

The editor acknowledges at the outset the problems with the theme of the volume: 'not all religions accept a soul that remains the same as the center of the person' (p. vii), and 'the progress of history and the idea of individual life after death appear to be two ideas that do not lie at the same level' (p. 1). These problems permeate the book, and are never resolved enough for the reader to feel comfortable with the bringing together of these ideas. Individual authors also state quite clearly the limitations of the 'isms' about which they are asked to speak. For example in the case of Hinduism, 'Hinduism is not a monolithic religion...has no fixed doctrines, no prophets, no holy book and no organised church acceptable to all the believers of that religion' (p. 8). 'Judaism', like many other religions which developed over a long period is a complex phenomenon. 'It not only developed diachronically but also diversified itself synchronically, given the wide geographical dispersion of the Jews, as part of their diaspora plight' (p. 40). Similarly, there is 'no single Buddhist doctrine' (p. 75).

Specificity is identified in the chapter on the Zen Buddhist thought of Dogen (in which too much space is given to the thought of Plato, Aristotle and Kant), but others try a wide sweep which really cannot work with any accuracy and makes the volume seem uneven, even confused and confusing. Clarifications that might have been made in the discussion sessions are not accessible through the summaries and notes that are the written records of those conversations. I found statements that to me were inaccurate, or were contradicted elsewhere in the book or needed considerable qualification. The essays are also for the most part too wordy, and the English is often clumsy, presumably as a result of translation from the German, and the fact that German is not the first language of many of the contributors.

The volumes contain full details of the contributors (these vary between volumes) and of the contents of the other books in the series. There is an index of persons but no general index. Once more it needs to be said that women make up half of the human persons on which the volumes purport to focus, but their voices are notably absent from these dialogues. The contents of the volumes are potentially interesting presentations on the themes from their diverse perspectives.

PEGGY MORGAN

DESIGN AND DISORDER: PERSPECTIVES FROM SCIENCE AND THEOLOGY edited by Niels Henrik Gregersen and Ulf Görman, *T&T Clark/Continuum*, Edinburgh, 2002, Pp. xv + 232, £15.99, pbk.

Over the past thirty years, discussions about the relationships between contemporary science and theology have come to occupy

an important place in the intellectual landscape. The European Society for the Study of Science and Theology (ESSSAT) provides an important venue for such discussions, and the essays collected in the volume under review are extended versions of presentations made at the April 2000 meeting of ESSSAT in Lyon. The book itself is part of a larger series, *Issues in Science and Theology*. In various ways, these essays call into question the notion that there is in nature a fundamental dichotomy between order and disorder, such that one must choose between one or the other in describing features of nature. Similarly, the authors argue that theology, in the Judeo-Christian tradition, need not conclude that one must ultimately reject chance and indeterminism in nature in order to safeguard belief in God. Thus, a new understanding of divine design would not require that everything in nature 'has to be intelligently designed for special purposes'. The essays in this book seek to 'cast new light' on the relationship between design and disorder. Since so often modern approaches to the relationship between God and nature have depended upon arguments from design in nature, this book is welcome. The introduction contains useful paragraph-long descriptions of each essay.

Ulf Görman, one of the contributors (and also one of the editors), contends that recent trends in both science and theology have challenged traditional interpretations of order. In particular, he thinks that chaos theory 'shows that our received view of determinism' is far too limited. Many of the other contributors would agree with his general observation that 'the understanding of God's providence, pre-knowledge, and predestination [must] be understood in new ways in the light of chaos theory'. Similarly, conceptions of self-organization and constitutive self-assembly, as well as versions of complexity theory, especially in biology and chemistry, present challenges to traditional notions of divine action. Görman observes that 'the traditional concept of divine activity has been too much associated with an idea of causal determinism connected with seventeenth-century scientific ideas, which are nowadays abandoned by science'.

The contributors to this collection of essays are distinguished scholars who have written both in their own areas of special expertise as well as on the interrelationship between theology and science. John Barrow points out how contemporary science shows us that 'chaos and order have been found to coexist in a curious symbiosis'. The classic example which he uses, and which appears in other essays in the volume, is that of the growth of a sand-pile, grain by grain of sand falling in a chaotic manner, such that the pile evolves in an erratic way. As the pile of sand grows, 'sandfalls of all sizes occur, and their effect is to maintain the overall gradient of the sand-pile in equilibrium, just on the verge of collapse'. This self-sustaining process is what has been called 'self-organizing criticality' by its

discoverer, the Danish physicist, Per Bak. Barrow thinks that, as with the sand-pile, there are many natural systems in which order develops on a large-scale through the combination of many small-scale events 'that hover on the brink of instability'. Applying this model to evolutionary processes, Barrow writes: 'The chain of living creatures maintains an overall balance despite the constant impact of extinctions, changes of habitat, disease and disaster, that conspire to create 'local avalanches.' Occasional extinctions open up new niches, and allow diversity to flourish anew, until equilibrium is temporarily reestablished'.

