Book Reviews

ENVIRONMENT

ECOLOGIES OF GRACE: Environmental Ethics and Christian Theology by Willis Jenkins. New York: Oxford University Press, 2008. 363 pages, index. Hardcover; $35.00. ISBN: 9780195328516.

Contrary to Lynn White's accusation that salvation stories threaten care for the environment, Jenkins finds in soteriology a powerful incentive for creation care. He proposes a typology of "ecologies of grace" using the classic categories of redemption, sanctification, and deification. These correspond respectively to more commonly termed strategies of eco-justice, stewardship, and eco-spirituality. The three soteriological approaches are more predictive of creation care by Christian groups than the common division into biocentric and anthropocentric. The assumption has been widely held that the more anthropocentric the group, the less care would be offered for creation. Jenkins sees a much more complicated picture in practice.

The Jenkins typology is not a taxonomy. Each representative that he studies in depth (Thomas Aquinas, Karl Barth, and Sergei Bulgakov) fits more than one of his types. This is not surprising in that any theologian in the classic Christian tradition would need to account for all three biblical categories of redemption, sanctification, and deification (or glorification) in their soteriology. The difference between them is in emphasis. Willis notes the contributions and difficulties of each. For example, the stewardship advocated by Karl Barth leaves open the question of whether the human calling as steward is to restore, redeem, or enhance nature entrusted to us.

Willis keeps returning to the question: "Which perspective will best protect and sustain the environment?" It is not clear whether his ultimate intent is to use religion to rally support for already-chosen eco-ends or to live religious conviction better in the crucial area of ecology. At the least, he is sure that pragmatically the two can be mutually reinforcing. "Ecology of grace must make the daily practices of cultivation, preservation, husbandry, hunting, and retreat part of the practices of life with God" (p. 236).

The book reads like a doctoral dissertation with thorough surveys of literature central and tangential to the argument, as well as sixty-nine pages of endnotes. These provide a rich resource for further investigation. To register subtleties, the prose can be convoluted, but this comprehensive treatment is something of a gold mine for those persistent enough to dig deep.

Reviewed by James C. Peterson, R. A. Hope Professor of Theology, Ethics, and Worldview, McMaster University Divinity College and Faculty of Health Sciences, Hamilton, ON L8S 4K1.

HOPE FOR A HEATED PLANET: How Americans Are Fighting Global Warming and Building a Better Future by Robert K. Musil. New Brunswick, NJ: Rutgers University Press, 2009. 224 pages, notes, index. Hardcover; $24.95. ISBN: 9780813544113.

If, like me, you are concerned about global warming, frustrated with our history of government inaction on this issue, and bewildered as you watch the veritable parade of oversize vehicles continue to roll down our highways, you may be in need of a book entitled *Hope for a Heated Planet: How Americans Are Fighting Global Warming and Building a Better Future*.

One might ask: Are we fighting global warming? Well, at least some Americans are, and it restores hope to hear about them. The primary goal of this book, in fact, is to restore readers' hopes that Americans, world leaders in per capita greenhouse gas emissions, can at last take the lead in drastically reducing them. The book is part political history, part strategy session, and part how-to guide for decreasing our emissions and increasing our political involvement. In a telling reflection of the current status of the climate change problem, this book spends at least fifty pages on rhetoric and politics for every one page on science. Truly, the scientific debate ended at least a decade ago.

The author, Robert Musil, directed the activist group Physicians for Social Responsibility (PSR) for fourteen years, and he takes a public health approach to the issue of preventing climate change. This strategy, and the book itself, encompass several steps. After quantifying the potential adverse effects on human health (and secondarily, on the ecosystems on which we depend), the roots of a problem must be assessed in terms of individual, social, cultural, and political factors. An action plan is then developed based on available resources and experience, and put into effect in order to change behaviors and fix the problem. The author gives this powerful approach (wielded by PSR and allied groups) much of the credit for drastically lowering both the percentage of Americans who smoke and the number of nuclear warheads deployed by the US and Russia. That is an impressive record. Can a public health approach stop global warming, too?

In an especially chilling chapter, Musil looks at the roots of our political impasse, outlining the Washington influence and actions of the "carbon lobby" (consisting of automakers, railroads, power, oil, and mining companies). He gives a first-person account of their work to confuse the public, water down legislation, and stymie international treaties, calling it "a textbook example of corporate greed and disinformation that for far too long outweighed the public good." Musil then presents a spirited, insider's defense of the efforts of a number of allied environmental groups aimed at blunting the anti-environmental onslaughts of the second Bush administration. He concludes that US environmental groups (the available resources) are not yet a match for the well-funded carbon lobby (the roots of the problem), and that the solution to this mismatch lies in better ways of "framing" the problem to convince more people, and politicians, to get on board.

Musil argues that global warming is most compelling when presented as a moral and medical issue, especially when practical solutions are offered. While readers of this journal should be familiar with the moral issue, they may not be aware that global warming is a medical issue: the World Health Organization (WHO) estimates that climate change is already killing 150,000 people per year. Musil describes how climate change impacts the spread of disease and increases the frequency of severe heat waves,

floods, and droughts. He convincingly defends the WHO estimate as a conservative lower limit.

Musil ends by outlining the emergence of a new, politically sophisticated climate movement (that allies with religious groups) and the rapid growth of renewable energy, concluding that "no one can say that we do not have options, working models, and plans that could, given sufficient political impetus and leadership, quickly turn around the US economy and its carbon emissions." The task of preventing climate change continues to grow in urgency, and this book challenges its readers with new ways to get involved. I hope that many will read it and respond.

Reviewed by David De Haan, Associate Professor of Chemistry, University of San Diego, San Diego, CA 92110.

ETHICS

SACRED CELLS? Why Christians Should Support Stem Cell Research by Ted Peters, Karen Lebacqz, and Gaymon Bennett. Lanham, MD: Rowman and Littlefield Publishers, 2008. 272 pages. Hardcover; $34.95. ISBN: 9780742562882.

The title of this important book will cause some Christians consternation. Surely Christians should not support stem cell research, at least research of the embryonic variety. Surely Christians should object to stem cell research, not act as advocates for it. The authors will have none of this, as they delve into every aspect of the stem cell debate from the perspective of those who have been intimately involved in the ethical debate from its very earliest stages.

This is the second foray Ted Peters has made into this controversial territory, the first occasion being with a much smaller single-author book, *The Stem Cell Debate* (Fortress Press, 2007). Both books emanate from his role as principal investigator on a National Institutes of Health grant to study theological and ethical questions raised by the human genome project, and by his earlier association as an ethicist with Geron. Geron is a California corporation that describes itself as "the world leader in the development of human embryonic stem cell based therapeutics." These experiences have given Peters insight into a host of contemporary bioethical issues.

All three authors have written extensively on theological ethics and are connected with the Center for Theology and the Natural Sciences (CTNS) at the Graduate Theological Union in Berkeley, California. While they represent different theological traditions and have varying stances on some of the issues under discussion, the book is a joint effort with no indication of individual authorship. Their grasp of current scientific issues is impressive. This is no mean feat.

The argument of the book revolves around three ethical frameworks—embryo protection, human protection, and future wholeness. In his earlier book, Peters referred to these as embryo protection, nature protection, and medical benefits. The modified terminology for the second and third signifies a broadening of the perspective, although the underlying thrust of the argument is essentially unchanged. All three frameworks have theological drivers. Each is analyzed in considerable detail, the main exponents of each are identified, and their positions are critiqued. Official Roman Catholicism and many sectors within evangelical Protestantism are identified within an embryo protection framework with its pro-life, anti-abortion stance. The President's Council on Bioethics and Leon Kass are seen as major exponents of the human protection position that stresses the dangers of "playing God" and of excessive technological prowess. The authors themselves advocate the third framework, with its emphasis on exploiting possible medical and associated benefits that may accompany stem cell and allied research.

The critique of the frameworks is undertaken against a background provided not only by the political and ethical debates in Washington, but also by the international scene. Nothing escapes the attention of the authors, and particular focus is placed on the stance of the Vatican, a stance that is rigorously dissected.

For the authors, the embryo protection position serves to reiterate the abortion debate. For them this position depends on genomic novelty, constituting as it does the bulwark for indicating the presence of a unique individual, ensoulment, and with it a moral claim based in the will of God. Accompanying this position are closely aligned variants, such as the assertions that it is better to be safe than sorry and that all blastocysts are sacred.

When the debate is based on an embryo protection stance, the ethical principle that comes to the fore is nonmaleficience—of embryos, in this instance. The authors contend that the same applies with the human protection framework, when it is nature (DNA) and culture that require protection. Beneficence only comes into play when emphasis is placed on human flourishing and the vision for a better future. The authors view this possibility in theological terms. For them, humans are called to be created cocreators, possessing the talent for creative transformation. This future-oriented ethic lies at the heart of their positivity toward stem cell research, but they are careful to replace the hype so often surrounding this research with hope—genuine theological hope in the future. They are emphatic in asserting that "the promise of redemption tells us that our future is not restrictively determined by our past" (p. 76).

The authors consider that a central plank of the theological debate is provided by the role of relationality and eschatology in thinking about human dignity. Indeed, one of their criticisms of the Vatican position is that its efforts to find precise connections between ensoulment, individuality, personhood, and protectable dignity force it to surrender its future orientation in exchange for sole reliance on the past. The recently realized totipotency of somatic cells introduces further ethical (and theological) conundrums that, from the authors' perspective, can be addressed by looking to the central significance of relationships rather than intrinsic properties.

This is not a book for the faintheartedly, especially for those who do not want their understanding of the embryo to be challenged. The approaches adopted will raise the ire of many Christian commentators, since a raft of cherished "truths" are questioned. However, I welcome this,

since the willingness to confront assumptions and comfortable myths is urgently needed. If this book leads to discussion on such matters as: What is sacred? To whom does dignity apply? How important is good health? it will have served a very useful role in bioethical and theological debate. This will apply even if stem cell research turns out to be less interesting clinically than frequently assumed. Even here though the authors are candid and careful, and refuse to be taken in by the hype of even those scientists with whom they have spent so much time.

Reviewed by D. Gareth Jones, Professor of Anatomy and Structural Biology, University of Otago, Dunedin, New Zealand.

General Sciences

INTRODUCTION TO SCIENCE AND THE SCIENTIFIC METHOD by John L. Campbell. New York: Vantage Press, 2008. 189 pages. Paperback; $15.00. ISBN: 9780533158355.

Developments in science are frequently communicated through news reports to individuals who vary in their ability to understand and evaluate the validity of these reports. Whereas the American public is reasonably literate in science, many lack knowledge of the scientific method that is often needed to critically evaluate the results of scientific studies. This lack of knowledge was Campbell's primary reason for writing this book.

The author begins with a brief history of science noting the emphasis upon natural philosophy, one of the branches of ancient and medieval philosophy devoted to generating knowledge about nature, until near the end of the nineteenth century. The disciplines of astronomy, physics, chemistry, biology, and the social sciences grew out of natural philosophy and were linked through a shared methodology for generating knowledge—the scientific method. Campbell goes on to distinguish between science's empirical side (observation) and the rational side (reason). In the third chapter on science's rational side, he begins a discussion on the tension between those who want society guided by reason, meaning (to them) science, rather than faith. The author expands upon this tension in the latter part of the book. The section on the history of science would probably be engaging only for highly motivated readers already familiar with much of the content, but interested in nuances and a different perspective on the content.

I was amused that Campbell, an experimental psychologist, assured readers they could skip the chapter on statistical analysis of data without hurting their understanding of science or of the scientific method. His explanation of the use of descriptive and inferential statistical analyses was concise and clear. The author returned to his treatise on the philosophy of science with comparisons of scientific and unscientific views. The first was between the geocentric view advanced by Greek astronomer Ptolemy in a revision of Aristotle's speculation about the earth being the center of the cosmos, and the heliocentric theory touted by Copernicus on the basis of his observations. Readers should find these comparisons of scientific and unscientific views, including creationism and evolution, to be interesting.

