, sloppy, or sentimental syncretism or misguided synthesis of religion and science.

This separate-but-equal genre employs what might be called a method of correlation. Paul Tillich, the neo-orthodox theologian of culture, describes methodological correlation between the behavioral sciences and theology as the facts and phenomenal realities described by science that present questions inviting religious answers and moral precepts from the domain of religion and theology. Such a correlation guards the integrity of scientific disciplines and allows religion its rightful place in providing commentary and prophetic utterance on what scientific investigations bare for ethical and theological interpretation. The hoped-for outcome of such a method is that it will yield meaningful answers to existential concerns. Goodenough's project—her presentation of her factual descriptions complemented with theological meditations—is an example of such a correlation.

The genre of non-overlapping magisteria and the method of correlation have a certain appeal within philosophy and history, but they are curiously dated in that both have an uncritical confidence in modernity and science. Theologians, like the Roman Catholic David Tracy, suggest that, although a method of correlation is not only helpful but appropriate in talking about interdisciplinary concerns, such disciplines by their very nature move beyond description—in the case of science, to prescription by virtue of intent and interest. The methods of different disciplines formulate and define data in particular ways, such as empiricism. As is generally recognized by epistemologists, method shapes not only the data but prescribes, by virtue of methodological interest and limitations, certain results. In short, the way we ask a question guarantees, to some extent, certain answers and precludes the possibility of other answers. Intention is a result of attention.



Complementary collaboration. Gould regards this title-page illustration from the Jesuit scholar Athanasius Kircher's *Mundus subterraneus* (1665) as a striking depiction of "science and religion working together in their different ways."

Goldberg seems to recognize the implications of some recent developments in epistemology. He approaches the dilemma between the realms of science and ethics in discussing what he refers to as an attack from scholars who can loosely be categorized as post-modern or deconstructionist. Such writers, according to Goldberg, maintain that the rational, neutral stance of science's veneer can be stripped away, revealing a series of contestable, political assumptions. Although the deconstructionist agenda is problematic for many, it forces us to come to grips with some of the assumptions of modernity inherent in Gould's non-overlapping magisteria principle, assumptions that are being challenged by both scientists and theologians.

Gould and Goldberg employ a history and philosophy of science and religion in attempting to establish the need for a critical dialogue born of (for lack of a better term) disciplinary integrity. Their analyses, as far as they go, are insightful and penetrating, but they do not address what they dismiss as the bad science and bad theology that results from a new spate of attempts to collapse methodological and disciplinary distinctions. Their rigor includes a strange twist of much of the history of science and religion, in what I call theology's history of "claims abandoned and territories surrendered" to the advances of science. Goldberg and Gould, on the other hand, attempt to protect science from surrendering claims and abandoning territories by limiting the role of theological reflection and not allowing it to describe phenomenal realities within the different realms of scientific endeavor. It cuts both ways.

The recognition that science can become a "scientism" in the same way that religion can become "fundamentalism" provides an exciting component to recent publications on the relationship of religion and science. Contemporary theology—what has been termed the new epistemology—and current trends in the philosophy of science point to new ways of framing the relationship between the old categories of physics and metaphysics. I suggest that we need to move beyond notions of correlation to a more sophisticated appreciation of science and religion as representing complementary ways of understanding our universe, Earth, and the human condition.

All three books are worth reading, but I would recommend Stephen Gould's *Rocks of Ages* as the most provocative, insightful, and enjoyable. Goldberg is at his best when tackling and analyzing the legal aspects of religious debate, but he is less precise when he wanders into theology. Goodenough provides a biologist's overview of the universe and life. Her meditations represent opportunities for further reflection. The three authors offer a background and a good foundation for future increases in knowledge, understanding, and wisdom through collaboration between science and religion.