

## Reviews

*Genes, Determinism and God.* By Denis Alexander. New York, NY: Cambridge University Press, 2017. viii + 385 pages. Hardcover, US \$106.00 / Softcover, US \$32.99

This is a remarkable book indeed. Unlike many others, the volume under review takes readers right into the complexities of matters without simplifying or distorting shortcuts. The well-crafted, cautious language makes the demanding subject matter accessible to nonexperts as does the systematic, very reflective unfolding of argument with its many cross-references. Further, despite the tremendous amount of literature cited, information overload and unnecessary accumulation of data are avoided. This, surely, is the work of someone mastering the subject who is fully aware of the “tsunami of somewhat contradictory data” (180). All chapter headings end with a question mark (trailed by short, often disputatious quotations from various sources) to indicate that what follows exposes the reader to issues rather than to simple facts. “This is a ‘both – and’ book. Those who prefer confrontational ‘either – or’ discourse should look elsewhere” (14).

The author, Denis Alexander (born 1945), is a seasoned researcher in molecular biology with broad international experience. He is Founding Director (Emeritus) of the Faraday Institute for Science and Religion at Cambridge, UK, and a former editor of the journal *Science and Christian Belief*. He has published widely on interdisciplinary themes with special interest in the dialogue between science and religion, convinced that “it is often both academically and personally fruitful to engage in interdisciplinary projects” since participation therein “extends one’s horizon beyond the walls of the laboratory” (301).

*Genes, Determinism and God* is based on the Gifford Lectures Denis Alexander delivered at St. Andrews University, Scotland, in December 2012. In this book he not only tackles the impact of genetic research on the concept of free will and personal responsibility, but also passionately addresses issues of distorted public opinion regarding genetic determinism articulated in phrases like nature and nurture, hereditarian and behaviorist, innate and learned, genes and environment, because “all forms of dichotomous thinking have been thoroughly subverted by recent biological findings” (1).

The book consists of twelve well-proportioned and conveniently subdivided chapters (with few figures interspersed) preceded by a short preface (vii–viii) and the introduction (1–15), while chapter notes (303–09), the bibliography (311–55), and an extensive, detailed index (357–85) come at the end. The first two chapters (15–38 and 39–61) unfold the history of the ‘nature–nurture’ discourse from antiquity to the twenty-first century, while Chapter 3 (62–86) reports about recent advances in biological research perceiving the genome as “embedded as but one component in a complex system in which each component contributes a critical functionality to the system as a whole” (64). Variable gene products like alternative splicing, RNA modifications, and posttranslational protein modifications, to mention but a few, contribute their share in the development of living

systems, as do epigenetic regulations of gene expression, transposons, the microbiome, and the virome, that “huge storehouse of extra genetic diversity” (86). To communicate this dynamic complexity terminologically, the author suggests in Chapter 4 (87–108) the new acronym DICI (for Developmental Integrated Complementary Interactionism), demonstrating its explanatory power by taking human development as an example to show that “the dichotomous language of nature and nurture is completely inadequate as a way of understanding human identity” (107f). He then puts the soundness of DICI to the test by asking in Chapter 5, “Is the worm determined?” (109–33), lucidly demonstrating that “all . . . genetic differences are integrated with an emerging complex neuronal system that carries within it the tendencies that influence different behavioral traits” (132f).

Chapters 6–10 embark upon human behavioral genetics and its often misconceived, sometimes disastrous impact on explaining certain peculiarities of character. Chapter 6 (134–61) surveys quantitative behavioral genetics, a “field” which “is not going to help . . . with questions of free will and determinism” (161), and the focus of Chapter 7 (162–87) is on molecular behavioral genetics (including medical genetics). Here the author cautions his colleagues “to take great care over the public presentation of . . . results, particularly . . . to avoid the pitfall of extrapolating wildly from scanty data to broad societal conclusions,” reminding them repeatedly of “the mantra that ‘correlation does not entail causation’” (182). How behavioral genetics impact the interpretation of intelligence testing, religiosity, and political attitudes is described in Chapter 8 (188–212), how it is used to explain sexual orientation in Chapter 9 (213–232), and how genetic argumentation is used in deciding criminal liability in Chapter 10 (233–53). Assessing the various scenarios, the author bemoans in conclusion “the sheer naivety of all participants concerning the scope and application of genetics” (251) because they mistakenly assume that “increasing biological knowledge in the neurosciences and genetics necessarily undermines the notion of human responsibility” (253).

