a more holistic way. His "Subjective Objective Monad" (SO-Monad) is a unit of reality combining both subjective and objective aspects that occur concurrently and in unison as they move through space and time—a concept that is used throughout the book. The subjective aspect of Pohl's thesis includes an emphasis on God's desire for "eternal creativity" and a priority for "nature's freedom." One example of this concept, introduced in a later chapter, is a description of the multitude of interactions that a single *E. coli* bacterium has, over time, within the human gut as it encounters other microbial cells, its chemical and nutritional environment, host cells, et cetera. Process and open theology see each encounter as an opportunity in line with God's priority of nature's freedom; the bacterial cell is given creative freedom by God's design to make decisions and respond to the environment, within nature's limits. These interactions by a microbe are a metaphor or a model for human lives and our opportunities for creativity and freedom in our interactions with our environment, including with other organisms and the divine.

The next two chapters focus on biological and philosophical aspects of the microbiome. Chapter 2 ("Microorganisms and the Microbiome") delves into biological examples and metaphors that support Pohl's model for interaction with the divine. Most microbiome research is focused on the large populations of microbes that inhabit the intestinal tract. The many commensal and symbiotic interactions that develop within the host-microbiome ecosystem depend on a multitude of interactions. Such interactions are described (using process philosophy/theology terms) as "occasions, prehensions, and concrescences" that occur repetitively in biological systems throughout time. It is difficult to find precise definitions within the text for these terms, but according to process philosophy, the initial "occasions" are the basic units of reality, "prehensions" are the way occasions relate, and a "concrescence" is the process by which many prehensions can be combined to form a complete actual "occasion." The interactions of *E. coli* bacteria in the human gut, as they move through time and space, are given as a prime example of these interactions.

As a microbiologist, I found "The Microbiome and the Human Condition" (chapter 3) to be the most informative. Pohl describes the human microbiome in considerable detail based on recent scientific literature. For me, Pohl's most salient contributions came from his medical expertise and discussion of microbial impacts on cystic fibrosis, obesity, Type I diabetes, and cancer. A section on the microbiome and neurology was also enlightening, covering such topics as the positive or negative ramifications of microbes on anxiety and depression, and brain disorders including Parkinson's disease and dementia. Each of these health and disease outcomes is an example of the importance, and necessary interactions, of the microbiome within a healthy human, and a surprising aspect of God's creativity and design.

Chapter 4 ("A Theology of the Microbiome") outlines in more detail the process theological implications of the microbiome. Four approaches are described that can incorporate both the subjective and objective aspects of reality using process theology and the microbiome: modeling, mechanism, mathematics, and metaphor. These ideas are further developed with modeling systems that emphasize the possibility for continuous creation in nature in line with open theology. In Pohl's discussion, he proposes that eternal creativity in an open future is more conducive to God's nature, and that more-abstract forms of mathematics may give new insight into God's co-creative nature. A metaphor approach can be helpful for understanding complex ideas, and Pohl suggests that the microbiome is a metaphysical metaphor for how God interacts with nature.

In the final chapter ("Reconciling Subjectivity and Objectivity in Nature and God") and in the appendix, Pohl further develops a synthesis of the nature of God from a process theology perspective, with emphases on the need for subjective thinking and the importance of love and creativity. In several New Testament examples, Pohl concludes that Jesus's expressions of emotion indicated that he was surprised by events and therefore lacked complete omniscience. Although I am not a theologian, I found his arguments interesting but problematic, and not convincing in light of orthodox views of Jesus being of one nature with God, within the triune, omniscient, and omnipotent Godhead.

I recommend this book, especially chapter 3, for theologians and scientists who seek a greater understanding of recent advances in microbiome research, especially those who are interested in how microbes affect our health in both positive and negative ways. However, the theological perspective may be a hindrance to those not attuned to process theology. Although not espousing orthodox theology, it is a thought-provoking and interesting addition to one aspect of the current biology-theology discussion.

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Christianity and Culture

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CHRISTIANITY AND INTELLECTUAL INQUIRY: Thinking as Pilgrimage by Douglas Jacobsen and Rhonda Hustedt Jacobsen. Oxford University Press, 2025. 221 pages. Hardcover; $29.99. ISBN: 9780197820346.

