Scientific Models for Religious Knowledge:
Is the Scientific Study of Religious Activity Compatible With a
“Religious Epistemology”?

by

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A Thesis submitted to the Faculty of Divinity of the University of Trinity College
and the Theological Department of the Toronto School of Theology
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Abstract

Epistemologies of tested beliefs (knowledge claims) in scientific practice and non-tested yet faith-imbued beliefs (belief claims) in religious life are compared and contrasted. A study of models of rationality in contemporary philosophy of science and religion is completed with the purpose to assess possible compatibility systems in “science and religion” literature. Myths are re-contextualized in the modern scientific cosmos via the igmythicist conception of myths—myths are neither mere delusions nor reflections of an ontological reality for the gods, but myths are the application of meaning-enclaves enclosed in the world of natural human experience. It is argued that, if a compatibility system is successful in mapping shared epistemic territory between knowledge claims and belief claims, the compatibility system will be based on a theory of rationality which consistently tests knowledge claims and belief claims. While the cognitive values of a scientific epistemology provide an epistemic benchmark for testing many beliefs, the problem of constructing a “religious epistemology” in a modern, Western university is analyzed. Philosophical and theological benefits and limitations of the proposed “religious epistemology” are assessed and the place for a theory of rationality in religious life considered.
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Part I. Systems of Human Belief: Knowledge and Belief Claims

Ah, that he could pass again into his neutrality! Who can thus avoid all pledges and, having observed, observe again from the same unaffected, unbiased, unbribable, unaffrighted innocence—must always be formidable.

—Ralph Waldo Emerson, *Self-Reliance* (1841)

1. Background Information and Assumptions

1.1. Introduction, Purpose, and Definitions of Terms

In general terms, epistemology is a central area of philosophy. Both philosophy of science and philosophical theology raise epistemological questions. For instance, questions about knowledge claims and belief claims: (i) What kinds of knowledge claims are legitimate and what kinds are not? (ii) How do we adjudicate the acceptability of a knowledge claim; the acceptability of a belief claim? Epistemology is relevant to both science and religion, because both scientific and religious exercises involve the making of conjectures about states of affairs in the physical world. As human beings we possess and utilize various systems of “belief” about states of affairs in the world: When demarcating between scientific and religious systems of belief, we can make an epistemic distinction between tested beliefs in scientific practice and non-tested yet faith-imbued beliefs in religious life. For the sake of a typology, in this thesis I shall refer to the tested beliefs of scientific practice as knowledge claims and the non-tested yet faith-imbued beliefs of religious life as belief claims.¹ A knowledge claim in scientific practice might be the chemist’s proposition: “an atom is the smallest physical piece

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¹ To be developed further in Section 1.3 (*Outline of Thesis Statement and Argument*), my typology is based on the Thomistic distinction between (i) a claim known—the intellect is compelled to assent by the proposition itself, and (ii) a claim believed—the intellect is compelled to assent by belief about the proposition. For the outline of this distinction, and its rationale in formulating the knowledge claim and belief claim typology, see pages 25-28.
of a chemical substance.” A belief claim in religious life might be the theist’s testimony: “a superhuman agent called ‘God’ intervenes in the physical world.” From the outset, my typology, however useful as a heuristic, may appear to some to favour the modern scientific enterprise: I do reserve what seems to be the intellectually robust phrase knowledge claims for the tested beliefs of science, leaving the more skeptically evocative phrase belief claims for the non-tested beliefs of religion. I acknowledge this possible “distinguishing” of the scientific enterprise; it will be addressed in my arguments.

The question of whether and in what way a belief claim (religion) is epistemically different from a knowledge claim (science) is central to this thesis. However, providing an answer to that question, where the intents and purposes of both knowledge and belief claims are respected, will be difficult. Nevertheless the distinction between these two types of claims, at least in so far as any distinction is applied in one’s life or in one’s academic work, seems not always clear or understood. Thus, throughout this thesis, we shall often consider the question: for whom does a science and religion “compatibility system” exist? Furthermore, which individuals, academic disciplines, or professional groups, may possess the interest to design and build a compatibility system between science and religion? Phrasing the question in more candid but not unreasonable terms, as twenty-first-century scholars situated in the context of Western intellectual life, should we even care about potential science and religion compatibility?