Chapter 11 (254–78) designs “a framework” that enables “a rational discussion” between biology and philosophy “concerning the extent to which genetic variation impinges on the human experience of choosing freely” (255). This is achieved by first alerting us to the “two language sets” of the “I” and “it” relationships to life and world, both not mutually exclusive but “essential and . . . part of our daily discourse” (257); and, second, by introducing yet one other neologism, DAME (for Developmental Dual-Aspect Monistic Emergentism) to emphasize “that the contrast between minds and bodies is drawn in terms of attributes or properties,” not of substances, because “it is only by adopting a perspectival attitude towards the data (the I/it divide) that” one comes “to the conclusion that the single-substance system displays two distinct properties, the mental and the physical” (263). Actually, “there is nothing in genetics that falsifies the reality of free will, even though variant genes can, on occasion, subvert the ‘I’ on whom free will depends” (278).

Chapter 12 is dedicated to the explicit discourse with theology, using the biblical notion of humankind made in the “image of God” as the interface. Such a conversation is deemed possible—and necessary, because “[n]ever before have the findings of science regarding the human person seemed so compatible with a Christian understanding of human personhood”—and never before has this

understanding been “so relevant to the bioethical challenges arising from advances in genetics” (286). Perceiving humans as made in the image of God crucially impacts the way humans act. It does not provide a “magic wand’ solution to the tricky ethical dilemmas” occurring from insights gained in molecular biology, but it does “as a general framework . . . often help nudge the conclusions in one direction more than another” and provides “an absolute barrier” when “really horrific suggestions are made,” favoring genocide or infanticide, for instance (298). The author thus ends in emphasizing responsible exercise of free will by both the research community and the general public when dealing with bioethical issues.

No doubt, this book is a demanding read. Being nonapologetic and devoid of polemics it represents the science–religion discourse at its best. It is well suited to serve as the reference standard for any like undertaking.

CHRISTOFFER H. GRUNDMANN

John R. Eckrich Emeritus University Professor,  
Valparaiso University, Valparaiso, IN, United States  
Christoffer.Grundmann@valpo.edu

*The Meaning of Belief: Religion from an Atheist’s Point of View.* By Tim Crane.  
Cambridge, MA: Harvard University Press, 2017. 224 pages. US \$24.95,  
Euro 19,95 (Hardcover).

This essay presents a most nuanced case against militant atheism. The primary reason for its existence is what Crane perceives as a stalemate in the debate between friends and foes of religion. While he sides with atheism, Crane rejects central positions advanced by militant atheists. The essay does not outline the reasons for Crane to accept atheism. Instead it presents powerful objections to the claims that have become characteristic of militant atheism. The two main contentions that Crane defends are that militant atheists greatly misunderstand the nature of religion and that their intolerance towards religion is poorly justified. It is to be noted from the outset that Crane’s essay is “intended as a contribution to a public debate about an important issue. It is not supposed to be an academic work, or a piece of theology or anthropology.” (xii) Accordingly, “no new theories or empirical discoveries” are presented in the essay. Crane basically offers his philosophical views about the nature of religion and some advice to fellow atheists as to how to respond to religion. The essay is divided into five chapters.

The first chapter carefully introduces the two aforementioned main contentions that the essay defends. It further develops a normative notion of religion that informs the discussion that is unfolding in the chapters that follow. Religion, argues Crane, means much more than an affirmation of empirical propositions, contrary to what militant atheists assume in their attack on religion. Religion rests on two pillars, as it were, namely an inclination to accept the existence of an all-pervasive unseen order in everything there is (“religious impulse”), and the very human need to belong (“identification”). Accordingly, religion relates to everything that characterizes a person, including his ideas, desires, wishes, and actions. Thereby religion gives meaning to life. And in all this there is the indispensable moment of transcendence: “Without the transcendent, there is no religion” (27).

