appendix" in Chapter 1 give capsule descriptions of correlation theory, simple factor analysis and reliability-validity theory, but I believe they would not be adequate help for readers untrained in advanced empirical methods. For good coverage of empirical measurement in the psychology of religion, one should see Peter Hill and Ralph Hood, Jr. (1999), Measures of Religiousity, published by the Religious Education Press.

Despite the book's vast scope, I was surprised at some missing materials. There is no mention of Rokeach's (1974) massive survey of religion and values. The coverage of personality factors in religion is cursory at best with nothing about current research into five-factor personality theory by Ralph Piedmont and others. Although the text covers religion as a source of social control in several places, there is no mention of B.F. Skinner's substantial interest in this question. Also missing are discussions of beliefs in demon possession, satanic ritual abuse and related topics. There is not even an index entry for "theology," despite the claim (p. 342) that researchers in this area need more sophisticated theological literacy.

There is only one paragraph (p. 523) on religion and psychotherapy; interested parties should see Ed Shrafskas's (1996) large edited work Religion and the Clinical Practice of Psychology published by the APA, or other recent APA books, one by William R. Miller and three by Scott Richards and Allen Bergin. For a more balanced general coverage of psychology of religion—not just empirical studies, more theory and a lot of non-Western materials—see David Wolff's (1997) outstanding work, Psychology of Religion: Classic and Contemporary, 2nd Ed., published by Wiley.

Finally, there is the question of "religion" and/or "spirituality" that, seemingly, is coming to represent a major conceptual muddle for the field perhaps even to rival the dominance of the "intrinsic/extrinsic religion" muddle. It used to be that "religion" was good and "spiritualism" was bad. Now we have a paradigm reversal, such that "religion" is often seen as institutional, irrelevant and stale while "spirituality" is personal, post-modern and alive. I am reminded of George Orwell's (1945) "Animal Farm" where, overnight, the pigs change the farm's revolutionary slogan, "Four legs good; two legs bad," to "Four legs good; two legs better." Spika et al. address the religion/spirituality problem from the beginning of the text (pp. 8 ff) to the Epilogue (p. 536 ff). The authors' main discussion is in their opening chapter, which summarizes the problem and speculates lightly on how to search for solutions. See more current discussions of this puzzle in four American Psychologist (2003, 1) articles and comments in following 2003 and 2004 issues. But, as I see it, only the tip of the religion/spirituality iceberg is apparent at the moment, so hold your breath till the fourth edition of this book appears, if ever.
may move beyond a God-of-the-gaps theology to the development of a peaceful coexistence between science and theology. Heller succinctly explicates his argument for the importance of theology and cosmology to this peaceful coexistence:

It is usually the so-called God-of-the-gaps theology that scares too many a thinker. The trap consists not only in constructing “proofs” of God’s existence from weak points of our knowledge, but also in rejecting God on the grounds that there are no gaps in our science in which God could safely dwell ... My proposal is that the intrinsic problem situation in science, rather than metaphysical prejudices, should guide responsible research in science, especially in those regions that are remote from experiment. (p. 3)

Heller’s discussions of these issues are valuable and interesting. After a summary of Heller’s work, we discuss the success of Heller’s overall position.

The plan of the book is as follows: First, in “From the Methodological Perspective,” Heller discusses the theological interpretation of scientific theories, and puts forward a proposal for a “theology of science.” Second, in “From the Historical Perspective,” he examines the historical progression of scientific and religious interactions. Third, in “The Work of Creation,” he explores the controversies surrounding discussions of “creation and science.” Fourth, in “Transcending Science,” he examines instances of transcendence in contemporary science.

From the Methodological Perspective

Heller discusses the theological interpretation of scientific theories, and puts forward a proposal for a "theology of science." According to Heller, adherence to methodological rules and distinctions will not resolve all existing conflicts between science and religion. Heller analyzes various conceptions of physical creation theories and theological interpretations of scientific theories. While Heller critiques attempts by theologians to place God in the gaps of science, he is concerned that some scientific researchers reject the existence of God because God is not necessary in explaining scientific theories. Heller distinguishes between the "excessis" of the mathematical structure of a theory and the "interpretation" of this theory theologically. After attempting to show the misuses of both science and theology, he presents his own "theology of science," in which he emphasizes that the "Revelation" is existential rather than informational in nature.

From the Historical Perspective

Next, Heller examines the historical progression of scientific and religious interactions. In general, Heller argues that relations between science and religion “are not designed on the desks of philosophers of science and theologians; they are shaped by historical processes” (p. 33). In these essays, Heller underscores humanity’s place in the scientific image of the world of a given epoch; and the evolution of the concept of rationality as it was shaped by Christian theology and by scientific methodology.

