INTRODUCTION

Theologian James Wm. McClendon used to tell his graduate students, "A scholar who knows the work of only one philosopher is prepared to be ideological. But a student who knows the work of two begins to be a critical thinker." There is a message here for those who study the interface between religious and scientific reflection: knowing the history of the theology-science relationship—the patterns that endure as well as the unique adaptations to changing circumstances—provides an indispensable perspective for understanding current activity in this interdisciplinary field. Thus, this volume opens with historical essays that examine the science-religion relationship from the Enlightenment forward, even into the twenty-first century.

Together, these essays sketch out the developing relationship between religion and science in the modern period. It is impossible to cover this history comprehensively with just a few essays, however, for there are too many key names, dates, and places to discuss, and too many important stories to tell. Because of this, the first three essayists in this part of the volume have focused their contributions by concentrating on one characteristic story in the periods they consider, and arguing for an interpretation of that story that illuminates the relationship between religion and science in a concentrated way. The final essay in this part, while providing an overview of this relationship in its current form, programmatically calls for a more ethically responsible and religiously informed future approach to technology, environment, and human life.

I. THE COMPLEXITY OF THE HISTORICAL RELATIONSHIP BETWEEN THEOLOGY AND SCIENCE

Important as the history of relations between theology and science may be, it is certainly not simple. Indeed, a theme which runs through all of the essays of this section is that the science-theology relation from the Enlightenment forward is notable for its complexity, and that some accounts of it have oversimplified the story in significant ways. For example, many earlier histories (both popular and professional) have cast the relationship largely in terms of competition and conflict; accordingly, they tell the story of a...
steady retreat and narrowing of theology and its domain in the face of growing strength and influence of science. This rather blunt interpretative idea may have yielded some insight, but today historians find there are subtleties lost, deep intellectual connections between theology and science minimized, and variations of expression within each era unaccounted for under this thesis.

There are several aspects to this complexity including, first, the contingency and unpredictability of history in general. We can rarely if ever identify explanatory principles for a given era or across multiple eras without serious qualifications. We can note trends, usually in retrospect, but anomalies always remain to complicate even the very best employments of the ways theology and science have related to each other. The problem is an order of magnitude more difficult when it is the near future and not the past we seek to understand. Rolston demonstrates a keen awareness of this as he considers the form theology and science may take in the twenty-first century.

Second, as Wildman suggests, there may be both deep- and surface-level features to be named in the history of theology and science. For example, underlying the often divided consciousness in twentieth-century Westerners on matters of science and religion, Wildman argues, is a more fundamental crisis of human rationality that affects many of the culture’s institutions. If he is right, a critical history of the science-theology relationship will probably be useful for gaining an understanding of this deep structural problem.

II. THE STRUCTURE OF THE HISTORICAL RELATIONSHIP BETWEEN THEOLOGY AND SCIENCE

In spite of the complex relationship between theology and science, the essayists of Part I attempt to discern patterns and tendencies that persist through the eras they examine. Brooke, for example, highlights modernity’s striking intensification of the search for universal and rational grounds of justification and truth. The successes of science in the seventeenth century (most notably in Newtonian physics) turned the wider intellectual culture, including theologians, toward science as the intellectual standard-bearer. In response, especially in the Enlightenment, some theologians tended to downplay the particulars of religious experience, and overconfidently identified natural philosophy as the basis for theological apologetics, often straining ineffectively against philosophical atheism. Today the tension between universal principles of reason and the particularities of immediate personal experience takes a different form, but is no less challenging.

The critical historical examinations of the essayists also disclose major intellectual transition points in the modern era which have deeply affected the science-theology relationship. Perhaps most obvious are the theoretical transformations in the sciences themselves: in cosmology, microphysics, molecular biology, and the new sciences of ecology and chaos theory. Changes in these areas have not been quickly integrated into theological frameworks. Nor have theological responses been uniform. Yet these changes are
forcing theologians to rethink the nature of theology itself: its method, its objects, and its relation to other descriptive and explanatory frameworks for interpreting the world.

Another transition that affected the relationship between theology and science was the "turn to the subject"—in which interpretation of all kinds became more self-conscious—and the sharpening of historical consciousness during the eighteenth and nineteenth centuries. These developments offered new possibilities and posed new problems for theology, ranging from the nature of theological language to the connections between theological and scientific procedures and results.

In a third example of transition, Wildman notes a shift after World War I toward a more searching, self-critical instinct, and a resulting suspicion of many common assumptions held in Western intellectual culture. This self-critical shift should be interpreted, Wildman argues, as an extension and correction of the critical instincts stimulated so intensively in the Enlightenment. In the relations between science and religion, this self-critical mood expresses itself in suspicion of the pretensions to all-competence of the scientific method, and reaffirmation of a role for other modes of interpreting and shaping the world.

The historians of this volume have achieved an impressive synthesis of critical objectivity and sympathetic understanding of past sources. In addition, they share with contemporary philosophers of history an appreciation for the inevitable self-involvement—the influence of one's own outlooks, judgments, values—in the doing of critical histories. The aim of this openly intersubjective process is precisely to achieve a more accurate assessment of one's understanding of the past, and a more honest involvement with one's own world of thought and action.