The second chapter elaborates on the nature of religious impulse. Noteworthy is the conceptual distinction this chapter introduces between *religious impulse* and *religious temperament*. The latter characterizes all those who “have the urge to believe, to look for an unseen order, even if they are not actually believers” (51). This urge, argues Crane, is not enough to be religious; nor is religious impulse without identification. This chapter provides also further clarifications with respect to Crane’s own atheism: “I am a pessimistic atheist. I think the religious impulse is intelligible, but” (46) doomed to be frustrated today. Crane provides excellent arguments to support his claim that the religious impulse is a very legitimate response to the mystery that our universe actually amounts to. He rejects the idea that God functions as a hypothesis in religion, and objects to the equation of all factual and empirical matters with scientific matters, as well as to the reduction of cognition to propositional processing. Accordingly, conflict between science and religion is not a matter of conceptual necessity: “Religion is an attempt to make sense of the world, but it does not try to do this in the way science does. . . . Of all the kinds of things that we count as explanations, modern scientific explanation is only one” (72–73).

The third chapter specifies the nature of religious practice and thereby sheds light on the intimate relationship between religious impulse and *identification*. The concise analysis that Crane offers brings to light that religion is a social phenomenon like many others that breathe life into human society; nothing anomalous here. The idea that religion is something extraordinary with no place in an enlightened human society is, therefore, deeply misguided. And yet, religious practice, such as the observance of Sabbath, is something unique: “These activities are absolutely fundamental to anything that we recognize as a religion, but they are neither matters of morality nor simply the straightforward expression of some cosmological belief. This is why the cosmology-plus-morality picture of religion is so inadequate. It does not account for religious practice” (87–88). Important to understand about religious practice is that the practitioners usually *inherited* the practices they practice, and that the practices are deeply embedded in the life of a *community*. And the idea that membership in such a community should be the result of a rational decision in light of all available facts greatly misunderstands the nature of social existence in general—historically (the impact of traditional religions on our views of the nature of society), empirically (in analogy to science as a community effort, citizenship in a state, and membership in a family), and philosophically (“we are ‘thrown’ into a world that is not of our own making” [96]). The chapter also leads to a discussion of the sacred: “sacred objects play two roles in religious practice, what I will call their ‘internal’ role and their ‘external’ role. The internal role is to be the bearers of religious meaning inside and outside religious ritual” (111). Crane uses the philosophical notion of intentionality to explicate this role. The external role of sacred objects “is to unify the members of a religion” (115). The discussion of the sacred is central in Crane’s essay because it is the sacred “that connects the two elements of religious belief that are the core themes of this book—the religious impulse and identification” (116).

The fourth chapter addresses the claim of militant atheists that religion is to be deeply linked with violence. Crane’s multifaceted response to this line of reasoning is widely shared by theists: (a) there is also much nonreligious violence,

(b) religious violence is not the worst kind of violence, and (c) conflicts are often too complex to say that it is religion only that drives the conflict; moreover, (d) if we happen to be in a position to blame religious elements for a conflict, then closer analysis shows that the conflict has nothing to do with explicitly theological beliefs. Most often religion enters the picture insofar as moral rules, the nature of worship, matters of identification, general psychological aspects, and social relationships are concerned. Thus, we should be “very careful about giving any role to ‘beliefs about God’ in explaining religious conflict” (133). There is another way to link religion and violence that finds promotion in the work of militant atheists. Insofar as religion is said to rest on faith alone, where faith is understood as an attitude of acceptance of propositions without any supportive evidence, religion is presented as outright irrational; and given the assumption that irrationality can lead to the worst kind of violence, religion and violence are linked by conceptual necessity. Crane responds to this line of reasoning that it can happen, indeed, that religious propositions are accepted without evidence in place. Yet, it is not essential to religion that propositions be accepted without evidence in place. This is a misunderstanding of the nature of religious faith. And the generalization that religion is irrational is difficult to substantiate because a theory of rationality can never legislate what to believe in order to be rational, but only specifies “what it is for something to be a reason, or what it is to be a process of good reasoning” (155). It does not seem possible to demonstrate that religion “can never be based on good reasoning or on good reasons” (156). But the link between the alleged irrationality of religion and violence turns out to be problematic also for the simple empirical fact that very rational people are capable of very violent acts and that irrational people can be very kind.