As mentioned, this thesis will explore the implications of both knowledge claims in scientific practice and belief claims in religious life. I shall argue that the choice to implement a theory of rationality in one’s life and academic work is the choice to test knowledge claims
and belief claims about states of affairs in the world. The aims of this project, then, are expressed in the two-fold thesis statement:

(i) A theory of rationality refers to a system of *testing* knowledge claims and belief claims about states of affairs in the world.

(ii) If a philosopher or theologian is successful in designing a *compatibility system* between science and religion, the compatibility system will be based on a theory of rationality which *consistently* tests knowledge claims and belief claims.

Nonsectarian academic projects include substantive assumptions which the writer brings to the project. For the sake of clarity and to avoid the unintended formulation of circularities, it seems reasonable that in philosophy of science and philosophical theology as few substantive assumptions as possible be utilized in a project. (For similar reasons, in scientific research, as few experimental variables as possible to carry a scientific project through to completion is desirable.) This philosophical project includes two substantive assumptions: both assumptions carry high degrees of initial plausibility in modern, Western universities, including the University of Toronto and the University of Trinity College. The two assumptions are outlined as follows:

(i) Phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world.

(ii) Religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds.

This leads me to point out that by placing this thesis within a context where the scientific enterprise is acknowledged as “distinguished,” but not infallible, my intention is that I provide
this project with a reasonable foundation, academically, to approach the problem of constructing a “religious epistemology.” The problem of constructing a “religious epistemology”—especially in the context of a modern university—exists because any theory of rationality which allows intellectual space for the presence of belief claims at the same time begins to sacrifice the cognitive values characteristic of a scientific epistemology. As cognitive values are lost, the question arises of whether we still in fact possess an “epistemology”? Or have we moved into some “lawless” epistemic world where no clear benchmark for testing knowledge and belief claims is maintained? Alternatively, if we remove belief claims from our “religious epistemology,” but consequently preserve the cognitive values of science, have we in fact missed the point of what a religious epistemology was supposed to accomplish in the first place? These are the themes and issues to be developed and considered throughout this thesis. Finally, although the particular theory of rationality I will argue for may not, on a practical level, provide a consistent benchmark for all possible knowledge or belief claims, it will be a theory of rationality which at the very least is honest about its philosophical and theological benefits and limitations. (Unfortunately, I rarely find honesty about such epistemic matters in contemporary “science and religion” literature.)

Definitions for important terms and concepts, to be utilized throughout this thesis, are outlined as follows (and will be elaborated and argued further in later chapters):

(i) *Culturally postulated superhuman agent(s),²* hereafter referred to as “CPS-agent(s),” are utilized in religiosity to explain causes for states of affairs in the world.

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(ii) The *hypersensitive agency detection device*,\(^3\) hereafter referred to as “HADD”—an evolutionary-based, cognitive device—is utilized in cognitive science of religion literature to attempt to “explain” religious activity.

(iii) *Science* and *modern scientific thought*, which comprise modes of investigation and inquiry, occur when propositional claims are made about states of affairs in the world. For example, modern scientific thought may include propositional claims about chemical reactions, cells, genes, electrical current, or curved spacetime. Scientific exercises utilize the substantive content of scientific theories as causes for states of affairs in the world. I refer to the tested propositional claims of scientific thought as *knowledge claims*. Scientific exercises and the cognitive values of a scientific epistemology provide an intellectual benchmark for testing many beliefs in modern, Western universities.

(iv) *Theology* and *theological thought*, which, like science, comprise modes of investigation and inquiry, occur when religious exercises *attempt* to utilize the critical method of the sciences.\(^4\) Thus theological thought occurs when propositional claims are made about concepts characteristic of religious thought. For example, theological thought (and religious thought) may include propositional claims about the gods, God, Allah, brahman, or nirvāṇa. Unlike scientific exercises, however, rarely do theological exercises utilize the substantive content of scientific theories as causes for states of affairs in the world. Rather theological exercises utilize the

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actions of CPS-agents as causes for states of affairs in the world. I refer to the non-tested yet faith-imbued propositional claims of theological thought and religious thought as belief claims.