The Work of Creation

Heller explores the controversies surrounding discussions of "creation and science." For Heller, the theological exploration of the Work of Creation should be viewed alongside scientific attempts at deciphering the structure of the Universe with mathematical and empirical methods. In general, Heller discusses the Big Bang and quantum cosmology. He also incorporates discussions of probability and chance in science. In particular, Heller emphasizes his application of noncommutative geometry to physics.

Transcending Science

Heller examines instances of transcendence in contemporary science. According to Heller, scientific researchers are continually faced with the limits of their profession and never cease looking for further explanations. Theology provides the scientist with a creative milieu to consider value orientations in their research. For Heller this creative tension includes vestiges of Transcendence. Of primary interest are the three principal scientific languages: DNA code, brain’s neuronal language, and the laws of nature. According to Heller, the progress of science has given a sense of “Mystery” to the religious outlook: “What on the side of science, is the problem of limits, from the side of theology can be interpreted as an envoy of Transcendence” (p. 146).

In Review

In Creative Tension: Essays on Science and Religion, Heller endeavors to provide new insights into the discussion between theology and science through a careful and empirically focused methodology. He offers the reader an opportunity to learn about the emerging field of noncommutative geometry and
a novel understanding of geometric space, which synthesizes algebra, topology, geometry, and functional analysis. In noncommutative geometry, noncommutative objects are represented as if they were related to some noncommutative spaces. This theoretical formulation has offered an innovative viewpoint for applications to theoretical physics and Heller hopes to use this for his synthesis of science and theology. Noncommutative geometry removes the conceptualization of space as a set of points and researchers no longer visualize the objects they are investigating. Further, a noncommutative geometry seems to reveal no obvious guiding principle, which helps researchers assess which objects are "significant."

Throughout the text, Heller attempts to emphasize both the primacy of scientific methodology and the belief that scientific rationalization should fall under the rubric of Christian Logos. Unfortunately, Heller's categorization of scientific knowledge with the Christian Logos results in an integration of science and theology that looks more like a medieval hierarchy than the "integration" or "synthesis" which one might expect from a practitioner of noncommutative geometry. Further, Heller's position appears inconsistent in that it tends to vacillate between "scientism" and Thomistic theology. In parts of the book, Heller argues that while scientific theory and praxis are applicable in all fields of inquiry about the world (e.g., morality, ethics, and religion), theology should not interfere with science: "I do not say that metaphysics and theology are insignificant or meaningless. I am only arguing that they should not interfere with science. The best way of doing science is to stop thinking about it at any metaphysical pre-conditions or implications." (p. 8). On the other hand, in other parts of the book, Heller gives emphasis and priority to Thomistic theology:

And the possibility very seriously considered by St. Thomas Aquinas that the world could exist from eternity and nevertheless be created by God, emphasizes the atemporality of God's essence. It is truly worthwhile to read the old masters from the perspective of the most recent scientific theories. (p. 122)

Here we see Heller abandoning scientism and embracing Thomism to aid the reader in understanding the complex relation of noncommutative physics to theology. We found this inconsistency to be very frustrating.

Heller places importance upon the idea of "faith in reason," in which human reason holds the place of supreme criterion of truth. For Heller, rationality is the moral choice: "If rationality is a value, then the decision to be rational is a moral choice." (p. 48). According to Heller, "faith in reason" means that since the empirical method "cannot prove itself" it is a moral choice (p. 49). Thus, not only is the empirical method the rational choice to develop a theory of integration, it is also the moral choice. However, if rationality is the moral choice, are persons who are incapable of his level of rationality, such as those suffering from schizophrenia, mental retardation, traumatic brain injury, or depression, to be considered immoral?

In conclusion, Heller introduces the reader to novel conceptual approaches to cosmology and their possible applications to theology. Unfortunately, Heller's categorization of scientific knowledge with the Christian Logos falls short of the novel integration one might expect from a practitioner of noncommutative geometry. Heller's position appears inconsistent in that it tends to vacillate between "scientism" and Thomistic theology. Further, his emphasis upon the primacy of "Reason" as a "moral choice" fails to make room for deviations from normal phenomenological consciousness found in psychopathology and various mental deficiencies.

VIRTUES (NATURAL AND THEOLOGICAL) MORAL SELFHOOD, GOODNESS, AND GOD


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Psychologists, following the lead of philosophers, are again vigorously investigating virtues and character (Chang & Sanna, 2003; Peterson & Seligman, 2004; Tjellevit & Fowers, 2003). Virtues have to do, on one understanding, with those relatively stable qualities of persons that help them reach some good end. Honesty and integrity are virtues of the scientist because they contribute to the good end—knowledge—to which science aims. Caring, courage, and wisdom are virtues of the psychotherapist (Doherty, 1995) because they contribute to