The final fifth chapter addresses some questions concerning the toleration of religion. Crane wishes to see bad effects of religion combated, but not religion as such. Given the failure of the secularism thesis, it is important that efforts are made to understand religion, to accept the human face of religion, and to live with the irreducible reality of religion. As an atheist Crane insists that tolerance of religion does not require acceptance of religious belief as possibly true. The very idea of tolerance is to live with disagreement: “So toleration of something *implies* disapproval of it: you can only tolerate those things of which you disapprove or submit to some other kind of negative assessment” (176). The chapter carefully distinguishes tolerance, relativism, and a global respect of all views. The foundation of tolerance is respect for each and every person—whatever their views are. This is presented as a much more “realistic (and therefore pessimistic) response to the reality of religion, and of human nature” (193) than the pursuit of a quest for educating religious people in the hope that they will ultimately give up their wrong views. “The optimistic view that religion will wither away in the face of science and reason does not have the facts on its side” (192).

From the perspective of the field of science and religion—or religion and science for that matter—this essay is to be greatly welcomed. It can be seen as valuable support for recent efforts to communicate more effectively the results of academic discussions to non-experts. Noteworthy in this context is *Galileo Goes to Jail and Other Myths about Science and Religion*, a collection of essays edited by the eminent historian of science, Ronald L. Numbers (2010). The volume eloquently

brings to light, for instance, the high degree of simplicity that allows militant atheists to utilize the history of science in their attack on religion. Crane's essay beautifully directs our attention to the extremely problematic nature of many of the philosophical assumptions on which militant atheism rests. The other side of the coin is that the position of religious apologetics seems equally simplistic and problematic when they urge a consonance between science and religion—historically and philosophically. If there is any significant common ground between religious apologetics and militant atheists, then it is probably a lack of appreciation of the complexity of the relationship between science and religion from past to present, and a narrow focus on propositions in their analysis of religion. This is no trivial finding because religious apologetics are actually at risk “to reinforce the very conditions that make conflict possible” (Harrison 2015, 198). Anyone interested in overcoming the confines of conflict when thinking about the relationship between science and religion will greatly benefit from Crane's essay, and one can only hope that of those there are plenty.

YIFTACH FEHIGE

Associate Professor of Christianity and Science,  
University of Toronto, Toronto, Ontario, Canada  
yiftach.fehige@utoronto.ca

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*The New Cosmic Story: Inside Our Awakening Universe*. By John F. Haught. New Haven, CT: Yale University Press, 2017. 240 pages. US \$25.00 (hardcover).

*The New Cosmic Story*, as told by distinguished religion scholar John Haught, situates the science-and-religion dialogue in a larger frame than we usually assume. Haught bases his presentation on relatively recent scientific findings that show that our universe has been in a process of development for an exceedingly long time. Only in the last fraction of this period has intelligent life been in the picture. Yet, a very long period of further development may lie ahead. What might that mean for creatures like us?

Only a few hundred years ago, ordinary folks and even scholars as wise as Immanuel Kant saw the human project as resting on an established, unchanging physical world. In recent years, however, scientific research has reached the firm conclusion that the universe has been in existence for an enormous stretch of time, and has been in a continual process of change that seems far from complete.

In proportion to the age of the cosmos, the human story is an exceedingly recent development. This story began with humanlike ancestors a few million years ago, and continued with the emergence of *Homo sapiens* only some 200,000 years in the past. Yet, with *Homo sapiens* came a reflective form of intelligence not seen in

the universe before, so far as we know. The universe, along with the Earth and its inhabitants, are continuing to develop. The human story has involved a long period of emergence that is not nearly complete.

Between two and three thousand years ago a shift in human consciousness began to occur on Earth that was so unprecedented that it amounts to nothing less than a major new chapter in the history of the universe. Over a period of several centuries, especially in China, India, Europe, and the Near East, the religious quest for meaning became less symbolic and more mystical and theoretical than earlier. "In the teachings of a few exceptional seekers and their followers, religion in these places became less concerned with rituals, petitions, and appeasement of supernatural beings and more preoccupied with personal awakening and spiritual transformation. . . . [They] began to cultivate the impression that an indestructible dimension of being, goodness, truth, beauty, and unity lies hidden beyond, or deep within, the world of ordinary experience" (10). The purpose of our lives, they taught, is to awaken us to this hidden realm of being and allow our lives to be transformed by it. The German philosopher Karl Jaspers (1883–1969) termed this time the "Axial Age." The search had begun for a new sense of rightness, and it continues today.