Douglas Jacobsen and Rhonda Hustedt Jacobsen's new book arises out of their long-term Religion in the Academy Project, which examines connections between higher education and religion. While their previous work, *No Longer Invisible: Religion in University Education* (Oxford University Press, 2012), describes the range of expressions of religion on American campuses, this one focuses on the process of intellectual inquiry at the individual level. *Christianity and Intellectual Inquiry* addresses the loss of Christian cultural clout in the West, particularly in the US, and notes the increasing recognition of the importance of cultural and religious contexts and how these limit our understanding. Jacobsen and Hustedt Jacobsen offer the metaphor of pilgrimage as an alternative paradigm to traditional faith and learning perspectives in Christian higher education.

The authors, with their combined backgrounds in religious history and American higher education, attempt to cover a breadth of topics: the history of the church, the history of higher education, biblical interpretations, and the American rise of identity politics. Their effort to synthesize across these topics is a strength of the book, but also a weakness that makes it difficult for readers to follow its main arguments.

The first section of *Christianity and Intellectual Inquiry* centers on the history of Christian traditions of faith and learning, and the second on the American social context and its faith and learning traditions. The third section attempts to build a view of faith and learning that remains available to everyone, tied to the contemporary emphasis on individual identity, and arguing for a model of pilgrimage as exemplified by four identified pathways: attentiveness, contemplation, proclamation, and compassion. Each pathway includes a representative individual along with an exploration of the pathway's ties to biblical texts and its expressions over the history of American higher education.

The first section showcases the book's strength through its contribution to a reader's understanding of the landscape of faith and learning, grounding it historically in Roman and Persian cultures and across Christian traditions up to the present. This survey connects faith and learning frameworks to the development of creeds; it provides a historical review of traditions in a range of higher educational institutions in the United States.

I found the differentiation of Catholic, Protestant, Orthodox, and Pentecostal approaches to be helpful in contextualizing and broadening our understanding of various traditions. For example, the presentation of Orthodox views of faith and learning explains the worldview of the eastern church, which sees God present everywhere and in everything; thus, secular and sacred intertwine: "they consider learning to have a sacred character because reality itself is sacred" (p. 32).

The second section of the book moves into the social history of the US and the modernist and fundamentalist debate that *PSCF* readers should find familiar, as will readers who have followed the history of Christian higher education. The authors draw on higher education scholars such as George Marsden, and on scientific accounts by ASA Fellow Edward Davis. The survey sets up the discussion over the present era of cognitive pluralism, which made its way into US higher education in the late twentieth century. In this framework, participants see varying perspectives as different but correct ways of seeing reality. The authors state: "Cognitive pluralism maintains that people see reality from a particular point of view derived from the thinking of the racial and ethnic communities to which they belong" (p. 71).

The authors tie cognitive pluralism to two perspectives of intellectual engagement. First, identity-constrained thinking addresses ideas based solely on their previous alignment with personal identity and personal experience. This perspective stands in contrast to a second approach of identity-informed thinking in which one's personal identity forms the ground from which to explore new ideas. Identity-constrained thinking remains closely aligned with a type of tribalism, whereas identity-informed thinking encourages engaging with others who are different. The distinction aligns with David Livingstone's work on place and science (e.g., *Dealing with Darwin,* 2014). Livingstone describes the richness of "trading zones," whereby different cultures engaged in a way that encouraged crossover between science and theology, in contrast to "flashpoints," whereby anxiety over science and theology led to a more tribal response.

Identity-formed thinking translates into the concept of pilgrimage—gaining interest within the Christian community—that broadens the audience to include all those who are seeking to learn something new about themselves and the world around them. Intellectual pilgrimage is thus a form of a faith and thinking process, experienced in all aspects of life. The authors construct four pathways of inquiry within this framework and use one individual as an exemplar for each: Biologist Rachel Carson serves as an exemplar of attentiveness, or empirical observation; Catholic monk Thomas Merton provides an example of contemplative thinking; Black theologian James Cone illustrates proclamation thinking; and physician Paul Farmer represents compassion thinking.