(v) Religiosity\(^5\) or religious activity occur when the human mind defers to the actions of CPS-agents—intentional agents which possess beliefs and desires—rendering the human mind a religious mind. Thus religiosity is embedded and transmitted in the cultural constructs of modern religions: religions, functioning as social institutions, allow forms of metaphysical meaning-making (e.g., mythical projection toward an afterlife) to be imprinted over human beings’ ordinary cognitive capacities for religiosity. Religiosity is also ubiquitous: unlike scientific thought, religiosity is found in all human groups, having existed since at least the cultural explosion of \(H\).

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\(^5\) The term religiosity refers to the quality or state of being religious—e.g., the deferring of the human mind to the actions of CPS-agents to make sense of the world and/or one’s existence in the world. It must be noted that the use of the term religiosity in this thesis is different from uses of religiosity implied by many desktop dictionary definitions of religiosity: e.g., the Oxford Dictionary of English defines religiosity as the noun derived from the adjective religiose, indicating a behaviour which is “excessively religious.” In this thesis, religiosity is not meant to imply that a human behaviour or activity is excessively religious. Rather, in this thesis, religiosity indicates any activity typical of a religious mind, whether the activity is enacted within a social religious institution, or not. Furthermore, religiosity may involve testimonies about some reality “out there” or “in here,” allowing human beings to project their human thoughts and emotions, their greatest hopes and fears, beyond a finite human existence. Along this vein, Ninian Smart (2015, 9) observes that people “. . . behave and react religiously, and this is something that the study of religion picks out; just as economics picks out the economic behaviour of people.” In addition, regarding the classification of data as “religious,” Steven Engler and Michael Stausberg note how the term religious is used to delimit a set of phenomena of interest, yet “. . . there are no essentially religious facts, the religiosity of which is independent of our scholarly operations” (Engler and Stausberg 2011, 10). Thus, according to Engler and Stausberg, data classified as “religious” (or “economic” or “political”) are brute facts which have been interpreted within a conceptual/theoretical platform and then classified as “religious” (or “economic” or “political”). Interpretation is, of course, part and parcel of any scholarly operation involving application of a theoretical system.
sapiens sapiens\(^6\) (60,000 to 30,000 years ago) and, in terms of ritual activity only, possibly before (70,000 years ago).\(^7\) Modern scientific thought, in contrast, has existed in a few human societies for about 400 years only. Also, some forms of ancient science, similar in method to modern science, existed among the Presocratics in Milesia (6th c. BCE).\(^8\)

### 1.2. Initial Plausibility of Assumptions

In the late nineteenth and early twentieth centuries, a field of academic study called the scientific study of religion was developed. In various forms, this field continues in the twenty-first century, drawing primarily on resources from scientific historiography, analytic philosophy, evolutionary psychology and anthropology, and cognitive science of religion. Most scholars of religious studies who work in the scientific study of religion have decided