I sensed that the last three chapters reflected the author's passion to present the strengths and limits of science within a larger context. He decried the actions of social Darwinists and eugenicists in Germany in the mid-twentieth century and in parts of Africa in the late twentieth century, who found promise in ethnic cleansing—genocide. Conversely, Campbell found promise in the Human Genome Project undertaken during the late 1980s and the work in more recent advances, including nanotechnology.

Interestingly, as a believer in the existence of UFOs, the author advocates piecing together a descriptive knowledge about such paranormal phenomena and investigating events that are astounding or incredible. An example of such an event is the worldwide flood described in ancient Jewish and Sumerian legends as well as in the Bible. Campbell is also intrigued with investigating ancient accounts of astounding knowledge such as gold-plated jewelry, a process requiring electricity for electroplating, in Mesopotomia and Egypt dating to 2500 BC. Another phenomenon requiring astounding knowledge was the construction around 1000 BC of 170,000 miles of underground tunnels, some as much as 300 feet beneath the surface, to convey fresh water from relatively wet highlands to relatively arid, more densely populated lowlands, in what now is now southern Iran. Campbell cites theories which purport that extraterrestrial beings, referred to as giants in the Bible (Gen. 6:4 and Num. 13:33), can be credited with sharing the knowledge required for these phenomena.

The author concludes with reflections on science and religion; he discusses various frictions since 1900, not between science and religion, but between humanists, be they scientists or nonscientists, and conservative Christians. He notes that most of these frictions have been in the United States. Campbell proposes guidelines for assumptions and debates that recognize the purview of science and religion and the unique contribution of each.

This book should be of value to individuals interested in science as a social institution and in the intersection between scientific and religious thought. Undergraduate students in the sciences and social sciences would likely respond more positively to books more directly related to their field of interest. For example, a more suitable book for undergraduates in the author's field is *How to Think Straight about Psychology* by Keith E. Stanovich (Allyn and Bacon, 2007).

Reviewed by H. Donald Merrill, Professor of Psychology and Dean of the College of Arts and Sciences, Wingate University, Wingate, NC 28174.

Health & Medicine

THE HIV AND AIDS BIBLE: Selected Essays by Musa Wenkosi Dube. Scranton, PA: University of Scranton Press, 2008. Paperback; $20.00. 208 pages. ISBN: 1589661141.

This book is an essay collection written by Musa Wenkosi Dube, a professor of New Testament Studies at the University of Botswana. Dube wrote a series of essays from 2001–2003 which provided the foundation for her

thoughts as a theological consultant for churches in Africa. In particular, Dube has been a consultant for the World Council of Churches regarding the theological issues surrounding Human Immunodeficiency Virus (HIV) and its resultant disease (Acquired Immunodeficiency Syndrome or AIDS) in Africa.

The book is divided into four sections. Part One (Theological Education in the HIV and AIDS Struggle) provides the background of Dube's personal journey in deciding how to address the theological issues raised by HIV/AIDS. She recounts a sentinel aspect of her life when she gave a paper (Preaching to the Converted: Unsettling the Christian Church) to the World Council of Churches that brought up significant discrepancies between the message of churches and the spread of HIV/AIDS on the African continent. She also discusses why Christian churches in Africa tend to avoid a discussion about HIV/AIDS, especially as it relates both to women and to those populations in extreme poverty.

Part Two (Biblical Studies in the HIV and AIDS Struggle) attempts to apply theological teaching to Bible scholars and lay persons who deal with the presence of HIV/AIDS as part of daily life in Africa, especially in the context of Jesus' miracles of healing. She discusses how the Bible should be taught knowing that a large population hearing the Word will be either infected or exposed to HIV. Some detail is provided as to how to incorporate the HIV/AIDS epidemic into Bible studies, including the historical, literary, and social science aspects, but only a paucity of ideas are provided. A chapter in this section emphasizing Christ's raising of Jarius' daughter from the dead in the Gospel of Mark provides a simple and effective example of how a Christian perspective on HIV/AIDS infection in Africa can be prescribed. There is both a unique feminism and postcolonial aspect to this Gospel, especially relating to the aspects of Jesus traveling to the home of Jarius. Dube also discusses various other social epidemics co-involved in the HIV/AIDS epidemic, including poverty, gender discrimination, social injustice, and racism.

Part Three (The Gospel and Christology of the HIV and AIDS Struggle) addresses how HIV/AIDS should be looked at by church leaders. Dube points out that as members of the Body of Christ, if one has AIDS, we all have AIDS. Using Luke 4:16–22 as a metaphor, the author states that just as Christ was sent to restore the sight of the blind and to free the oppressed, churches should attempt to heal the more difficult aspects of HIV/AIDS, such as addressing poverty and being direct about sexual transmission of this disease and its prevention (including rape and prostitution). Jesus, if asked, would certainly forgive the sins of the most sinful sex offender. Dube points out that Christians should do likewise. Using the Setswana word *"kutlwelobotlhoko"* or compassion, she further points out that compassion requires action, as we must address the spread of this disease that has killed millions of people and orphaned millions of children in Africa.

Part Four (Ethics and Hope in the HIV and AIDS Struggle) details how to address moral and ethical issues regarding HIV/AIDS prevention in the setting of African churches. In particular, although moral guidance is given by Christian leaders, more emphasis should be made on removing the stigma of infection, as well as openly discussing prevention. Dube believes that a change should be made in order to develop a more "listening and supporting church" for the vulnerable population groups in Africa (women, children, the impoverished, etc.).

I think this book has the potential to bring about powerful arguments as to how Christians should discuss HIV/AIDS and how they need to be more accepting of those people infected or at risk of the disease. As this epidemic continues to spread worldwide—in China and Russia, and especially in African countries—it is imperative for the body of Christ to face the seemingly uncomfortable aspects of HIV/AIDS (prostitution, rape, condom use). These aspects should be openly discussed within the context of morality and Christ-like love. Indeed, a societal effort, not just from the medical community, is needed to halt the progression of the HIV/AIDS epidemic. I wholeheartedly agree with Dube on this point.

However, this book's poor organization makes the message less than clear. Although the book consists of a series of essays, future editions would probably be improved if there were a short introduction at the beginning of each chapter, providing the context in which the essay was written. Also, although the author provides a good overview of how to present a Christian message in the setting of HIV/AIDS in Africa, the book would have been better if more "real world" examples (such as lesson plans or class note outlines) were provided to help begin an open conversation about HIV/AIDS, both in the academic classroom and among the lay population. This book's message is too important to be lost in poor organization.

Reviewed by John F. Pohl, Associate Professor of Pediatrics, Scott and White Hospital, Texas A&M Health Sciences Center, Temple, TX 76508.

A TANGLED WEB: Medicine and Theology in Dialogue
by R. John Elford and D. Gareth Jones, eds. Oxford: Peter Lang, 2008. 279 pages, general index, name index. Paperback; $72.95. ISBN: 9783039115419.

Half of this book was written directly by our own ASA Fellow D. Gareth Jones. The collection is the result of a colloquium, at which six theologians responded to Jones' ethical reflection on four cases. Jones describes himself "as a scientist working within the Christian tradition." In this anthology he is literally surrounded.

The book is organized in three parts: theological background, specific cases to consider, and theology in the sphere of public policy. In the first essay, Gerard Mannion argues that moral discernment is best carried out in broad communities. John Elford follows with the idea that love is the fundamental motif of specifically Christian ethics, but that "biblical faith is ever in the making." Then, Adam Hood emphasizes that theology does not define the good, tell us what we must do, or make judgments based on metaphysics. What it does do is help us to see the ethical dimensions in the situations that we face. The theme prominent in all three essays is that theological insight should enrich society-wide dialogue.

Part Two centers on Jones' description and prescription for four cases. The first is the tragedy and damage wrought when fraud occurs in the practice of science or

theology. When a theologian or scientist overstates or misdirects, to his or her own temporary benefit, the effect is devastating both for the perpetrator and for the discipline. Neither science nor theology should claim more than they can actually accomplish in interpreting their data. The second essay asks whether plastinated displays of posed human bodies are more akin to educational dissection or to mere entertainment. The former could be justified as sufficiently respectful, the latter could not. The third case argues that the ethics of genetic intervention have often been presented in a false dichotomy. We are told that we must either transform humanity into a new species or ban intervention all together. Jones argues that actually we are already enhanced, compared to earlier generations, and that such is good. Thoughtful extension of ability can be welcomed without seeking radical transformation. The fourth essay rejects that prenatal genetic diagnosis (PGD) is inherently eugenicist, but warns against slipping into an attitude of sacrificing the weak to benefit the strong.

The essays of Part Three advocate a place for theological voices in the UK's national regulation of *in vitro* fertilization and PGD. Then John Elford concludes that theology helps to identify the issues at stake in scientific practice, and it can offer moral theories needed to address those issues. In this book, the theologians emphasize the need for a process that allows space for theological critique. It is primarily the scientist Jones who mulls through specific ethical issues. Jones says that his goal in the colloquium and the book is to foster vigorous dialogue between theologians and scientists, each respecting the other's expertise and contribution. Respect is evident throughout. Critical interaction between Jones and his theological interlocutors is more advocated than carried out.

The book's price indicates that it is aimed at libraries rather than individuals. Libraries that support the ongoing interaction of human biology and Christian theology would do well to purchase a copy. This would be particularly important for readers who may not be aware of the perspectives and insight of the English-speaking discussion beyond America's borders.

Reviewed by James Peterson, R. A. Hope Professor of Theology and Ethics, McMaster University Divinity College and Faculty of Health Sciences, Hamilton, ON L8S 4K1.

SPIRITUAL DIMENSIONS OF NURSING PRACTICE by Verna Benner Carson and Harold G. Koenig, eds. 2d ed. West Conshohocken, PA: Templeton Foundation Press, 2008. 403 pages, notes, index. Paperback; $34.95. ISBN: 9781599471457.

The editors of *Spiritual Dimensions of Nursing Practice* set forth three goals for the second edition of this manuscript. These goals are essentially identical to those of the first edition and include focusing on (1) the universality of spirituality, (2) spiritual care as integral to the provision of nursing care and all health care, and (3) demystifying the concept of spiritual care and spiritual needs. Nurses are identified as the primary audience of this book. However, the editors suggest that the book's applicability extends to practitioners and students alike, in both nursing and the allied health disciplines.

The book is organized into four distinct sections. The first section explores spirituality and the nursing profession. Spirituality is defined as an abstract multifaceted concept affected by personal experience, religion, culture, and worldview. The characteristics of and risk factors for spiritual distress are outlined. An overview of the research linking religion and health is presented as well as mechanisms by which religion may positively influence mental and physical health outcomes. Section two examines the relationships between theistic and eastern pantheistic religious groups and health care. Specific beliefs and practices that may affect the planning and delivery of health care are explored. A chapter on legal issues outlines constitutional guarantees, evolving law, and policy constituting the basis for state, client, and provider arguments for religious freedom in healthcare decision making. The third and largest section of the text fleshes out the specifics of spiritual care. It provides a framework for spiritual assessment and suggests three types of spiritual interventions including the ministries of presence, word, and action. From there, we journey across the lifespan. The authors explore spiritual care for children and adolescents, as implemented in the context of developmental stages and family relationships, as well as a conceptual model for spiritual coping which can be applied to adults with chronic illnesses. Love is presented as a theme to explore spirituality with older adults. A discussion of the multifaceted needs and spiritual interventions for the dying and their families completes this section. The fourth section explores the possibility of creative partnerships between faith communities and healthcare providers for the purpose of multiplying scarce healthcare resources. From there, a discussion of ethical decision making and spirituality ensues. Teleological and deontological theories, as well as the ethical principles of beneficence, autonomy, nonmaleficence, and justice, are presented as tools for the resolution of dilemmas as demonstrated by their application to five precedent-setting cases. The final conversation pertains to the salient issue of meeting the spiritual needs of nurses in both educational and work settings.