III. THE ESSAYS IN PART I

John Hedley Brooke's rendering of the history of science and theology in the seventeenth and eighteenth centuries challenges the assumption that theology steadily and invariably shrank from the bright light of the new epistemology and method of science. There are too many factors not captured by this picture, including the quality of the Enlightenment itself. Says Brooke, "We can no longer speak of archetypal Enlightenment mentalities or goals."

Nevertheless, a recurrent theme of this era is the quest for a religious creed that could withstand rational assaults while marginalizing sectarianism in religion. In attempting to manage this delicate balance, much theology tended to depend heavily on natural philosophy in the face of the success of Enlightenment science in the form of Newtonian classical mechanics. This, however, was not a successful strategy. Brooke cites Michael Buckley, author of At the Origins of Modern Atheism, who sees the attempt to understand "a personal God principally in terms of impersonal nature" as one of the chief reasons for the rise of modern atheism. Brooke views this same phenomenon as a most costly strategic misfire of ecclesial theology in the modern era.
In addition to the power of science in Enlightenment culture, philosophers of the era were challenging traditional epistemological foundations and establishing new ones. This led to the development of a polarity between theological adaptations to the Enlightenment’s enthusiasm for an ahistorical, universal ideal of human rationality (sponsored by the success of science), on the one hand, and theology’s need to acknowledge the force of particular and personal religious experience, on the other hand. This tension persists in new forms in Western culture today.

In an essay on the nineteenth century, Claude Welch finds a new turn related to the above theme. He claims that the most significant development in the nineteenth century was the movement from the Enlightenment’s quest for a universal objectivity toward a science of critical history, which began the path toward relativizing cultures and their ideas. Deeply connected with this awakening of historical science was a sharper awareness of the role of human subjectivity in cultural life, epistemology, ethics, and religion. This connection was focused in the empirical studies of the origins of Christianity and its problematic relation to the faith and values of the believer. However, it also directly impacted the relationship between theology and science. It offered a way forward for theology but simultaneously threatened to “emasculate” theological language by showing it to be a set of historically and culturally conditioned expressions of the religious self-consciousness. This is the point at which historical and natural sciences combine their influence to cause a reevaluation of the nature of theology.

On another theme regarding the nineteenth century, Welch recalls the popular myth of “warfare” between theology and science, as exemplified in the histories of John William Draper and Andrew Dickson White, in order to show the distinction between factual and symbolic “histories.” He argues that the symbolic warfare myth, as portrayed in these histories, reveals more about the particular contexts of White and Draper than it does about the larger dynamism between theology and science in the nineteenth century.

The issue that made this warfare image seem most apt was, of course, the publication of Charles Darwin’s *Origin of Species*, which also marked a shift toward much greater interest in the biological sciences. Welch emphasizes the variety of theological responses to Darwin’s groundbreaking evolutionary thesis, in contrast to the popular assumption that theology found itself uniformly in conflict with Darwin. Again, we find an emphasis on the complexity of the theology-science relationship.

In an important respect Wesley J. Wildman’s essay reinforces and examines the consequences of the developments depicted in the first two essays. Wildman sees the twentieth century as harvesting the effects of critical objectivity turned inward on the subject of knowing. The fruits—intellectual and moral doubt, a loss of intellectual confidence and consistency, fragmentation—have been widely evident in the institutions of Western culture. Under this interpretative scheme, the conflicted science and theology relationship is seen to be indicative of a deeper cultural crisis, one evolving out of
failure of human beings to coordinate and unify the spiritual, ethical, intellectual, and social aspects of their being.

In the end, Wildman puts a hopeful face on his own profoundly disturbing portrayal of the twentieth-century West. He sees the tendency toward a divided human consciousness, and the unrelenting work of self-criticism and deconstruction, as a necessary prelude to, though not a sufficient condition for, a more integrated vision of rationality that recognizes all of the dimensions of human beings. The relation between theology and science witnessed in this century both symbolizes and facilitates the passage toward a more adequate, practical, and vital human understanding of self and world. Wildman argues that this is one of the important justifications for attending to the integration of theology and science.

Holmes Rolston, III, offers a unique essay on the future of theology and science in the twenty-first century in light of his rich understanding of the modern era. His claim is that science and theology, both indispensable human institutions, need each other. Theology is the reservoir of meaning that pushes science, in its quest for theoretical explanation, toward questions of ultimacy and value: "religion can keep science deep." Science keeps religion from sinking into fantastic assumptions that would ensure its marginalization and impotence in the wider culture. Fortunately, as he sees it, developments in twentieth-century science offer hope of a more congenial relation with Western religious traditions. However, learning from the past, we must be cautious of linking theological assertions too closely with current theory in the sciences.

Rolston sees moral and practical questions as paramount in the next century. The power of science will need to be steered by larger natural and cultural wisdom and values. The traditionally prophetic voice of religion will need to be reinvigorated. But rather than stressing the virtue of a newly constructed vision of human rationality for this purpose, Rolston simply and emphatically declares the ethical and practical imperative for a convergence between science and religion if we are going to survive as a species. The partnership of theologian and scientist is not optional.