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6. Steven Mithen, in his *The Prehistory of the Mind: The Cognitive Origins of Art, Religion and Science*, points out that, in the Homo lineage, the modern human species *H. sapiens sapiens* is distinguished, anatomically, from the ancient human species *H. sapiens*. Mithen (1996, 25) explains that, when compared to the ancient *H. sapiens*, the modern *H. sapiens sapiens* possesses a less robust physique, reduced and generally absent brow ridges, a more rounded skull, and smaller teeth. Anatomically modern *H. sapiens sapiens* emerges in the fossil record 100,000 years ago; however, at that time it remains behaviourally similar to ancient *H. sapiens* and *H. neanderthalensis*. It is not until 60,000 to 30,000 years ago, Mithen argues, that modern *H. sapiens sapiens* undergoes a “cultural explosion,” a change in the cognitive nature of the human mind, producing evidence of art, religiosity, and technology, and resulting in a *H. sapiens sapiens* which is behaviourally similar to human beings today (Mithen 1996, 15). Mithen’s theory of cognitive fluidity, or fluid intelligence, provides a solution to the increasing specialized intelligence which occurs in the behavioural transition from ancient humans (pre-cultural explosion) to modern humans (post-cultural explosion): At the core of fluid intelligence is the idea that the ancient human mind possesses a general purpose form of intelligence—well suited toward general applications to solve problems, but inadequate in providing precise, effective solutions in specialized contexts. At a later stage, the early human mind possesses specialized intelligence modules; however, the modules are cognitively isolated from one another—e.g., *H. neanderthalensis* possesses a module for technical intelligence, allowing it to build hunting tools, however this knowledge is isolated from the module for social intelligence, preventing *H. neanderthalensis* from understanding that not all types of hunting tools are suited toward all sizes of prey. Mithen claims that four specialized intelligence modules are utilized (but isolated) in the early human mind: (i) technical, (ii) social, (iii) natural history, and (iv) linguistic. Finally, fluid intelligence—in Mithen’s thesis the mechanism responsible for the cultural explosion 60,000 to 30,000 years ago—allows knowledges from different intelligence modules to communicate cognitively with one another in a meta-representational fashion, aided and supported by the development of language. The human mind of fluid intelligence is the human mind possessed by human beings today.


the dogmatic premise of *religious truth* is best not assumed or utilized as an explanatory force in one’s academic work. One commentator, Donald Wiebe, began to outline this methodological situation in his *Religion and Truth: Towards An Alternative Paradigm for the Study of Religion* (1981). Put simply, in traditional faith-imbued theology, the meaning of *religious truth* referred to the fact that beliefs about CPS-agents were presupposed in one’s method. Indeed, in Judaeo-Christian thought (as one example), it seems the concept of *truth* is equated with ideas of religious revelation or assumptions that biblical agents—El, Satan, the archangel Michael, *et al.*—are ontological realities as opposed to culturally postulated psychological and/or psychoanalytic realities. However, the removal of religious truth as an underlying assumption in one’s method is motivated by the fact that, from an etic perspective, we do not possess any observed experience—*open to intersubjective testing*—which can account for the existence of an ontological (metaphysical) reality for religious truth or for substantive existences for the biblical agents mentioned in this paragraph.

This methodological problem, concerning substantive assumptions about religious truth, has received considerable attention: In *The Sacred Canopy: Elements of a Sociological Theory of Religion* (1967), Peter L. Berger pointed out how any scientific theorizing about religious concepts must be completed without any affirmations, positive or negative, about the ontological status of religious concepts. Religious concepts, of course, include CPS-agents and trans-empirical worlds. Bracketing out the question of whether religious concepts possess independent realities, Berger and his colleagues were drawn to study the phenomenon of

religion as a human enterprise, one that originates from the products of collective human activity and human consciousness. Berger refined his position later in *A Rumor of Angels: Modern Society and the Rediscovery of the Supernatural* (1970), clarifying that, when independent realities for religious concepts are bracketed, this amounts to a methodological imperative only. Understanding religion as a human enterprise, within the framework of a methodological perspective, does not preclude theological reflection (within a faith-imbued perspective) about the existence of an independent, superhuman reality. In fact, Berger wonders if religious concepts thought to originate in the human imagination can be interpreted as reflections of an independent, superhuman reality? Still, however, even while acknowledging the possibility of such theological reflection, Berger is careful to keep any affirmations about a superhuman reality separate from methods of theorizing in modern academic disciplines. Thus, in the academy, religion ought to be studied scientifically; theological reflection kept private.

Along a similar but not identical vein, Wiebe encourages the application of “talk about God” theology—or, “academic theology”—in the scientific study of religion. *Academic theology* is described by Wiebe as a mode of thought comprising our attempt to place religious

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11. Such an approach brings to mind the Feuerbachian “God” as a human, psychological projection and “religion” as a human monologue. Regarding Feuerbach, the Hegelian dialectic is reversed, becoming, as Berger (1970, 46) puts it, “...a ‘conversation’ between man and man’s own productions.”