Spiritual Dimensions of Nursing Practice provides a comprehensive discussion of the topic of spiritual care that is accessible to the practitioner and student alike. Carson and Koenig take the abstract concept of spiritual care and demonstrate how it can be seamlessly integrated into the care of persons and their families. Throughout the text, the reader is encouraged to engage further with the topics presented via interesting quotes, case studies, and reflective activities. Relevant bibliographic citations at the end of each chapter allow the reader to connect with the broader literature in the field. Linking the discussion to the existing evidence base (chap. 2, "Religion, Spirituality and Health") and suggesting a conceptual model of religious and spiritual coping (chap. 8, "Adult Spirituality for Persons with Chronic Illness") is particularly helpful, as it grounds spiritual care in the science of the discipline of nursing. The chapter addressing potential areas of collaboration between faith groups and healthcare providers for the purpose of providing health services is especially timely in light of the current economic climate, when so many are without adequate access to health care. While Carson and Koenig's manuscript bears some resemblance to Mary Elizabeth

O'Brien's *Spirituality in Nursing: Standing on Holy Ground* (2003), this manuscript extends the conversation begun there in useful ways.

The chapter on ethical decision making seems incomplete. While an initial linkage between spirituality and ethical decision making is asserted by the statement "… spiritual issues are inextricably interwoven with the kinds of ethical decisions that confront health care professionals and those for whom they care" (p. 331), this linkage could be more fully explicated. Might it be one's conceptualization of person, beliefs about the purpose of health, or definition of nursing practice that introduce spiritual issues into specific ethical dilemmas? Further, the ethical theories and principles are applied to precedent-setting cases rather than to the daily ethical dilemmas that nurses encounter in their practice. Such an approach distances this important topic from the everyday experience of the nurse, and does not address the question of how necessary support can be provided to these point-of-care practitioners.

The second edition of *Spiritual Dimensions of Nursing Practice* is a timely update that fulfills its specified goals. This book constitutes an excellent addition to the nursing and allied health literature.

Reviewed by Mary Molewyk Doornbos, Chairperson and Professor, Calvin College Department of Nursing, 1734 Knollcrest Circle SE, Grand Rapids, MI 49546.

MATHEMATICS

PLATO'S GHOST: The Modernist Transformation of Mathematics by Jeremy Gray. Princeton, NJ: Princeton University Press, 2008. 515 pages, glossary, bibliography, index. Hardcover; $45.00. ISBN: 9780691136103.

"Modernism," like its younger cousin "postmodernism," is one of those squirmy weasel-words that is difficult to pin down long enough to gain a clear and cogent view of its meaning and referents. Perhaps these terms are best used to describe whole families of attitudes and beliefs. Nevertheless, historians and critics have felt comfortable applying them to specific trends in the visual arts, architecture, literature, poetry, drama, film, music, theology, and philosophy. Modernism, in this sense, is often pegged to certain developments around the turn of the twentieth century, especially in the arts. But what about science and mathematics? Are there substantial modernist trends in these fields? In *Plato's Ghost*, the distinguished historian of mathematics Jeremy Gray investigates this possibility for mathematics.

A "core definition of modernism" is offered at the outset of the book: it is that "cultural shift" occurring between 1890 and 1930 which makes mathematics

> an autonomous body of ideas, having little or no outward reference, placing considerable emphasis on formal aspects of the work and maintaining a complicated—indeed anxious—rather than a naive relationship with the day-to-day world, which is the de facto view of a coherent group of people, such as a professional or discipline-based group that has a high sense of the seriousness and value of what it is trying to achieve.

This captures much of what Gray intends with the word, but he fleshes it out a bit further for mathematics. For him, modernism is a shift in professional mathematicians' philosophical perspective that embraces an abstract ontology and an epistemology that nearly dissolves into logic. The main conditions imposed on theorizing by modernist mathematicians are those of the formal axiomatic method—concepts must be logically consistent and results rigorously derived, but otherwise mathematical creation is completely free.

This outlook certainly typifies many foundational developments in mathematics around 1900, but Gray argues that it is characteristic of mathematical practice more broadly and that viewing this time period through the lens of modernism unifies a number of aspects of mathematics.

After an introductory chapter delineating his thesis in general terms, Gray divides his story into three main parts: (1) a pre-modern period (the nineteenth century prior to about 1890, though he identifies Riemann and Dedekind as mid-century precursors), (2) a period in which modernism emerges, and (3) a time in which its outlook has become the accepted orthodoxy of professional mathematicians. The final three chapters are devoted to issues more on the periphery of mathematics (its relation to physics, attempts at popularization and writing its history, and its relation to language and psychology) and to some further mainstream developments between the two world wars. Within each main time period Gray follows a topical organization, looking at developments in four main fields: geometry, analysis, algebra, and logic/set theory/foundations.

From his past work, Gray is very conversant with developments in geometry and analysis, and his treatment of these topics is authoritative and informative. Modernism in geometry is associated with changing views on the nature of and developments within geometry (non-Euclidean geometry, projective geometry, Hilbert's axiomatization of elementary geometry, Italian axiomatic geometry) as well as on geometry's relation to science and everyday experience. In the field of analysis, Gray distinguishes between early foundational efforts (Cauchy's arithmetization, Weierstrass's rigorization) and later more abstract developments in analyzing the nature and meaning of numbers (Dedekind on real numbers and natural numbers, Cantor on transfinite ordinal and cardinal numbers).

Gray also points out modernist developments in algebra and the foundational fields of logic and set theory. Algebra moved from more concrete concerns in solving equations and finding regularities within number theory to maneuvers of inventing new types of numbers for various tasks (ideal numbers, quaternions, p-adic numbers). In the twentieth century, modernism becomes entrenched in algebra with the structuralist approaches of Emmy Noether and Bourbaki.

In the case of logic, two decades after an 1820s revival in Great Britain of traditional modes of deduction, the field was transformed by Boole and others into a branch of algebra. It was later extended to include relations,

quantifiers, and mathematical symbolism, and its relation to mathematics was inverted and refined by Frege and Russell. In the early twentieth century under Hilbert's influence, logic became the tool of metamathematics, whose concern was the analysis of axiomatic theories for consistency, completeness, and independence, becoming aligned in the end with set theory and abstract model theory. Promoting set theory as the ultimate foundation for mathematics provided the discipline with a self-contained modernist ontology. In discussing these developments, Gray tends to rely more on other authorities than on his own work, but foundational aspects are probably the best-known part of the story he is telling.

Even applied areas of mathematics felt the drift toward modernism. This helps us understand why Eugene Wigner, a leading physicist, would write in 1960 about "The Unreasonable Effectiveness of Mathematics in the Natural Sciences" as being a mysterious business. As Gray notes, mathematical physics had given way first to applied mathematics and then to mathematical modeling, in keeping with the modernist trend of loosening the ties between mathematics and empirical reality.

The book's strength lies in its treatment of the various mathematical developments—mathematical practice—during this period. Occasionally, this is also its weakness; at times, the reader needs help in seeing the contours of the forest for the clutter of the trees. Mathematical technicalities are kept to a minimum, but the number of thinkers treated and the epic range of topics taken up can overwhelm those unfamiliar with them. Moreover, readers interested mostly in the mathematics may be tempted to skip over some of the philosophical and psychological portions, which would have benefitted from being more concisely analyzed and summarized. The exposition invariably improves when Gray steps back to assess the importance of a topic to his overall thesis.

Plato's Ghost makes a strong case for there being a modernist transformation in mathematics. While Gray obviously takes modernism in the arts as encouragement for postulating his thesis for mathematics, he consciously does not connect the two phenomena in any direct sense. He notes similar general trends (increased professionalization, autonomy and independence from other fields, emphasis on formal elements, cultural anxiety, and so forth) and speculates that these may arise from parallel contexts and concerns ("convergent evolution"), but he declines to demonstrate a common source. This puts his thesis on safer ground, but it will also make it less satisfying for many readers. In the end we are left wondering, why were there similar trends at this time in both fields? And some of us would undoubtedly like to know, how do these trends relate to other contemporaneous modernist developments, such as in theology? Can we dig down below the surface to find any common motivation, any shared zeitgeist?

I also would have liked to have seen some analysis of how the trend of modernism relates to earlier and broader developments in philosophy and worldview. The strong underlying tendency of modernism to overthrow authority and norms (freedom from God and the church, emancipation from the tyranny of monarchs, rejection of tradition) can be clearly seen both in Enlightenment philosophy and revolutionary politics, and this has even deeper roots in early modern thought where assertion of human autonomy arises as a major theme. Are twentieth-century developments a radical departure from these earlier developments, a genuine paradigm shift, as Gray asserts, or are they an intensification of aspects of the same humanist spirit? Modernism's historical lineage ought to be traced further back than Gray does in *Plato's Ghost*, to give us a more long-term perspective on what is brand new and what might develop core tendencies that had already become prominent when "modernism" was first self-consciously proclaimed by mid-eighteenth-century thinkers. This may be asking for more than can be comfortably proved in scientific or historical terms, but readers of these pages will likely acknowledge a responsibility to test the spirits, in intellectual affairs as well as in spiritual and moral matters.

What we have here, then, is an excellent and detailed survey of how modernism took root in mathematics. *Plato's Ghost* provides the launching pad for future ruminations on the modernist thesis. At the same time, I think it begs for extension, both backward to root the phenomenon more firmly in history, and forward into our present time, when modernism is no longer as prominent or as tightly held as it was a century ago.

Reviewed by Calvin Jongsma, Professor of Mathematics, Dordt College, Sioux Center, IA 51250.

PHILOSOPHY & THEOLOGY

THE BIG QUESTIONS IN SCIENCE AND RELIGION by Keith Ward. West Conshohocken, PA: Templeton Foundation Press, 2008. 272 pages, references, index. Paperback; $16.95. ISBN: 9781599471358.

In the 1940s radio quiz show *Twenty Questions*, the host started each game by letting everyone know that he held a secret belonging to a single category: animal, vegetable, or mineral. The contestants would then try to discover the secret by posing as few yes-or-no questions as possible. The best strategy was always an eliminative one. A good question—especially early in the game—was one that ruled out whole ranges of categorical possibility. Anyone reading Keith Ward's *Big Questions* should recognize from the outset that he is not playing a quiz show game. The table of contents does list twenty questions about science and religion, but these are not requests for categorical specifications about something or someone that we might uncover. His reflections on these questions widen rather than narrow the range of possibilities that one should consider.

The big questions are perennial ones in philosophical theology. They deal with cosmic origins and endings, creation and evolution, laws and miracles, matter and spirit, nature and norms, and divinity and revelation. As priest, philosopher, and "lover of science," Ward seeks to keep these questions alive, arguing repeatedly that while science may alter the ways in which they are asked, it can neither dismiss them nor provide the final answers. The core message is that

> Science will not resolve these deep existential struggles. But science can help to dispel ignorance

> about the universe and bring some clarity about the relation of the objective Supreme Value postulated by religion to the observed nature of the physical universe. It may even help to clarify the nature and possible purposes of a being of supreme value.

The preceding quote provides an example of the book's erudite tone and offers a glimpse into its intellectual framework. Ward is a recognized Christian theologian and leader in interfaith discussions. His knowledgeable reflections on different religions are perhaps a distinctive contribution to the science-and-religion dialogue, for they expand beyond the traditional, Western understandings that have dominated the dialogue. However, with respect to science, he admits to being a spectator and claims to take scientific discoveries at face value. This "view from a distance" lets Ward describe how such discoveries might fit into or alter the broad conceptual landscape of religion, but it prevents him seeing the inner workings of science.

Thus, the big questions here actually might not be *in* science at all, and therefore not in science *and* religion. What makes questions "big" is a context of religious concerns. But what if science is independent of such concerns? Is it then impermeable to the big questions? Ward seems to allow that it might be so, in which case a better title for his book might be *The Big Religious Questions with Which Science Has Little to Do*. If this is indeed what he intended, he could have served his readers better by opening the discussion as a quiz show host might—with a categorical clarification that starts things off on a clear track.

