

*The Dwight Harrington Terry
Foundation Lectures on
Religion in the Light of
Science and Philosophy*

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The deed of gift declares that "the object of this foundation is not the promotion of scientific investigation and discovery, but rather the assimilation and interpretation of that which has been or shall be hereafter discovered, and its application to human welfare, especially by the building of the truths of science and philosophy into the structure of a broadened and purified religion. The founder believes that such a religion will greatly stimulate intelligent effort for the improvement of human conditions and the advancement of the race in strength and excellence of character. To this end it is desired that a series of lectures be given by men eminent in their respective departments, on ethics, the history of civilization and religion, biblical research, all sciences and branches of knowledge which have an important bearing on the subject, all the great laws of nature, especially of evolution . . . also such interpretations of literature and sociology as are in accord with the spirit of this foundation, to the end that the Christian spirit may be nurtured in the fullest light of the world's knowledge and that mankind may be helped to attain its highest possible welfare and happiness upon this earth." The present work constitutes the latest volume published on this foundation.

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Preface

Five principal concerns have characterised activity in the past thirty years across the border between science and theology: a rejection of reductionism, partly based on an appeal to science's increasing recognition of the interconnected and holistic character of much physical process; an understanding of an evolutionary universe as being compatible with a theological doctrine of creatio continua; a revival of a cautiously revised form of natural theology; a methodological comparison of science and theology that exhibits their common concern with the attainment of understanding through the search for motivated belief; and speculations concerning how physical process might be sufficiently open to accommodate the acts of agents, both human and divine. Serious books on science and theology are bound to engage with some or all of these themes. I do not feel that I have much to add to what has been written already on the first two of these topics, but the invitation to give the Terry Lectures provided the opportunity to give further thought to the other three.

Chapter 1 concerns natural theology, presented as an in-

sightful, rather than logically demonstrative, discipline. Underlying its argument is the conviction that theism offers the "best explanation" of the many-levelled character of human encounter with reality. The treatment enlarges my previous discussion of this theme, not least by its greater emphasis on the importance of moral and aesthetic experience and the deep-seated human intuition of hope.

In Chapter 2, I describe the cousinly relationship between scientific and theological method. Though in no conventional sense a Kuhnian, I am persuaded by Thomas Kuhn's insistence on the importance of historical enquiry as the testing ground of philosophical theorising. Epistemological questions are to be settled, not by abstract considerations, but by regarding how it is that we actually gain knowledge. Rather than reworking previous general methodological discussions, I have focused on two critical periods of exploration and discovery, one scientific, the other theological. The first is the investigation into the nature of light that eventually led to quantum theory; the second is the Christological controversies of the first five centuries that eventually led to the Chalcedonian definition. I believe that these particularities bring to light interesting analogies between the ways in which science and theology attain their beliefs.

In Chapter 3, I discuss divine action, a theme that has preoccupied many writers on science and theology, particularly in the past ten years. A critical review is given of the proposals that have been made for locating a "causal joint," or ontological openness within process as science describes it, which could afford room for agents to act. Recent results of Ilya Prigogine in relation to non-integrable (fractal-like) solutions are used to carry further the metaphysical con-

ture that chaos theory should be interpreted in an open, rather than a deterministic, way.

Chapter 4 surveys prospects for future dialogue. It is argued that the engagement between scientific and theological thinking will become closer, drawing in a greater involvement of theologians and of workers in the human sciences. The religious setting must broaden beyond the Abrahamic faiths to include all religious traditions. It is suggested that their meeting with science may provide the world faiths with a congenial ground of encounter.

One way of characterising the perceived common ground between science and theology is to say that both make a critical realist evaluation of their encounter with their very different subject matters. This has been a popular theme in the writings of scientists who have a serious interest in theology. My own defence of critical realism in science is based on an analysis of the thirty-year history of the discovery of quarks and gluons, in which I had been a minor participant (see my book *Rochester Roundabout*). Chapter 5 distils many features of the scientific quest for understanding, and it suggests that parallels exist in the theological quest for understanding. The chapter, therefore, constitutes a defence of the critical realist thesis, located at a level of generality midway between the specificities of Chapter 2 and a purely abstract line of argument (if that were possible).

The nature of mathematical truths has long been debated. The sense of discovery, to which the mathematicians testify, encourages the belief that there is a realm of reality in which entities like the Mandelbrot set exist everlastingly. Chapter 6 briefly sketches the metaphysical challenge and opportunity that such a view offers.

PREFACE

The book presents a series of variations on a fundamental theme: if reality is generously and adequately construed, then knowledge will be seen to be one; if rationality is generously and adequately construed, then science and theology will be seen as partners in a common quest for understanding.

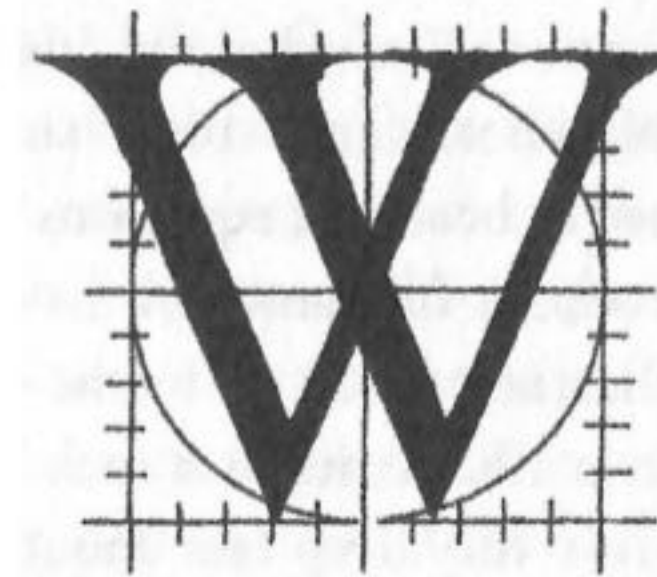
Acknowledgements

The first four chapters are based on the Terry Lectures, which I gave at Yale University in October, 1996. I am very grateful for the invitation to give these lectures and for the generous hospitality accorded to my wife and myself on this occasion.

This is the last manuscript typed for me by my secretary, Mrs. Josephine Brown, before my retirement as President of Queens' College, Cambridge. She has given it all the skilful care and attention she also gave its predecessors. Mrs. Brown's unfailing help has been an enormous asset to me as an author, and I express my most sincere thanks. I also thank my wife, Ruth, for her help in correcting the proofs.

CHAPTER ONE

Belief in God in an Age of Science



WHAT does it mean to believe in God today? Different religious communities propose different answers to that fundamental question. I speak from within the Christian tradition, though much of what I say in this chapter would, I believe, find endorsement from my Jewish and Islamic friends. For me, the fundamental content of belief in God is that there is a Mind and a Purpose behind the history of the universe and that the One whose veiled presence is intimated in this way is worthy of worship and the ground of hope. In this chapter, I sketch some of the considerations that persuade me that this is the case.

The world is not full of items stamped “made by God”—the Creator is more subtle than that—but there are two locations where general hints of the divine presence might be expected to be seen most clearly. One is the vast cosmos itself, with its fifteen-billion-year history of evolving development