13. In this sense, Berger (1967, 180) is thinking along the lines that, although *qua* sociology the Hegelian dialectic is inverted—so as to allow an empirical study of human affairs—such a construction does not preclude *qua* theology a re-inversion of that dialectic such that religious concepts (although human productions) are seen to be reflections of an independent, superhuman reality.

14. The notion that theological reflection be kept private in the academy describes an *ideal*, academic situation, which is not readily practiced: e.g., see: Luther H. Martin and Donald Wiebe, “Religious Studies as a Scientific Discipline: The Persistence of a Delusion,” *Journal of the American Academy of Religion* 80, no. 3 (2012): 587-597.
aspects of the world, where actions of CPS-agents were the primary mode of causality, into a method which is more similar to the epistemology of science.\textsuperscript{15} \textit{Prima facie} such an attempt suggests the adoption of a critical attitude toward religious modes of thought. Indeed, critical “talk about God” theology is contrasted with acritical “God-talk” theology, which suggests a study of religious modes of thought guided by the agentic presuppositions of a mythopoeic worldview.\textsuperscript{16} For obvious reasons, “God-talk” theology is not tolerated in the scientific study of religion, because it depends on a mythopoeic worldview and the use of CPS-agents—elements which not all researchers can agree on. In practice, the precise epistemic nature of theology as a mode of thought is tendentious: In their \textit{attempts} to utilize “science,” religious exercises develop a systematic and polemical method—centred on the propositional character of the scientific method—which is understood to constitute theology. It appears, however, this is where the \textit{attempted} use of “science” ends, for rarely do religious exercises utilize the substantive content of scientific theories as their primary mode of causality. This complicated mixing of sources and methods renders theology a hybrid mode of thought, including substantive contributions from mythopoeic worldviews and the application of a systematic, “rational” method. Thus, when the epistemology of theology is unpacked, theology is seen to be neither a religious activity nor a scientific one, but in its own curious way theology attempts to be both religious \textit{and} scientific.

Oliver D. Crisp, in contrast to approaches adopted in the scientific study of religion, contextualizes the substantive nature of religious and theological truth differently: Crisp assumes there must be some innate religious truth within the world; the task of theological

\textsuperscript{15} Wiebe, \textit{The Irony of Theology and the Nature of Religious Thought}, 12.

\textsuperscript{16} Ibid., 15.
exercises is to uncover this truth. In *Analytic Theology: New Essays in the Philosophy of Theology* (2009), discussing substantive assumptions which play into analytic theology, Crisp states, “The substantive element includes several features that are interrelated: the presumption that there is some theological truth [religious truth] of the matter and that this truth of the matter can be ascertained and understood by human beings. . . .”  Analytic theology (faith-imbued analytic theology), like analytic philosophy, prioritizes precision, clarity, and logical coherence when assessing theological claims. However, analytic theology, Crisp argues, cannot avoid the substantive assumption about religious and theological truth mentioned in the preceding quotation. Crisp, I suggest, does not consider the epistemic implications of the inclusion of such a substantive assumption in one’s method: Michael C. Rea is right to point out that analytic theologians will find it natural to utilize God as an explanatory force. Furthermore Crisp’s substantive assumption, that there is some innate religious and theological truth in the world, would especially encourage the use of God as an explanatory force in analytic theology. However, to utilize the action of a CPS-agent (God) as the explanation for a state of affairs in the world is not to explain, mechanically, how the state of affairs did in fact occur.