The book's actual title (as well as its genre) trades on a latent demarcation problem that remains unresolved in much of the science-religion dialogue. Different parts of the discussion draw upon various essentialist assumptions about science, assumptions requiring the existence (though not the specification) of criteria according to which science can be distinguished from other forms of inquiry. Despite a growing consensus that such criteria might not actually exist, books like this succeed without asking the (big?) question of how the dialogue might go if essentialist assumptions were abandoned. Ward's essentialist demarcations are not drawn clearly or consistently. But the language of division crops up, for example, at the end of the third chapter:

> Claims on both the religious and scientific sides to give an all-encompassing and exclusive view of truth will bring religion and science into conflict. A more tentative search for the spiritual meaning of ancient scriptures and for the methodological fruitfulness of biological research programs offers the prospect of a more positive and creative interaction, the results of which cannot be laid down in advance.

In my reading, Ward employs the fact-value distinction as a surrogate for the unresolved science-religion demarcation, and he thereby ignores one of the bigger philosophical questions of the last century (i.e., whether this is a legitimate distinction). Facts about the physical world belong to science, whereas Supreme Value or Spirit is the concern of religion. The book's unexplained profusion of capitalized spirit- and value-related terms seems intended to evoke the crystallization of a "domain-of-religion" concept. Moreover, the absence of any serious consideration of science as an interpretive, value-laden practice does nothing to dissuade the reader of the view that science simply tells the unambiguous truth about the material world.

Ward's uncritical acceptance of popular conceptions of science is the book's biggest weakness. It prevents him from offering what could be useful criticism but does not stop him from making seemingly inconsistent statements about scientific endeavors, as when he at first makes and then later retracts the claim, "Science works on the assumption that every event has a cause." Most importantly, it renders him unable to shake the idea that, since religion has concerns that science cannot touch, so also science has concerns that religion cannot touch. The alternative would be an idea that scientific endeavors are always shot through with (a plurality of) religious concerns and never impermeable to them.

Nevertheless, within each chapter of the book, Ward's provisional working assumptions about science feed into a rich and probing discourse on alternative religious philosophies, and on the general refusal of religious concern to be circumscribed by scientific understanding. Popular science is really just a springboard here; the questions emerge from it but are not offered as part of a scientific discussion. Perhaps vagueness or inconsistency does not hurt if it is used just to get a round of conversation started. But when this book is read as a whole, or when its chapters are read against each other, a question can be raised about its underdeveloped understanding of science. This would seem to be a big question, since it somehow has to fit into the category that our host has in mind for us—that is, into religion, perhaps the broadest category with which we might be concerned.

Reviewed by Matthew Walhout, Professor of Physics, Calvin College, Grand Rapids, MI 49546.

WHEN GOD GOES TO STARBUCKS: A Guide to Everyday Apologetics by Paul Copan. Grand Rapids, MI: Baker Books, 2008. 221 pages. Paperback; $14.99. ISBN: 9780801067433.

A real pleasure in life is to gather with friends and discuss the cultural hot topics of the day. These conversations can challenge what one believes. In the enjoyable *When God Goes to Starbucks,* Paul Copan "guides readers, Christian or not, into practical answers to tough questions and hard-to-handle slogans." The reader gains approaches and information that can help to engage in robust conversation.

Each chapter states issues at the beginning and then lists multiple points to consider. Each of these ideas is expanded and justified in order to provide the reader with the resources to increase understanding of the subject. At the end of the chapter the main ideas are then again restated. This structure is one of the few things that I would criticize about the book. By the fourth or fifth chapter, it was clear that the chapter summary was redundant when Copan had again already done a commendable job of explaining each point.

Copan offers three main sections. The first addresses questions about reality, the second about worldview, and the third about how Christianity relates to the world. Section one is entitled "Slogans Related to Truth and Reality." It works through various specific phrases such

as "looking out for number one," "whatever you do is fine as long as no one gets hurt," and lastly, "when is it OK to lie." Section two looks at truths about God, miracles, and homosexuality. In the three chapters in which Copan talks about homosexuality, I found him balanced and compassionate. At the beginning of the first of the three chapters, he states,

> All too often "Bible-Believing Christians" can act with a smug moral superiority toward homosexuals rather than extending friendship and Christ-like love to them. Let me say that I have a great appreciation and respect for the homosexuals I know, and I don't write this to "attack." However, this is an important issue—one that is often insensitively handled … (P. 78)

This irenic approach is characteristic of the book. In the last section, "Slogans related to Christianity," he primarily deals with two issues: the comparison of the biblical holy wars to Islamic jihad, and the second coming of Christ.

All in all I found this to be a very readable book that provides a good set of responses to challenging topics that commonly come up over a cup of coffee.

Reviewed by Chris Dahm, Associate Professor of Chemistry, Wingate University, Wingate, NC 28174.

GOD INTERRUPTED: Heresy and the European Imagination between the World Wars by Benjamin Lazier. Princeton, NJ: Princeton University Press, 2008. 254 pages. Hardcover; $29.95. ISBN: 9780691136707.

God Interrupted is, on the surface, a narrow monograph on a small slice of theological history. The thesis of the book is that between the World Wars there was an important theological attraction to two heretical alternatives to traditional monotheism—Gnosticism, in which God is wholly other, and Pantheism, in which God is identical to the world. Karl Barth's popular crisis theology represents the former and the renewed theological interest in Baruch Spinoza's thought represents the latter. The book's particular focus is on three German-Jewish thinkers—Hans Jonas, Leo Strauss, and Gershom Scholem—each of whom attempts to address these heresies.

The book, Lazier's reworking of his doctoral dissertation, is divided into three sections: "Overcoming Gnosticism" traces Jonas's theological thought; "The Pantheism Controversy" focuses on Strauss's writings; and "Redemption through Sin" investigates Scholem's work. Jonas, a philosopher, is best known for his work in philosophy of biology, technology, and bioethics, providing the conceptual foundations for Germany's Green party and the environmental movement; Strauss, a political theorist, is best known for his work in natural rights and the idea of reading texts esoterically, providing conceptual foundations for American neoconservatism; and Scholem, a Jewish theologian, is best known for his work in Jewish mysticism and Kabbalah. It is quite the conceptual task to bring together these three seemingly disparate thinkers under a coherent conceptual roof. The way that the gnosticism-pantheism dialectic threads together these three thinkers is impressive. It is perhaps no surprise that Lazier received the 2008 Templeton Award for Theological Promise.

Lazier draws the three thinkers together with a complex discussion about an issue that is important also for twenty-first-century academics who seek to integrate science and biblical theology, namely,

> why so many Europeans between the wars thought themselves to live in a world marked by the active interruption of God's call or command … [and] what sorts of human projects—political, theological, cultural, technological—were enabled by God's absence … (P. xi)

The overt worry of each of these thinkers is that God's absence will lead to an even more fateful repudiation of the earth. They each suggest that a turn away from God did not "generate a turn towards the world," but rather turned the earth into an "object in the exercise of human will" (p. 201), drowned out by the hubris of "the incessant, indecipherable babble of the all-too-human voice" (p. 202). Lazier argues persuasively that Jonas's evolving thought has continuity in his constant struggle against different forms of gnosticism and that Strauss's work can be viewed as an equally lifelong opposition to pantheism. Scholem's antipathy to both heresies is more complex, but nevertheless is presented as a plausible reading of his thought development.

What would be of most interest to *PSCF* readers is the surprising way that concern for nature and theological stances intersect. Jonas's arguments against gnosticism lead him directly to a concern about human responsibility for the earth as something with its own integrity and independent worth. A conception of God withdrawn too far from reality (gnosticism) gave humans too much freedom to assert themselves over against nature. Equally, but from an opposite angle, Strauss's worry to avoid pantheism leads him back to a Greek separation between nature (*physis*) and human convention (*nomos*). Conflating God with reality too easily makes God into a human projection. Arguing for their separation allows Strauss to emphasize the importance of the former over the latter, where (Lazier argues) purposive and normative nature plays the role of a God-double in relation to human-constructed society. And for Scholem, moving away from pantheism and gnosticism meant that God was both absent, withdrawing from the world to leave room for human action, and present, in the purposive process of life itself. Each in their own way wanted to "save the world" (p. 137) in the face of heresies they believed would have done the opposite.

However, Lazier points out a complex dynamic. First, attempts to avoid one heresy (e.g., pantheism) often rely on the concepts and stances of the other (e.g., gnosticism). Second, the attempt to avoid a heresy requires first to revive it as a real option, which consequently gives it an unintended new life of its own. Third, and most interestingly, through the dialectic of separation and integration of God and the world, each of these thinkers creatively relies on heresies of their own. Lazier's historical study shows on the one hand that the integration of faith and learning—theology and science, God and nature—is not an easy task; on the other hand, the most creative attempts at integration might well need to involve interrupting our received concepts of God. For faith (theology) to have something to say to science

might well always involve a heretical move, "redemption through sin" (p. xi), Lazier's preferred title for his book.

Reviewed by Clarence W. Joldersma, Professor of Education, Calvin College, Grand Rapids, MI 49546.

THE FUTURE OF ATHEISM: Alister McGrath and Daniel Dennett in Dialogue by Robert B. Stewart, ed. Minneapolis, MN: Fortress Press, 2008. 212 pages, index. Paperback; $19.00. ISBN: 9780800663148.

Daniel Dennett and Alister McGrath take the lead in this book, respectfully debating memes, culture, science, religion, and morality. Seven essays then follow seeking to engage in genuine dialogue between atheists and Christian theists.

Dennett and McGrath argue about the status of memes and whether religion is, on the whole, a force for good or evil. Dennett argues that religion/God is a meme, a cultural replicator, and that it acts like a parasite in relation to its host: "It's ideas, not worms, that hijack our brains—replicating ideas" (p. 24). He uses the example of a lancet fluke infecting the brain of an ant, which, thus infected, engages in suicidal behavior. The fluke gets the ant to climb to the top of a piece of grass in order to be eaten by a ruminant and, hence, to complete its life cycle in the ruminant's stomach. Dennett implies that what has happened to the ant happens also to adherents of the Islamic faith (p. 23). Believers must first surrender (the meaning of the word *islam*, Dennett points out) their mind and will to Allah. They are now prepared to engage in whatever rational or irrational acts and beliefs that their faith requires.

McGrath is interested to know from Dennett whether he thinks atheism is also a meme or whether he reserves this term strictly for ideas that he does not like, such as God and religion. McGrath says that if Dennett denies that atheism is a meme, then he is making a special, unjustified exemption for his own pet idea while explaining away rival ideas with which he disagrees (p. 32). Dennett admits that atheism is a meme too, though he does not appear to realize how this compromises his own position. Though memetic explanations of ideas should be value-neutral in Dennett's scheme, here, Dennett seems to employ memes as a way of discrediting the idea under consideration. Having admitted that atheism is a meme, Dennett has no choice but to agree that this meme may be the same sort of repugnant, parasitic and irrational force as the religion/God meme. In fact, McGrath gently chides Dennett that this is not what Dawkins (Dennett's inspiration) would have said:

> … if Richard Dawkins was standing here … I think his view would be that belief in God is a meme whereas the belief that there is not a god is so self-evidently true that it doesn't actually require memetic explanation. (P. 40)

Furthermore, McGrath poses pointed questions on the explanatory function of memes, their testability, and even their very existence (p. 31). Dennett does not muster much more of a reply. For a fuller critique of memes, see McGrath's *Dawkins' God: Genes, Memes and the Meaning of Life* or the work of Mary Midgley or Holmes Rolston III.