In order to explore the dimensions of this search, Haught divides his book into twelve chapters. In Chapter 1, entitled "Dawning," he describes the emergence of human subjectivity, which he regards as a major event in the history of the universe and an "undeniable aspect of nature," for only through subjectivity can the universe acknowledge its own existence. Without it, nothing would matter. Haught believes that the arrival of a religious dimension of human consciousness is "a no less momentous development in the cosmic story than the earlier arrival of life and mind" (20). Like the universe itself, the religious search for rightness remains unfinished. Rightness, in fact, is Haught's term for the basic quality of good in the development of life and mind.

In Chapter 2, "Awakening," Haught traces the searches for universally good and true values conducted by the various religions. The sense that there is comprehensive rightness to be found leads to a search for "an elusive horizon of unrestricted being, goodness, truth, and beauty," he observes (28). Furthermore, we sense that our own lives can contribute something to the realization of rightness. And of course, this potential, if not realized, means also a potential for shadows and darkness. This potential may be enhanced by those who deny that there is any possibility for goodness and meaning based on human decisions. Haught, however, maintains that "a fully attentive story cannot ignore the inner drama of a universe gradually awakening to the dawn of rightness" (32).

As a basic way for structuring his examination of this reality, Haught describes three categories of analysis that are currently in use by large numbers of people. One he terms "Archaeonomy." This form of analysis is deterministic and focuses on physical reality. It denies that the cosmic story has any interior meaning or direction. Elementary units alone are real in this view. The second approach he terms "Analogy." It fixes attention on the "Eternal Present," sometimes called God, sometimes Brahman, or by other names. It seeks perfection that lies beyond the physical world. In building its concepts upon an eternal reality, it does not look toward development or the future. Haught favors a third approach that he

calls "Anticipation." It asserts that the universe story has a continuing future, with development beyond present imagination. It looks for meaning in this story, and believes that "more-being is coming into the universe from up ahead" (36). Unpredictable patterns and important meanings are still out of sight.

In this framework, Haught proceeds to examine the development of religions, seeing them as a new cosmic breakthrough. Religions, of course, are not identical, so to examine them as a group, he extracts twelve shared aspects of religions and examines them one by one, in his twelve chapters. In each, he describes the approaches to this examination taken by archaeonomy, analogy, and anticipation. By analyzing twelve features of the development of the human religions, each in three different ways, Haught gradually lays out his understandings of a universe in which meaning is under continual development, with outcomes beyond our ability to ascertain. The twelve features are Dawning, Awakening, Transformation, the Process of Becoming More, Interiority (the hidden, subjective dimension), Indestructibility, the Permanence of Rightness, Transcendence, Symbolism, Obligation, Purpose, Wrongness, Happiness, and Prayerfulness. To put this quest into context, Haught acknowledges that his thought has been greatly influenced by that of French anthropologist/theologian Pierre Teilhard de Chardin, who strongly proposed the new sense of an unfinished universe.

In each chapter, Haught describes the status of that feature in various religions, and also examines the positions of archaeonomic, analogical, and anticipatory expressions of religion. Through this varied analysis, Haught supports his preference for anticipation, although he acknowledges significant contributions from the other two approaches. When this process of analysis is complete, the reader has gained a greatly enhanced view of the development of our universe and our human reality over time.

Central to the process is the expansion of meaning in the universe. Haught writes, "Religion is a grateful response by the universe to the dawning of rightness" (190), the emerging of God-consciousness, and the deep value of rightness as it becomes ever stronger and more multidimensional. This expansion goes far beyond the acceptance of materialistic determinism so common in our day. It also transcends the belief that all religious reality is rooted in the eternal past. Rather, we may anticipate further dramatic awakening and the deepening of human meaning and freedom.

Haught places us in a reality that is both wider and deeper than most of us consider on a daily basis. He challenges us to situate our actions in terms of their contributions to the future that stretches before us. Our individual callings, if perceptively understood and carried out, will each have consequences for the future that may, in their own way, carry influence forward through generations. This realization may enhance the sense of meaning for each of our lives.

This book constitutes an important counterforce to the simplistic assumptions that characterize the daily life surrounding us. It is a welcome addition.

CAROL RAUSCH ALBRIGHT  
Visiting Professor of Religion and Science  
Lutheran School of Theology at Chicago, Chicago, IL  
Albright1@aol.com