The situation outlined in the preceding paragraph, where the activity of theologizing using CPS-agents is contrasted with the activity of explaining using scientific theories, is perhaps the methodological dividing line between a faith-imbued study of religion and a


scientific study of religion.\textsuperscript{19} Such a distinction is important in this thesis, which leads me to say it is at this juncture where I part company with faith-imbued theologians. My own position, and that of most of the scholars whose arguments I will utilize in the following chapters, is best contextualized within the framework of methodological atheism.\textsuperscript{20} As will be pointed out, the radically counterintuitive cognitive capacity required to function as a methodological atheist—and to function as any neutral, dispassionate, or disengaged observer—is difficult to master: Similar to Lot’s wife,\textsuperscript{21} I have been tempted to look back to an “easier” time—for me, back to an easier time of simply crying to the gods, but doing so within the confines of mythopoeic thought patterns which are triggered cognitively by a maturationally natural cognitive system.\textsuperscript{22} However, throwing away whatever faith-imbued intellectual ground I might have stood on liberates me from the confines of whatever is thought to be intellectually “safe.” In addition, neither an unjustifiable first principle of foundationalism nor an epistemological tribe in a relativistic framework will provide an intellectual escape hatch for me.

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\textsuperscript{19} When scientific and faith-imbued studies of religion are compared and contrasted, initial concerns may arise as to whether a scientific study of religion tends toward a reduction of religious phenomena to social, cognitive, or philosophical explanatory forces. Likewise, concerns about constitutive reductionism of religious concepts toward a naturalistic ontology may arise. Many of the authors whose arguments I will utilize in the following chapters address these factors. As this point, to help to alleviate any potential concerns that reductionism eliminates “religion,” I note Jeppe Sinding Jensen’s comment in his chapter “Epistemology” in The Routledge Handbook of Research Methods in the Study of Religion: Jensen (2011, 43) notes that, if a study of religion were to avoid reduction completely, the only task remaining would be to repeat and state the activities of religious devotees. It is the case that, in a faith-imbued study of religion, repeating and stating the activities of religion may be desirable, especially when apologetic aims are included in one’s project. However, as this thesis is not faith-imbued, Jensen’s comment is helpful in pointing out the relevance and usefulness of reductionism as applied in a scientific study of religion.

\textsuperscript{20} The phrase \textit{methodological atheism}, describing an empirical study of religious concepts where the ontological statuses of religious concepts are bracketed, is outlined by Peter L. Berger in the \textit{The Sacred Canopy} (Berger 1967, 100). Berger credits the coining of the phrase itself to his colleague Anton C. Zijderveld.

\textsuperscript{21} From the famous narrative in Gen. 19, Lot’s wife looks back on her home city of Sodom as she flees to Zoar with her husband and daughters. In a contemporary Jewish interpretation of this myth, Sol Scharfstein (2008, 71) maintains that Lot’s wife looked back because she possessed a secret longing for her previous life.

Thus, functioning in this thesis as a student of the scientific study of religion, I exclude from my analysis the assumption that *religious truth* possesses an ontological reality; *however*, what I also exclude is the assumption that *scientific truth* possesses an ontological reality.23 (The phrases *religious truth* and *scientific truth* refer to propositional truth statements about states of affairs in the world.) To that end, as I outlined in my *Adventure in Human Knowledges and Beliefs* (2014), finding a common ground, ontologically, in scientific work is often difficult: I argued that in contemporary philosophy of science there exists a common misunderstanding that scientific knowledge provides us with foolproof knowledge of the external world24—knowledge which exists independent of our own conceptualization of the physical world and exists whether or not our conceptualization of the world is accurate. However, through experimental work, the scientific enterprise does not provide us with infallible knowledge claims about states of affairs in the world, but rather science provides us with tested beliefs about states of affairs in the world. Tested beliefs (knowledge claims) are expressed epistemically in the form of scientific theories.

To assist in demonstrating how I exclude from my analysis the assumptions that *scientific truth* and *religious truth* possess ontological realities, figure 1 presents a schematic displaying what are thought to be substantive realities depicted by the phrases *scientific truth* and *religious truth* refer to propositional-type truth statements about states of affairs in the world: that is, should a knowledge or belief claim in fact present a foolproof description of physical reality as reality is, the knowledge or belief claim in question would be declared to be a scientific or religious truth. In this sense, I follow the tradition of the correspondence theory of truth. In the correspondence theory of truth, *truth* is thought to be a description of physical reality that consistently describes reality independent of subjective human thought about reality. Coherentist and pragmatist theories of truth complement the correspondence theory of truth: Coherentist and pragmatist theories provide criterions for how truth statements might be adjudicated, although the correspondence theory outlines the primary nature of *truth* (Wiebe 1981, 178-179). In the coherentist theory, truth statements are compared to previous bodies of knowledge or belief claims. In the pragmatist theory, truth is assessed by how well the knowledge or belief claim in question accomplishes a task or presents a useful model to depict states of affairs in the world.