After the McGrath/Dennett debate, Keith Parsons argues that religion has been responsible for many of the social and political evils of our time and that atheism is having a kind of revival *in tandem* with religious belief. William Lane Craig offers a series of traditional approaches to the existence of God and adds the anthropic principle. Evan Fales repeats standard arguments against belief in God, based upon the incoherence of the Christian doctrine of Atonement and the problem of evil. J. P. Moreland discusses the work of Thomas Nagel. Moreland claims that Nagel maintains the objectivity and universality of reason, but illegitimately avoids the option of theism as reason's ground. Since Nagel (and Moreland) hold that evolutionary naturalism cannot work as reason's foundation, Moreland concludes that Nagel's claim that reason is its own foundation and authority, is incoherent. In similar fashion, but in the moral sphere, Paul Copan argues that evolutionary naturalism cannot adequately ground our sense of the objectivity of our moral intuitions. Ted Peters, in one of the best essays in the book, furnishes us with a careful rebuttal of the claims of Dawkins and Harris, that religion is a force for violence and evil while science is a force for peace and justice. In addition, Peters provides a nuanced analysis of Dawkins' rejection of the "God hypothesis" by offering helpful distinctions between natural revelation, special revelation, and the "theology of the cross."

The debate between Dennett and McGrath is the most insightful part of the book, even though Dennett does not make the best case for his position. Though all of the essays in this collection address the clash of atheism and theism, the book does not stay focused on the "new atheists" (as exemplified by Daniel Dennett's Darwinism) but addresses all brands of atheism—past, present, and future. This book is recommended to those who wish to explore the case for and against belief in God, and as an example that civil, respectful, and fruitful dialogue can be achieved by those with opposing worldviews.

Reviewed by J. Aultman-Moore, Professor of Philosophy, Waynesburg University, 51 West College Street, Waynesburg, PA 15370.

RELIGION & BIBLICAL STUDIES

RELIGION AND ITS OTHERS: Secular and Sacral Concepts and Practices in Interaction by Heike Bock, Jörg Feuchter, and Michi Knecht, eds. Frankfurt: Campus Verlag, 2008. 247 pages. Paperback; $45.00. ISBN: 9783593386638.

"Avoid dichotomies. Dichotomies will almost always get you in trouble, because they artificially create opposites where they often do not actually exist." This is advice given to me years ago as a grad student and which I now pass on to my own students. It is particularly helpful to those in leadership studies, as organizational leaders are often asked to make decisions from a presentation of either/or options. I make it a matter of principle (and advise my students to do likewise) that there be at least a third option on the table before any decision is made. Truth be told, there are often far more options available than that, were one to invest the creative energies into identifying or formulating them. It is this insistence on

creativity that often characterizes excellence in decision-making.

Avoiding dichotomies is also sound academic wisdom, particularly when one is engaged in the kind of socio-historical inquiry represented by this study. And, indeed, the framing provided by the editors of this collection of otherwise somewhat miscellaneous essays is motivated by a desire to overcome the prevailing dichotomous wisdom regarding religion and its interactions with its "other" in the modern world. The "other" is defined here rather broadly, first and primarily as "the secular" (although part of the intent of this volume is to challenge some notions of what constitutes "the secular"), and then secondarily as other expressions of religiosity, or even other religions. In other words, what happens when religious people, traditions, or beliefs intersect or interact with other people, traditions, or beliefs in a modern context?

The prevailing narrative of the modern era, particularly for Europe, which is the primary (albeit not sole) focus of this text, is the slow ascendance of secularism accompanied by a parallel decline in its dichotomous opposite, religion. As one surges, the other recedes. A subsidiary but complementary narrative of the modern era, one that has been particularly popular over the past decade or two, is that of competition between mutually exclusive, intolerant religious cultures or traditions ("the clash of civilizations" motif made famous by the late Samuel Huntington). The editors of this volume challenge both narratives, arguing instead that the interactions between religion and its other have been far more complex, dynamic, and creative than these simplistic meta-narratives relate.

This is not the first time either of these narratives has been thus challenged, although it is refreshing to see such an argument arise from central Europe, where the "secularization thesis" appears to have deep roots and where, truth be told, historical trends seem to bear out the arguments of the thesis. In North America, particularly in the United States, the secularization thesis has not held as much water, despite repeated attempts by sociologists and historians to impose it on our own narrative. Nor has the American experience of religious pluralism borne out the kind of religious strife and animosity that would be expected by the "clash of civilizations" motif. Instead, we find ourselves confronting a society that sees itself as simultaneously more secular and more spiritual, depending on how those terms are defined and practiced, and as simultaneously more tolerant of other faiths and more self-expressive of its own.

The essays that constitute the bulk of this volume are case studies and illustrations of this complexity. They are divided into three categories or sections: "Rethinking Religious Reform," which consists of four essays regarding Islam's confrontations with liberalism or secularism; "Rewriting Genealogies," which contains three historical essays presenting revisionist interpretations of particular episodes in Christian, Jewish, and Islamic history; and "Transcending Borders and Boundaries," which comprises four essays exploring how religious beliefs overlap or interact with other perspectives in a variety of geographical and historical contexts.

Three essays in particular may have special interest to readers of this journal. "Beyond Religion: On the Lack of Belief during the Central and Late Middle Ages" rejects both "atheism" and "unbelief" as coherent categories for this time period, as expressions of an anachronistic secularization thesis upon the medieval era. "The Devil in Spandau: Demonology between Religion and Magic at the End of the Sixteenth Century" examines an outbreak of devil-sightings in this Lutheran-controlled town and interprets them, not as a residue of an older folklore but as an integral expression of a formed Lutheran piety. And, finally, "Science Treats, but Only God Can Heal: Medical Pluralism between Religion and the Secular in Ghana" looks at how neo-Pentecostal faith healing and modern psychiatric methods have been blended in a particular setting in recognition of the multiple belief structures extant and even flourishing simultaneously in West Africa.

Unless any of those essays are of particular interest to you, however, I would not recommend the book for further reading. It is the product of an academic conference by the same name at Humboldt University, Berlin, in the spring of 2007, and conveys a "let's see what is submitted" feel. The essays are all over the place in terms of both content and context, and there is very little of an interpretive thread tying them together. The editors attempt to provide this in the introduction, but the result is an extremely dense and overblown essay that is painful to wade through. Alas, one must wade, for the essays have no coherence at all without that introduction.

The other piece missing in this text is a fresh metaphor. The volume rightly rejects the dichotomies and suggests that reality is considerably more complex than the standard narratives imply. But in rejecting "this," what is the "that" (or multiple "thats") to which they are pointing?

> Neither the authors nor the editors of this book offer a new theory about religion and its other after the post-secular turn, nor do they think that this is the moment for such theory building. Rather they would already be satisfied if, with this volume, they could be conducive to a further deepening and elaboration of the insight … "we know less about secularization than we think we do." (P. 20)

Perhaps. The humility is appreciated. But this reviewer found himself wishing that they knew more than they think they do. A miscellaneous collection of essays may help persuade us, if further persuasion is needed, that the old narratives have lost much of their explanatory power; what it does not do is give us fresh metaphors for the reality we inhabit. And, given the state of public, global discourse regarding religion (particularly in its relationship to science), a fresh metaphor or two would be most welcome.

Reviewed by Anthony L. (Tony) Blair, Associate Professor of Leadership Studies, Eastern University, St. Davids, PA 19087.

Religion & Science

SCIENCE AND SOUL by Charles Birch. West Conshohocken, PA: Templeton Foundation Press, 2008. 196 pages. Paperback; $24.95. ISBN: 9781599471266.

Charles Birch, former professor of biology at the University of Sydney, is one of the world's leading ecologists and winner of the Templeton Prize for Religion in 1990. His early investigations on insects led to an interest in ecology. He studied genetics and ecology at the University of Chicago and at Oxford University, and went on to help lay the foundations for the new science of population biology. His search for a philosophy that could embrace both science and religion culminated in what he calls "an ecological model of God."

As stated in the introduction, this book has a twofold origin. One was the suggestion from a colleague that Birch write about the people who influenced him during his long professional career as a biologist and university professor. He responded by writing about evolutionary biologists, animal ecologists, philosophers of religion, and those concerned with science and religion who had an impact upon his own thinking. The first four chapters of the book describe the personal characteristics and philosophical convictions of a number of influential individuals whom Birch has known personally. Those who receive the most coverage are evolutionary biologists Theodosius Dobzhansky, J. B. S. Haldane, and Sewell Wright; animal ecologists Charles Elton, H. G. Andrewartha, and Thomas Park; and philosophers of religion Harry Emerson Fosdick, Charles Hartshorne, Paul Tillich, and Reinhold Niebuhr. In describing the life philosophies of these scientists, Birch focuses on whether they were materialists and on how they reacted to his own philosophy of life, which is nonmaterialistic.

The other origin of the book was the suggestion from several colleagues that Birch should write a nontechnical account of his own life philosophy, that of process thought. The last two chapters of the book are devoted to this task as Birch summarizes his understanding of pansubjectivism in chapter five and panentheism in chapter six. Chapter five begins with a description of the modern mechanistic or materialistic worldview that has been the dominant model in science over the past three hundred years. Birch then explains his "constructive postmodern worldview" which rejects scientism and seeks unity between science, ethics, aesthetics, and religion. While scientism understands life to be matter-like (materialism), Birch believes that matter is life-like. This position is known as panpsychism, panexperientialism, and also by the term which he prefers, pansubjectivism.

Chapter six is devoted to an explanation of the theistic version of this worldview known as panentheism. This is the idea that the world, in some sense, is in God and that God is, in some sense, in the world. Panentheism differs from classical theism which separates God from the world, and from pantheism which identifies God with the world. Panentheism claims that God is everywhere and permeates the world, but is not identified with it. Process thought, according to A. N. Whitehead, envisions God as having two natures. God's primordial nature is the presence of God in the world which proffers the world possible values and acts by persuasion. According to Birch, the fact that God's power is persuasive and not coercive means that God is not unilaterally responsible for any event. This makes God and the world co-creators. God also has a consequent nature in that God responds to the world with compassion, and fully shares in the world's suffering. God is not the Unmoved Mover of Aristotle, but a God who changes in response to what happens in the world. After presenting an overview of process thought, Birch concludes the book with a description of the practical consequences derived from this worldview, particularly as they relate to ecological sustainability and the rights of animals.

While readers of this journal probably would not want to purchase this book (it is rather pricey for a fairly slim paperback), they are encouraged to read it for two reasons. First, the book provides a very readable, first-hand account of the social nature of both science and religious belief. In Birch's case, he had the privilege of interacting with a number of very influential scientists and theologians, which makes the book all the more interesting. Second, the book presents an overview of process thought that is concise and accessible to those who may not be familiar with its major claims. Missing from the book, however, is an attempt to interact with any kind of "middle ground" between Birch's self-described fundamentalist Christian upbringing and the liberal theology he embraced as a graduate student. While proponents of process thought will find Birch's pilgrimage to be informative and inspiring, those who hold more traditional theological views may want to by-pass this book and prefer to read about the pilgrimage of Francis Collins in his book *The Language of God* (Free Press, 2006).

Reviewed by J. David Holland, Associate Professor of Life Science, Benedictine University at Springfield, 1500 North Fifth Street, Springfield, IL 62702.

SCIENCE DISCOVERS GOD: Seven Convincing Lines of Evidence for His Existence by Ariel A. Roth. Hagerstown, MD: Autumn House Publishing, 2008. 251 pages. Hardcover; $19.99. ISBN: 9780812704488.

There have been seemingly countless books written about the relationship between science and religion. What is distinct about this one is that Ariel A. Roth, former director of the Geoscience Research Institute and former editor of the journal *Origins*, has chosen to focus on scientific discoveries, and in some cases the absence of scientific discoveries, as pointing one toward believing in God.

Although I had encountered almost every idea in this book before, I did find it enjoyable and interesting reading. Each chapter begins with an anecdote, and further anecdotes and stories are given within the chapters to illustrate many of the points. One problem I encountered was that in certain stories, the information given seemed to be incomplete. For example, on pages 159–60, the author discusses the "continental drift" controversy and implies that scientists as a group just decided to believe in continental drift within the span of a few years and with no apparent reason. Absent is any discussion of the geological research that led to the development of the modern theory of plate tectonics.