I was disappointed in this latter half of the book. First, in constructing a perspective of intellectual pilgrimage,

the authors' emphasis on individual pilgrimage failed to adequately address how all thinking and knowing remain grounded in communities and traditions, whether science or faith. Thus, the intentional focus on individual pilgrimage leaves the grounding of our personhood weak and unaccounted for. Scientists, for example, work out of a communal understanding of the scientific process, a central tradition informing the exploration of reality.

Second, I found the distinctions among the four pathways to be weak, and, at times, the biblical texts used to argue for the four felt forced and artificial. Rachel Carson lived as an empirical scientist but surely her work involved proclamation and changed the trajectory of environmental understanding and policy. She also expressed deep compassion for the natural world. Paul Farmer operated out of a deep compassion for the health of the underserved but measured his effectiveness using evidence-based practice. His work remained embedded in attentiveness to local systems and cultures. James Cone spoke against structural racism, but the evidence for such broken systems is seen in empirical measurements, including the results of redlining by banks and the pattern of toxic waste facilities concentrated in communities of color. Thomas Merton's representation of contemplation seemed to represent a different type of truth seeking based on self-understanding, rather than seeking understanding about the world around us.

The authors could develop a stronger pilgrimage framework by combining the four pathways into impulses embodied by all on the journey of faith and learning. Henri Nouwen, in *The Wounded Healer* (1972), says that we must first articulate the truth of the pain and suffering in the world and its complex reality. Second, we must be transformed by stories of real people, places, and processes because they are concrete examples of the present state of reality. We must be attentive while we crunch numbers in order to explore the fullness of reality. Third, we should allow our emotional assessment of the situation to be transformed into intellectual understanding. Through our transformation, we may develop a deeper understanding of the societal structures around us and thus have a clearer view on what changes we wish to proclaim. Nouwen concludes that, ultimately, this process of discovery moves us toward a deeper sense of our own self-understanding in God's world.

I would recommend this book to readers for two reasons. First, its breadth adds to what many have experienced as a largely North American conversation about faith and learning. Second, the concept of pilgrimage is a rich one which invites reflection. This lens for viewing faith and learning is one that speaks to the present generation and counterbalances the traditional propositional approach to such discussions.

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History and Philosophy of Science

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THE SHAPE OF WONDER: **How Scientists Think, Work, and Live** by Alan Lightman and Martin Rees. Pantheon, 2025. 208 pages. Hardcover; $28.00. ISBN: 9780593702024.

Ask any person on the street to describe a "scientist." You may receive a wide range of responses. One might mention traits such as intelligence and dedication. Another may imagine a serious person wearing a lab coat. Some may hold scientists in high esteem. Some may suggest a degree of distrust. Lightman and Rees want us to know that scientists are everyday people with special training in pursuit of wonder. In *The Shape of Wonder*, Lightman and Rees endeavor to paint a compelling and winsome picture of who becomes a scientist, how a scientist works, and what their role in public policy and society may be.

The authors are ideally suited for this task as distinguished scholars and ambassadors for the sciences. Alan Lightman is an astrophysicist and currently MIT professor of the Practice of the Humanities. Martin Rees is the former director of the Institute of Astronomy, Master of Trinity College, Cambridge, and co-founder of the Centre for Study of Existential Risks. Both men are passionate about science and those who practice it.

The authors seek to shape how the public sees scientists and their discipline. After debates about policy measures to fight covid and climate change, some groups may be losing trust in scientists and science as whole. Lightman and Rees aim to humanize scientists and dispel myths about what science is and how it is pursued. They define the work of science as "disciplined wonder" and view scientists as ordinary people with extraordinary education. To illustrate this, the authors fill the book with winsome portraits of contemporary and historical scientists in a diversity of fields. One reads not only of these individuals' scientific pursuits, but also of their childhood, hobbies, relationships, and dreams.

The work is structured in eight chapters that explore common questions about the life of a scientist, from why they enter discipline, to how they pursue their craft, to what keeps them going. The book concludes with a discussion of scientists and ethics with respect to their role in public policy debates of our time.