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23. The phrases *religious truth* and *scientific truth* refer to propositional-type truth statements about states of affairs in the world: that is, should a knowledge or belief claim in fact present a foolproof description of physical reality as reality is, the knowledge or belief claim in question would be declared to be a scientific or religious truth. In this sense, I follow the tradition of the correspondence theory of truth. In the correspondence theory of truth, *truth* is thought to be a description of physical reality that consistently describes reality independent of subjective human thought about reality. Coherentist and pragmatist theories of truth complement the correspondence theory of truth: Coherentist and pragmatist theories provide criterions for how truth statements might be adjudicated, although the correspondence theory outlines the primary nature of *truth* (Wiebe 1981, 178-179). In the coherentist theory, truth statements are compared to previous bodies of knowledge or belief claims. In the pragmatist theory, truth is assessed by how well the knowledge or belief claim in question accomplishes a task or presents a useful model to depict states of affairs in the world.

and *religious truth*. Also listed in figure 1 are methodological options thought to allow “access” to the substantive realities in question: In the scientific community, methodological options for *physical objects* (listed in figure 1) are applied intersubjectively by scientific practitioners to test beliefs about states of affairs in the world. In religious communities, methodological options for *metaphysical objects* (listed in figure 1) are reported from the testimonies of religious devotees.

Figure 1. Substantive realities depicted by the phrases *scientific truth* and *religious truth* and methodological options used to “access” those realities.
In the philosophy of “science and religion,” the epistemic distinction between phenomenological and substantive statements about the observed world is important—for one, that distinction marks a difference between phenomenal appearances of objects and substantive realities of objects thought to exist “behind” appearances. Concerning figure 1, the phrases scientific truth and religious truth are thought to depict substantive realities for physical objects, e.g., “electron,” and metaphysical objects, e.g., “God,” respectively. However, it is precisely those assumptions—about the existences of substantive realities behind the appearances of objects—which I discard from my analysis. To be explained in the following pages as I unpack the two assumptions which I do make in this thesis, the notion of phenomenal reality is important in my assessment of “science and religion,” yet affirmations about substantive realities for either religious or scientific objects remain bracketed.

The philosophy of science I suggest, then, is perhaps best described as a neutral, disengaged philosophy of science: a philosophy which analyzes the products and method of the sciences without affirming anything, positive or negative, about the ontological status of

25. In recognizing an epistemic distinction between phenomenological and substantive statements, substantive statements in philosophy are also referred to as theoretical statements. In How the Laws of Physics Lie, Nancy Cartwright (2002, 1) notes, “Normally for philosophers, ‘phenomenological’ and ‘theoretical’ [‘substantive’] mark the distinction between the observable and the unobservable.” Realists maintain this distinction between phenomenological and theoretical statements: if theoretical statements are false, corresponding phenomenological statements must also be false (Cartwright 2002, 3). However, Cartwright, an instrumentalist, rejects this distinction.

the external world. (The converse approach would be a philosophy of science which is performed by science—where the truth of the external world is affirmed to correspond with the statements of science. In the converse approach, statements of science would also be affirmed to be infallible.) Thus, similar to the methodological atheism adopted in the academic study of religion, the particular philosophy of science I advocate for is a “methodological atheism” about the truth of scientific statements (as with religious statements)—a “methodological atheism” about the ability of scientific statements to correspond in a foolproof manner with the truth of the external world. In summary, it would not be inaccurate to classify my philosophy of science as a philosophy of science which brackets the ontological status of the external world. For the purpose of a more complete literature review of twentieth-century philosophy of science, various perspectives on the ontological and