The first five chapters of the book discuss different aspects of science and how they relate to God, touching on such subjects as the big bang, fine-tuning of particles and forces, chemical evolution, irreducible complexity, new genetic information, fossils, geologic time, and the Cambrian explosion. The points made in these chapters

will probably already be familiar to those acquainted with the origins debate. In fact, these points, and criticisms of them, are discussed in greater detail in other works. This book is not an exhaustive description of any of the things mentioned above, nor does it introduce various Christian viewpoints about the different branches of science and their conclusions. Nevertheless, it fulfills its purpose as a brief survey of some different fields associated with the intersection of science and religion, and provides one interpretation of them.

The final three chapters are more difficult to relate to the central themes of the book and seem disconnected at times. Chapter six discusses paradigms in science and how they can change, and lists ways to recognize "good science." Chapter seven briefly discusses sociobiology and determinism vs. free will, among other things. The final chapter summarizes the evidence presented in the book, discusses some of the good and bad aspects of science, and touches briefly on the problem of evil. The "seven convincing lines of evidence" referred to in the subtitle are not neatly delineated within the chapters of the book, but they are summarized in the concluding chapter. A handy table on page 229 lists them as matter (chap. 2), forces (chap. 2), life (chap. 3), organs (chap. 4), time (chap. 5), fossils (chap. 5), and mind (chap. 7). The book is also equipped with a glossary and a helpful but not exhaustive index.

In conclusion, I did not find this book to have much that is new to contribute to the science/religion conversation. It does, however, have merit as an introduction to various ways in which science may be seen as pointing toward God, especially within the framework of old-Earth creationist ideas.

Reviewed by Melody McConnell, Laporte, CO 80535.

SCIENCE AND ASIAN SPIRITUAL TRADITIONS by Geoffrey Redmond. Westport, CT: Greenwood Press, 2007. 234 pages. Hardcover; $65.00. ISBN: 9780313334627.

This is a useful and wide-ranging book that looks at the relationship between science and the Asian spiritual traditions. To date, that interaction has been relatively ignored. Since Asia is, in fact, composed of a large number of diverse countries, the author mainly limits the discussion to the Chinese and Indian traditions that are arguably the most influential. Besides the first two chapters that introduce the basic issues and the author's approach, topics explored by the author include the traditional ideas of Chinese culture (chapters 3–4), the traditional Indian cosmology (chapter 5), and how various disciplines such as astronomy, astrology, ecology, medicine, and ceramic technology have interacted with spiritual traditions in the history of Asia, mainly in China but also in India (chapters 6–9).

I welcome this book that should greatly help those who want to have an introductory survey of this area. It is written in an accessible nontechnical style. The author has interesting things to say about many Asian practices in science and religion, and his explanations are, on the whole, clear and accurate. The book also contains a chronology of both China and India, the English translation of some important primary sources, and an annotated bibliography. In general, the author adopts a balanced approach to these issues. On the one hand, as a biomedical scientist who greatly values empirical studies, he is not prone to uncritical glorification of the Asian traditional wisdom. For example, he says that "we need not out of sentimental attraction to such theories as yin and yang regard them as adequate alternatives to science" (p. 4). On the other hand, he is not a proponent of scientism who dismisses the Asian spiritual traditions as merely superstition. He advocates a sympathetic understanding of both traditional scientific ideas and religious ideas in their historical contexts.

I also, on the whole, accept the major conclusion of the book. The author tries to appreciate the fact that the Asian civilizations have produced some real scientific achievements. For example, "China made many important inventions and discoveries," and "India developed observational astronomy to a high degree of accuracy." However, "the predominant mode of intellectual analysis in both civilizations was correlative rather than causal" (p. 17), and this has to some extent inhibited the development of modern empirical science. These correlative schemes are founded on the metaphysical idea that the macrocosm corresponds to the microcosm of the human body or human society. They had "spiritual significance because they described an orderly world that functioned by comprehensive principles such as yin-yang or the three gunas" (p. 19). Unfortunately, this perspective is not favorable to the development of science.

I think this book also has some limitations. One minor thing first: the author mentions the "antireligious rhetoric from scientists such as Richard Dawkins and Steven Weinstein" (p. 20), and the latter is referred to as a Nobel laureate physicist (p. 30). While there is indeed a scientist-philosopher named Steven Weinstein, I am not sure whether the author intends rather to talk about Steven Weinberg (especially in association with Dawkins).

The author's understanding of the philosophy of science still has a positivistic bent and consequently he sometimes tends to make simplistic judgments. While he does not want to say metaphysics is inferior, he does hold that "purely speculative thought must be distinguished from science" (p. 9). He takes science to be the systematic study of the external world that is cumulative and verifiable. In contrast, metaphysics is beyond experience and hence "can neither be empirically verified nor falsified" (p. 15). While I agree that as a matter of fact natural sciences are much more subject to empirical confirmation or disconfirmation, I do not think the distinction between science and metaphysics is that clear. In the historical development of modern science and also in contemporary cosmology, it is sometimes difficult to know where science ends and metaphysics begins. The most difficult problem is that nobody really knows how to define verification and to provide an algorithm for it. The now widely accepted idea of inference to the best explanation as a legitimate scientific methodology is, in fact, also appealed to in metaphysics and many other realms of human inquiry. However, I need to point out that the author does not dismiss metaphysics as mere nonsense and valueless rubbish. I also agree when he wants to say that "alchemy has minimal relationship to scientific chemistry" (p. 11),

and it is "more accurate to label alchemy as pseudoscience" (p. 19). Some Chinese ideas are also debunked: "Performance of calculations and use of a compass with mysterious markings no doubt made feng shui more impressive to clients but that did not make its performances at all scientific" (p. 20). Not everything is good science, but the distinction is sometimes messier than he allows.

The author has also misunderstood Kuhn's theory of paradigms. He correctly points out the fact that in both China and India there was no dominant paradigm in the past that guided scientific research. There was just the juxtaposition of diverse metaphysical and scientific ideas. So he concludes that "[s]cience in Asia did not fit the model of Thomas Kuhn" (p. 32). It seems to me he has ignored Kuhn's emphasis that the emergence of a paradigm was, in fact, no small achievement. Kuhn has already pointed out that in many areas of study the scholars are still in the pre-paradigm stage where there is only endless debate about the basic ideas.

Moreover, I think the author does not fully understand the complexities of the Chinese idea of Tian (Heaven). He thinks that Tian "refers both to the physical sky or cosmos and to an abstract ordering principle" and is "impersonal" (pp. 40, 57). This is a controversial issue in Chinese philosophy. The Marxist Chinese philosophers usually argue that Tian just means nature because that fits with their atheistic or naturalistic traditions. Moreover, many Western scholars in Chinese philosophy suggest that Tian is an impersonal rational principle which allows the Chinese to have a moral foundation without any belief in a personal God. I believe both interpretations may have roots in some elements of the Chinese traditions but are not true on the whole, especially if we consider the earliest origins of Chinese culture.

The most common Chinese translation of the word "God" is Shang-ti (or Shang-di), which means "the Emperor above." Both Shang-ti and Tien are widely used in the ancient Chinese classics, and point to the belief in a kind of personal God among the ancient Chinese. The name Shang-ti has already appeared in the oracle bones, and it stands for the Supreme Lord of the universe. In the *Hymn of Shang*, it was said, "So wise and prudent in his prime, He always cherished glorious fame; Toward the Shang-ti meek and tame." Shang-ti or Tian cannot just mean the physical nature or some impersonal force because he was regarded as a fearful God who had a moral will. For example, in the *Book of History*, there is the Pledge of Tang which said, "The leader of Xia is guilty, and I, who is afraid of Shang-ti, dare not but send a punitive expedition against him!"

The name Shang-ti was used widely in the Shang Era, but later in the Chou Era, the name Tien (Heaven) became more and more popular. Some scholars suggest that Heaven has entirely lost the meaning of a personal God, and just stands for nature or something like that. This is not quite true, though the situation is complicated. The Chinese people continued to use the name Shang-ti until recent times, and Heaven sometimes is just another name for Shang-ti. Confucius also believed in a personal Heaven. Indeed, Confucius seems to have a personal relationship with Heaven in that he prayed to Heaven and knew that Heaven can be offended: "He who is against Heaven has not none to whom he can pray." He felt that only Heaven could really understand him, and this understanding was the basis of his mission in life: "I do not murmur against Heaven. I do not grumble against men. My studies lie low, and my penetration rises high. But there is Heaven; —that knows me!" So it is wrong to say Confucianism is only a kind of ethical humanism.

Although the book focuses on the science-religion dialogue in the East, I would suggest that a comparison of this dialogue in both the East and the West would be illuminating, but the author fails to pursue it. The literature on the science-religion dialogue in the West is so vast now that I find it surprising that in his entire bibliography only one book on this dialogue (Barbour) is listed. For example, in chapter four the author has a helpful discussion of Needham's problem, i.e., why modern science did not emerge in the long sophisticated history of China. He has correctly pointed out problems such as the overemphasis on moral knowledge and the imprecise and fuzzy ideas of yin-yang and wu xing (five phases) in traditional China. He also lamented the Chinese lack of the spirit of empirical method, and he observed that the Chinese have never tried to test the empirical accuracy of these ideas nor cared about inconsistencies in the corollaries of these ideas.

As a Chinese, I can testify to the fact that I am not at all inclined to think that the natural world has to be very rational or consistent. If the world is regular enough to allow our survival, I think we should be grateful. Why should I expect the world to be conforming to a rational order down to the smallest details? That is why I was struck by Whitehead's discussion on this topic when I read it the first time. He pointed out that modern science had its root in medieval theology that emphasized the rational nature of the Creator of this world. From this conviction, the pioneers of modern science derived the idea that the world has to have a precise rational order which can even be expressed in mathematical formulae. The author has briefly referred to this idea (p. 75). In fact, this theme has been elaborated on many scholars, and some have also compared cultures along these lines (e.g., Stanley Jaki). If the author had further contrasted developments of modern science in different cultures in more detail, I think it would have helped us to understand Needham's problem more clearly. I also find the discussions not as deep as one would like to see, especially concerning the inner meaning of Asian spiritual traditions. Perhaps the scope of the book is just too broad for that. On the whole, the book is still recommended for those who are interested in the science-religion dialogue in a multicultural context.

Reviewed by Kai-man Kwan, Associate Professor of Religion & Philosophy, Hong Kong Baptist University, 224 Waterloo Road, Kowloon, Hong Kong.

CHRISTOLOGY AND SCIENCE by F. LeRon Shults. Grand Rapids, MI: William B. Eerdmans Publishing Company, 2008. 171 pages, references, index. Paperback; $30.00. ISBN: 9780802862488.

Until quite recently, F. LeRon Schults was a professor at Bethel University. He is now a systematic theologian at the University of Agder, Kristiansand, Norway. In this

work, he relates three Christological themes of incarnation, atonement, and parousia to current developments in evolutionary biology, cultural anthropology, and physical cosmology. Can knowing who Jesus was in the incarnation be conceived within biologists' current understanding of the evolutionary nature of human beings? Can how Jesus acted in the atonement be conceived within anthropologists' current understanding of the embeddedness of human behavior in specific cultures and unique relationships? Can the eternal presence of Jesus through the Holy Spirit be conceived within cosmologists' current understanding of the nature of reality and the origin/and future of the universe?

To begin with the first pairing, *Evolutionary Biology* refers "generally to those sciences that deal with the continuity and discontinuity of human life with other forms of life that have emerged on earth," while the doctrine of the *Incarnation* refers to the proclamation in John 1:14 that the Word of God became flesh in the person of Jesus of Nazareth. How can we know whether either of these is "true?" Shults considers this under three polarities that have been used to understand human beings in general and Jesus in particular: sameness and difference, body and soul, origin and goal. His major contention throughout the volume is that the philosophical assumptions within which knowledge has been sought—both theological and scientific—have changed throughout the centuries. Thus, the classical concerns with (1) how Jesus could be fully God and fully human at the same time; (2) whether humans' relationship with God is mediated through a spiritual soul that co-exists alongside their physical bodies, and (3) whether human destiny can be conceived as joining Jesus in an ethereal heaven—were all initially based on a Platonic epistemology that no longer prevails.