Niels Gregersen offers the most sophisticated attempt to understand the implications for theology of complexity theory and various versions of self-organization in nature. He is particularly good at showing the differences among general notions of self-organization, self-organizing criticality, and theories of *autopoiesis* (put forth especially by Umberto Maturana and Francisco Varela).

John Brooke, the distinguished historian of science, challenges traditional interpretations of Darwin's attitude toward natural theology. According to Brooke, Darwin set out not to destroy natural theology, but to reform it. The 'young Darwin found God *in* nature rather than deduced God's existence *from* it'. Historical studies, such as Brooke's, can help us to avoid simplistic notions of an incompatibility between natural theology and evolutionary biology.

Christoph Theobald, SJ, argues that theologians do not need traditional understandings of purpose (finality) as they seek to bring together the various levels of cosmic, biological, and historical evolution. He offers a particularly insightful discussion of the different senses of the 'anthropic principle' and their relation to teleology. Theobald is the only author in the book who refers to a Thomistic understanding of divine causality and how, for St. Thomas, God is the creator in such a way that the 'autonomous operation of secondary causes' is not challenged. Theobald is critical of those who try to find in versions of the anthropic principle some similarity with arguments advanced by St. Thomas in his natural philosophy.

Other authors who contribute to this volume are: John Puddlefoot, Isabelle Stengers, Alexei Nesteruk, and Willem Drees. The book offers an excellent account of many of the ways in which the traditional discussion of design and disorder in science and theology has been transformed, not only by advances in science, but also by reflections in theology. Some of the essays reveal a characteristic shortcoming in much of the contemporary 'dialogue' between theology and science: the absence of a sophisticated natural philosophy. The authors are correct in seeing how frequently modern notions of divine causality are rooted in conceptions of causality associated with developments in the seventeenth-century and how, accordingly, contemporary science has challenged these conceptions. But a danger

both in the seventeenth-century and today is to move too quickly from developments in the natural sciences to revisions in theology. Only when the discoveries of science are integrated into a broader philosophy of nature ought they to play a role in theological reflections.

Might it not be the case, as Christoph Theobald briefly suggested, that a return to Thomistic categories of analysis would provide a useful partner for any dialogue between theology and the natural sciences? In this respect it would be good to remember that Thomas Aquinas does not have an argument for the existence of God based on design, at least as design has come to be seen in modern thought.

WILLIAM E. CARROLL

MYSTICAL CONSCIOUSNESS: WESTERN PERSPECTIVE AND DIALOGUE WITH JAPANESE THINKERS by Louis Roy OP, *SUNY Press, Albany, 2003, Pp. xxi + 229, \$20.95 pbk.*

This book is an attempt to clarify elements of a philosophical theory of mysticism. The work entails a conversation bringing together Western thinkers (classical, medieval and modern) as well as certain twentieth century Japanese philosophers working out of the Zen Buddhist tradition (Nishitani Keiji, Hisamatsu Shin'ichi and D.T. Suzuki). The author is of the Lonergan School.

The first chapters of the book deal with the work of Brentano, Husserl, Sartre, Searle, John Crosby, Daniel Helminiak, Elizabeth Morelli, Sebastian Moore, Robert Forman, James Price, David Granfield. Lonergan's epistemology sets much of the agenda. The second section of the book is given to a review of the mystical theologies of Plotinus, Eckhart and Schleiermacher. The final section of the book is a discussion of the work of certain figures of the Kyoto School of Zen philosophy, broadly understood so as to include D.T. Suzuki. The material in all these chapters is quite technical and is not intended to be an introduction to either Western mysticism or the Kyoto School. There is also a brief conclusion that raises various topics and a glossary.

One of Roy's major points has to do with the recognition of a consciousness-in-general which is to be located between ordinary object-oriented awareness and mystical consciousness in the proper sense. In developing his view, Roy constructs three types of consciousness. Ordinary object-oriented consciousness (what Roy calls 'consciousness C') is 'positional' in that it is focused on an object. There is also a non-positional awareness ('consciousness B') that underpins object-oriented consciousness. This consciousness without an object pervades all mental states and operations and is implicit in