Current "methodical physicalism" in biology suggests that much of our understanding of Jesus is derived from ongoing discoveries of the natural capacities of human beings. Thus, in a re-construction of the Incarnation, it might be preferable to say that Jesus was a supreme example of human development and to proclaim that "God is like Jesus" instead of saying "Jesus is like God." To realize that Jesus represented the evolved human cognitive capacity to be spiritual, eliminates any need to postulate a separate substance to account for Jesus' special ability. As the Swiss theologian Karl Barth stated, "Jesus is who we are!" For Christians, "heaven" begins now through the way Christians participate in the life revealed in Jesus.

Cultural Anthropology refers broadly to those sciences that attend to the dynamics underlying individual and interpersonal human behavior, whereas the doctrine of the *Atonement* refers to the effect of Jesus' life, death, and resurrection on that same human behavior. Both the social sciences and the atonement deal with the how, why, when, and where of human action. How can a one-time event, Jesus' death on the cross, be understood to have an effect on "all" human behavior, when that crucifixion was embedded in the context of first-century Judaism? Shults considers this and other related issues under three pairs: (1) particular and universal, (2) law and order, and (3) us and them.

In regard to the first pair, Shults' intent could be summarized in his statement that he wants to explain "how the agency of the *particular* person, Jesus Christ, empowers creaturely participation in the *universal* love of God." He notes that atonement theories have shifted away from any effect Jesus' life, death, and resurrection have on every person everywhere, to a focus on individual responses to Christ. Although some theorists are convinced that conversion is primarily a group effect, even within groups, conversion decisions are made by individuals. It is perfectly appropriate to ask of persons "Is Jesus 'your' Savior and Lord?" Because individuals live within unique cultures and communities, response will differ widely, and will be embedded in personal as well as relational contexts and expressed in various linguistic modalities.

Building on the contemporary understanding that religion always functions within cultures, Shults notes that atonement theories have often been concerned with law and order. Anselm's satisfaction theory, in which God's sense of anger over human sin is satisfied by Christ's death, is but one example. However, the concept of a God-given natural law that humans violate, has given way in modern jurisprudence to reason-based regulations designed to control human self-interest. A number of social theorists are attempting to re-engage theologically in rethinking the concept of a "just" society that goes beyond self-interest to a concern for human dignity, and takes into account race, gender, and poverty. Reconceived reflection on the implications of atonement will play a significant role in these dialogues. A restored emphasis on the universal implications of Jesus can, hereby, be reintroduced under the label of "globalization."

Physical Cosmology refers not only to physics but to all the sciences that deal with the nature of the universe (astronomy, quantum theory, emergent complexity, etc.). *Parousia* deals with the theological affirmations about the presence of God in human existence, here and now through the Holy Spirit and, in the future, through the return of Christ at the end of time. Shults suggests that physical cosmology and the parousia have a shared interest in "what does it mean to be a human being in the midst of these ideas?" Human beings are constrained by anxiety over their finitude, and long for security, freedom and fulfillment—both now and in the future. What is the metaphysic that will provide hope and assurance for human life? What is the nature of being and becoming in a cosmology that exceeds our imagination but where the resurrected Christ is both present as guide and promise? Is there a way to experience dignity in life lived on a small planet that revolves around a mediocre star within unlimited stars, around which other planets that are hospitable to life exist? As in his other chapters, Shults considers these issues under three pairs: space and time, cause and effect, and matter and spirit.

Given that the Christian faith arose in a period called "middle Platonism," it naturally shared the latter's assumptions that space was an empty container for matter and that time could be understood as the movement of bodies "in" space. Space did not change in the least as humans moved through it. Human movement was an imitation of the completely reasonable (read "spiritual") realm that existed above space and time.

This "above and below" cosmology in both science and religion was shaken by the Copernican revolution. "Space" was no longer static and unchanging. Humans affected space which itself was dynamic and expanding. They no longer moved through an unchanging medium. Relativity theory and the idea of an expanding universe challenged linear approaches to Christian eschatology.

Closely related to these changes in philosophical understanding of space and time are the categories of cause and effect. The "cosmological argument" for the existence of God has always presumed that God was the "first cause." Further, it expected that God would continue to cause events and would finally cause creation to reach a climax of either a beatific or a violent nature. The will of God was assumed to have been fulfilled supremely in the resurrection of Jesus and in the promise of the presence of Christ's Spirit in the world—the evidence of God's continual activity. Contemporary cosmological theory also concludes that something is happening, but the nature or the direction of those changes can no longer be predicted at either the atomic or sub-atomic levels. At best, these fluctuations seem probabilistic or chaotic. Nevertheless, the anthropic principle that focuses on the slight differences in conditions that would have prevented intelligent life, seems to contradict any such nihilism. But even this still fails to "prove" purpose in creation or that a divinity exists. What may seem as destruction of Christian affirmations in the Parousia may actually be a gift, according to Shults. He suggests that the affirmation of the irreducible human search for meaning in the midst of such agnostic scientific assertions may be, in itself, a basis for asserting courageously the faith that, while God may not be all powerful, or even unknowable, God is, nevertheless, present in the human search for dignity, justice, and purpose.

In regard to matter and spirit, Shults contends that the classic dualisms of soul/body or spirit/matter have been devastating for understanding Christology's relationship to science, because they relegated faith to a separate cognitive dimension similar to aesthetic preferences that are purely personal and unreal. Historically, the several differences of opinion about the presence of Christ in the elements of the Eucharist at least provide the possibility that the ongoing reality of the resurrected Lord can be expressed in a manner that accords with contemporary cosmological thinking. Particles, those elements of which matter was supposedly composed, are now understood as probability waves of dynamic energetic forces. Any distinction between matter and spirit is inconceivable. Moreover, concepts such as emergence have helped to make sense of simple and complex phenomena such as consciousness. It is no longer necessary to postulate a separate metaphysical substance (the soul) to make sense of our experience. Shults advocates a kind of "mysticism," a form of Christian faith that the early fathers disdained because of its presumption that only the few can be truly knowing or informed. Nevertheless, a reconstructed mysticism might be appropriate as a way of claiming that faith lies in something ultimately true and plausible, yet by its nature mysterious; absolute yet unknowable.

Shults' book is a significant contribution to an understanding of how the identity, agency, and presence of Jesus Christ might be conceived in terms that accord with modern science. As a survey of the shifting philosophical assumptions upon which recently developing theological conceptualizations about the meaning of Christ's person are based, this volume is unequaled. For those unfamiliar with current presumptions in scientific fields other than their own, this volume will provide a helpful introduction. Shults' constructive model for understanding Christology is a convincing effort to relate Christianity and science, and it should be of genuine interest to many readers of *PSCF*.

Reviewed by H. Newton Malony, Senior Professor, Graduate School of Psychology, Fuller Theological Seminary, Pasadena, CA 91182.

SLAUGHTER OF THE DISSIDENTS: The Shocking Truth about Killing the Careers of Darwin Doubters by Jerry Bergman. Southworth, WA: Leafcutter Press, 2008. xvi + 477 pages. Paperback; $25.00. ISBN: 9780981873404.

Charles Darwin once wrote that false facts are highly injurious to the progress of science, for they often endure long (*Descent of Man*). ASA Fellow Jerry Bergman would agree heartily with his assessment. In fact, Bergman begins this title with a dedication to all the individuals who paid a high price for doubting Darwinism. With this dedication, one is appropriately oriented for what the next 477 pages offer. Bergman speaks from firsthand experience, as he claims that he was denied tenure due to his creationist beliefs. Additionally, Bergman presents over three hundred case studies of individuals which show evidence that some university officials and faculty are apparently afraid of questioning what the role of Darwinian evolution should be in society today. *All* of the respondents reported some form of discrimination openly and often, whereas 70% claimed open prejudice, and nearly 40% claimed to possess evidence of clear discrimination based on their ID or creationist beliefs.

Bergman does not purport to prove or disprove Darwinian evolution, or the "New Synthesis" (often referred to as Neo-Darwinism). Rather, his primary concern is to depict the negative actions and attitudes of the dogmatic Darwinists displayed toward Darwin doubters. He argues that any form of discrimination toward these Darwin doubters should be classified as a hate crime. However, this brings up one of the most poignant *weaknesses* of Bergman's entire argument: discrimination is a notoriously ambiguous and perspectival occurrence, one that may be "perceived," but not readily proven or demonstrated. In fact, he sets forth eight types of discriminatory actions experienced by Darwin doubters: (1) derogatory and inappropriate comments or innuendos, (2) denial of entrance into graduate programs, (3) denial of degrees, (4) denial of deserved promotion(s), (5) practical censorship of their work from collegiate libraries, (6) denial of tenure, (7) demotions, and (8) in some of the more severe cases, even threats of bodily harm.

On a positive note, not all of the people whose interviews find their way into this title are positively disposed toward Bergman's view or analysis, which allows for a degree of diversity in presentation. This title seeks to show why it is unfair that all taxpayers fund and subsidize the teaching of an evolutionary belief-system with

which they may disagree. Whether or not that was accomplished is quite debatable. However, one thing is not: Bergman has done his research and crafted an impressive rhetoric thereby. All in all, Bergman's detailed case studies regarding the state of intellectual freedom to question Darwinian evolution is a valuable resource for the Intelligent Design (ID) movement. It is doubtful that any converts will be won over by his presentation, however, because the pro-creationist/ID bias is evident and immense. Nevertheless, it is a profitable read.

Reviewed by Bradford McCall, Regent University, Virginia Beach, VA 23464.

BEHIND THE SCENES AT GALILEO'S TRIAL: Including the First English Translation of Melchior Inchofer's *Tractatus syllepticus* by Richard J. Blackwell. Notre Dame, IN: University of Notre Dame Press, 2008. xiii + 245 pages, 3 appendices, notes, bibliography, index. Paperback; $28.00. ISBN: 9780268022105.

The Hungarian-born Jesuit theologian Melchior Inchofer is not well known today, but he was one of the crucial players in the trial of Galileo for suspicion of heresy in 1633. As an advisor to the Holy Office, probably acting on instructions from Pope Urban VIII, he undertook a detailed examination of the book that led to the trial, *The Dialogue on the Two Chief World Systems* (1632). His vigorous rejection of the earth's motion, on the basis of the Bible and how it was interpreted by patristic authors, became part of the Inquisition's case against Galileo. In order to appreciate the significance of this, we need to realize that the ultimate goal of any proceeding initiated by the Inquisition was not to determine guilt or innocence by examining the accused; rather, it was to persuade the accused to confess an erroneous opinion, to recant formally and sincerely, and (in many cases) to perform acts of penance as part of a sentence pronounced on the accused. Inchofer's analysis, therefore, was instrumental behind the scenes of the trial: it gave the Inquisition all the evidence it needed to determine that Galileo's book defended a heretical opinion; and, as part of its decision, the Inquisition ordered the book to be placed on the Index of Prohibited Books.

In close proximity with the trial, Inchofer published a treatise, *Tractatus syllepticus* (1633), a full translation of which comprises 40 percent of this book. Richard Blackwell, emeritus professor of philosophy at St. Louis University, is a distinguished scholar whose work has often focused on the theological and biblical issues raised by Galileo's discoveries and writings. His translation of Inchofer's treatise is a very important contribution by itself, but he also provides translations of four short texts that shed further light on the trial, including the opening chapter from *Prodromus pro sole mobile* (written in 1633 and published in 1651), by the Jesuit astronomer Christopher Scheiner, a personal enemy of Galileo who also advised the Holy Office during the trial.

The remainder of the book reviews the legal and scriptural cases against Galileo, describes the activities and ideas of Inchofer and Scheiner, and closes with Blackwell's own thoughts about science and religion. Blackwell sees Scheiner, "the premier Jesuit scientist of his era" (p. 65), as something of a tragic figure. His life as an ordained astronomer confronted him "with the dilemma of reconciling his pursuit of scientific truth with the demands imposed on him by his religious faith and his Jesuit vow of obedience," such that he represents "the classic case of the clash between science and religion at the personal level" (p. 90). Blackwell believes that a similar tension has characterized the subsequent history of science and religion, stressing the presence of conflict more than most experts on that subsequent history—which for the most part lies outside the range of his own scholarship. He is surely correct, however, to note that "the seventeenth century failed to bring about a cultural integration of science and religion, a condition that continues to our own day" (p. 101). I also agree that "the problem of the interaction between the authority of scientific reason and the authority of religious revelation has lived on, as science and religion have remained major cultural forces," but I do not entirely share his view that "the credibility of religious authority is what the trial [of Galileo] was, and still is, about" (p. 102). This is true as far as it goes, but it leaves too much unsaid about the personalities and institutions, including Galileo's own feisty arrogance, that also contributed prominently to the final outcome.

My misgivings do not at all diminish my enthusiasm for the meticulous scholarship that Blackwell provides. Owing to its narrow focus on two Jesuits who crucially shaped the Inquisition's case against Galileo, however, most readers will probably pass on the opportunity to benefit from this book—unless one really wants to know more about what happened behind the scenes, in which case this is an absolutely indispensable study of the most famous trial in the history of science.

Reviewed by Edward B. Davis, Messiah College, Grantham, PA 17027.

TECHNOLOGY

SPACES OF MOBILITY: The Planning, Ethics, Engineering, and Religion of Human Motion by Sigurd Bergmann, Thomas Hoff, and Tore Sager, eds. Oakville, CT: David Brown Book Company, 2008. 274 pages. Hardcover; $95.00. ISBN: 9781845533397.

As the subtitle reveals, the scope of *Spaces of Mobility* is quite broad. Mobility is considered to mean much more than simply transportation; it consists of all the "spaces and places" created by "technically-constructed processes for movement of people, goods, and information." Moreover, the spaces and places include spiritual, social, and psychological dimensions. My interest in the book derived from my work on public policy affecting transportation, land use, and community development—topics often collectively called new urbanism. I have approached these subjects as an engineer, albeit with interest in the broad definition of space and place adopted by the authors. Thus I undertook this review hoping to find new insights into the very difficult social objectives of reducing private automobile use, promoting public transportation, and persuading the City Department of Community Development to pursue *community*

as much as they do *development*. In particular, in light of the known environmental, social, and psychological impacts of automobile-based mobility, why is it so very difficult to persuade people (including Christians) to embrace less damaging means?

The book includes ten chapters (essays may be more descriptive) plus preface and index, by eleven different authors on a variety of subjects in three categories. The authors are—broadly speaking—theologians, psychologists, urban planners, ethicists, and civil engineers. The essays are outcomes from an interdisciplinary research program at the Norwegian University of Science and Technology (Trondheim) from 2003 to 2006. Thus the book is more akin to a symposium proceedings than to a systematic treatise on a single theme. However, the preface—by theologian and senior editor Sigurd Bergmann, psychologist Thomas Hoff, and professor of civil and transport engineering Tore Sager—provides an overview and roadmap.

Part I includes three papers that reflect on the sociopolitical, environmental, and ethical aspects of mobility. At the outset of the first paper, "The Beauty of Speed or the Cross of Mobility?" Sigurd Bergmann reminds us that technological progress was elevated "to the pedestal of divine favor" during the late nineteenth and early twentieth centuries, and the private automobile came to be a central symbol. Reflecting on the negative impacts of "automobility," Bergmann questions whether any science can be correct if its applications destroy its object (nature); and whether a technology for motion can be true and good if its applications destroy the lives of citizens, society, nature, and climate. "In order to contribute to the discourse on technology and ethics," he writes, "the authors of this book have chosen to focus on the question of what image of humans we should use in technology development." This is a good one-sentence statement of the book's theme, and it offers a good segue to the spiritual dimension of the topic. Bergmann suggests that "modernism's myopic view of the relation between humans, artifacts, and nature" provides a poor basis for technology development; and that ecological psychology (a field of study that I surmise will be new to most scientists and technologists) offers a better alternative. But he asks "how could one ethically describe what is better?" I think the problem is correctly diagnosed; but—as Bergman acknowledges—the prescription is still lacking.

Tore Sager discusses hypermobile society, where individuals can travel anywhere, any time they choose, by whatever means they wish. But individual travel behavior cannot be forecast in such circumstances, with the result that planners cannot design rules and institutions to modify this behavior in prescribed ways. Moreover, hypermobility reduces the motivation of citizens to spend time in their communities or participate in democratic processes. Here is one example where utility-maximizing market behavior and democratic decision-making ultimately collide with the Enlightenment idea of a human being becoming creator and master of his or her own world by acting on knowledge of consequences.

Urban planner Erling Holden tests the relationship between attitudes about the environment and household consumption. One observation is that "strongly committed individuals" tend to cast aside their green ethic when traveling for leisure. Nevertheless, energy consumption for housing and everyday transport can be reduced by control of land use. Holden also observes that habitual behavior is relatively independent of attitudes and beliefs—attitudes can change without corresponding change in behavior. He suggests that appeals to sustainability are ineffective for getting people to change their behaviors, and *flourishing* may be a more persuasive concept. In the final paper in Part I, environmental ethicist Anders Melin considers how "Christian ecotheology" might help shape a mobility ethic. He comes up with the concept of *pilgrimage* as a metaphor for ecologically and ethically sustainable mobility.

The papers in Part II consider the contexts among surroundings, artifacts, and the individual. Psychologists Kjell Ivar Øvergråd, Cato Alexander Bjrøkli, and Thomas Hoff address the moral (non)neutrality of technically aided human movement. Technological transportation aids may increase our capabilities for movement, they note, but do so without concomitantly increasing our ability to perceive and control this movement. The result is that technology engenders ways that we look on ourselves and on our civilization. Ethicist David Kornlid introduces the term *motility* to describe an individual's opportunities for movement in combination with his or her ability to appropriate them. Kornlid observes that our motor vehicles are an important part of our sense of self. The emotional investments we make in them transcend any economic calculations of costs and benefits, and outweigh any reasoned arguments about the public good or the future of the planet. This is why, despite the undisputed facts concerning the impacts on humans and nonhuman organisms, and whether we have developed "environmentally friendly machines," it is so very difficult to make an environmentally friendly culture of automobility. From my perspective the authors are correct about this point, but they do not seem to recognize the extent of human ability to rationalize our behaviors or deny their impacts. Garrett Hardin's classic "Tragedy of the Commons" showed us why utility-maximizing individuals are *compelled* to make choices that damage the commons.

Noting that mobility is one of the primary mechanisms of globalization, Professor of Comparative Religion Peter Nynäs examines the social and psychological impacts of frequent international travel. "Movements and ways of moving are important dimensions of human spirituality," he writes; they can influence one's worldview. Attachment to people and place, which forms a vital part of human existence, is difficult to achieve or sustain under these circumstances. Thus, increasing mobility is not only a threat because of its ecological impacts, but it is also a threat to the modern moral subject. (Now I understand why—following a year in which I took more than fifty business trips—I learned to hate business trips in general, and airplane travel in particular.)

Part III focuses on "the sociological differentiation of the landscape of mobility." Urban planner Tanu Uteng explores the subject by studying the lives of non-Western immigrant groups in Norway. She writes,

> Although engineers, industrialists and the leading actors on the market today still advertise mobility as a concept composed of just two aspects—speed and

> overcoming distance—the understanding of mobility has crossed the narrow confines of speed and distance and entered the wider realm of identity formation, freedom, and rights.

Uteng finds that this immigrant group lacks power in Norwegian society and is therefore less productive because they do not have ready access to transportation. Next, civil engineer Liv Øvstedal writes about "inclusive mobility" from the standpoint of accessibility and participation. Øvstedal argues that transportation planning needs to be broadened into *mobility* planning, by incorporation of environmental and social dimensions and considering the needs of bicyclists and pedestrians. He calls for *accessibility*—meaning ease of use by children and the elderly as well as the disabled. "There is a challenge," he concludes, "in broadening the perspective of planners and designers to take into account people different from themselves." (Amen to that.) A table of "universal design principles" for these objectives is provided as an appendix.

The final paper—Tore Sager's second in the volume—(re)defines mobility as the *potential* transport of humans, and explores the relationship between mobility and freedom. In addition to the hypermobility discussed earlier, freedom must include the feasibility of the choice *not* to travel. "Enormous sums of money are spent on the improvement of mobility," he writes. And "the budgets are backed by a political rhetoric giving prominence to efficiency gains and the value of free movement." But "attempts to achieve freedom by more mobility should take into account some consequences of excessive travel that tend to have the opposite effect of what is intended." The paper includes the paradoxical loss of freedom that must result when the necessary surveillance measures for managing mobility are put into place. Freedom as mobility, Sager concludes, contains the seeds to very different developments of society.

Although some of the participants were theologians and religious ethicists, and the spiritual dimension of human existence received frequent mention, this is by no means a "Christian" work. However, many if not most of the conclusions are consistent with the biblical concepts of *imago Dei* and *creation care*. My original hope of learning new practical steps that can be taken to persuade Westerners to support *and use* public transit—or at least to reduce their use of private automobiles—was not completely satisfied. But I came to see that the research program that resulted in this book was undertaken to attain new understanding of the multidimensional nature of mobility in Western society. It was not intended to result in a handbook. Nevertheless, a number of fresh insights (at least to me) are reported. I discovered some new tools to use in my discussions with city and county planners. The book will appeal to scientists and engineers who are involved in technology and society in general, and transportation and land use in particular; it will appeal especially to those who have a philosophical bent.

One final comment: the book was printed in a very small type, at least for these aged eyes. No doubt this resulted in cost savings but at the sacrifice of readability. Yet the paperback version still lists at $39.95.

Reviewed by J. C. Swearengen, 3324 Parker Hill Road, Santa Rosa, CA 95404-1733.

Letters

Can We Trust Our Minds to Tell Us about the "Multiverse"

I found Robert Mann's article on "The Puzzle of Existence" (*PSCF* 61, no. 3 [2009]: 139–50) very helpful in describing the challenges posed by the rise of the multiverse paradigm and the problems that arise when it is used to explain the particularity of our universe. In addition to the problems that Robert raised, I believe that the use of infinitely many universes to explain the seemingly low probability of our universe relies on an overconfidence in our scientific prowess.

To illustrate, let me suggest that, in addition to the universes envisioned under the physics of "string theory," there is another class of universes produced by different physics, that of "phlegm theory." In phlegm theory, all of the apparent "fine tuning" coincidences that we observe are naturally explained as the likely outcome of phlegm physics. Moreover, in a phlegm universe, intelligent creatures such as ourselves are almost certain to evolve. Sadly, however, the matter produced in a phlegm universe has limitations in its capacity to support advanced thinking. In fact, phlegm-based brains are not sophisticated enough to grasp the subtle, yet powerful, mathematics of phlegm theory. The best that the benighted phlegm brains can muster is an understanding of string theory. Thus, in a phlegm universe, it is virtually inevitable that the most advanced beings that evolve will be left pondering as to why their universe seems to have such peculiar properties, when, in truth, their universe is completely comprehensible under phlegm physics, only they are too obtuse to grasp this.

Now, my story of a "phlegm universe" is obviously fanciful. Suppose I therefore assign some very low probability, say 10^{-40}, to the chances that something like this scenario might be true. Now contrast this to the probability that I am living in a very rare string theory universe, whose probability is even lower, say 10^{-100} or less. Should I not overwhelmingly prefer the explanation based on a "phlegm" universe or something of the like, since its odds of being the correct explanation, though tiny, are nevertheless much greater than the odds of being in an extraordinarily rare string universe? Put another way, unless I think that the odds that I have overlooked some better explanation for "fine tuning" are ridiculously small (less than, say, 10^{-100}), I am bound to take seriously other explanations (including ones I have not come up with yet!), even if they, too, are very unlikely. In addition to the "phlegm" universe, other explanations that ought to at least be considered include the following:

- When properly understood, string theory will predict that a universe like ours is probable.
- There is a very advanced being in another universe who created our universe with the properties that it has.
- We are really just computer algorithms running on an advanced computer programmed to make us think we are in a peculiar universe.