27. As in philosophy of religion, I suggest that Wiebe’s objective genitive versus subjective genitive distinction (Wiebe 1994a, 112) can also be applied to explicate the precise nature of the relationship between the activities of philosophy and science in the discipline philosophy of science: (i) Is philosophy of science to be performed as a neutral, dispassionate account of scientific products and method—a philosophy of scientific practice (objective genitive)? Or (ii) is philosophy of science to be performed as an insider’s account of the scientific enterprise—“science’s philosophy”—i.e., philosophy done by science (subjective genitive)? In philosophy of religion, Wiebe’s characterizations are similarly described as follows: (i) Is philosophy of religion to be performed as a neutral, dispassionate account of religious products and discourse—a philosophy of religious life (objective genitive)? Or (ii) is philosophy of religion to be performed as an apologetic, insider’s account of the religious enterprise—“religion’s philosophy”—i.e., philosophy done by religion (subjective genitive)? As explained, in the assumptions of this thesis, the objective genitive options in (i) are utilized for the methods of both philosophy of science and philosophy of religion and, to that end, the method of the academic study of “science and religion.”

28. The assumptions underlying my philosophy of science are similar to the assumptions employed in Nancy Cartwright’s instrumentalism: Cartwright (2002, 17) remarks, “The fundamental laws of the theory are true of the objects in the model [constructed model to fit observed phenomenon into a theory], and they are used to derive a specific account of how these objects behave. But the objects of the model have only ‘the form or appearance of things’ and, in a very strong sense, not their ‘substance or proper qualities’ [emphasis added].”
epistemological statuses of scientific theories will be considered in later chapters.29 At this
point, left without substantive realities for religious truth or scientific truth to hold on to, I will
now assess the cogency of the two substantive assumptions which I do make in this thesis.
(Having thrown away religious and scientific truths—“all that I had,” the story of the woman
in the Temple who readily gave away her two coins30—all that she had—oddly comes to
mind; however, please excuse the idiosyncratic use of religious narrative.)

As mentioned previously, the two substantive assumptions which I do utilize in this
thesis carry high degrees of initial plausibility in modern, Western universities—i.e., it is
widely accepted in modern, Western universities that the claims of both assumptions possess
firm bases in physical reality. The first assumption—(i) phenomenal reality provides a
standard of observed experiences used for testing beliefs about states of affairs in the world—
speaks to a fundamental principle of scientific methodology: The causal theory of knowledge
requires we possess a quantitative perception of the state of affairs under study, demonstrating
how information contained in a knowledge claim is less surprising (more believable) than was
previously thought. Subjecting a knowledge claim repeatedly to tests of ruthless criticism

29. At this point, it will suffice to mention that opinions concerning the ontological status of truth in modern
scientific practice are likely varied, although the specific question of whether scientific knowledge provides
foolproof knowledge of the external world seems either taken for granted or overlooked entirely. For some
twentieth-century philosophers of science, the question of the truth of scientific beliefs is a question worthy of
consideration: e.g., Thomas Kuhn characterizes truth as dependent upon the scientific paradigm under which a
researcher works: Kuhn (2012, 170) wonders if it is even helpful to imagine an objective world, independent of
paradigm-dependent conceptualizations of the world? In Karl Popper’s thought, a scientific community of
researchers decides, via critical discussion, if a scientific theory will be falsified and which theory, among
competing theories, is more nearer to truth or an approximation of truth. For Popper, a knowledge claim cannot
be demonstrated to be true, but could be demonstrated to possess a high degree of certitude (an approximation
of truth) or be demonstrated to be false. As an undergraduate engineering student, I experienced how chemistry,
physics, and other technical subjects, are taught in universities as if the knowledge claims passed on in those
disciplines, from teacher to student, are statements of truths (some science or engineering students may disagree,
but I think most would agree that the concept of theory is rarely used in university courses). In actuality, it would
be helpful if the clarification was made in undergraduate courses that knowledge claims in the scientific and
engineering disciplines are not truth claims, but are the most well-corroborated scientific theories we possess
(Woodward 2014, 11-12).

30. See the biblical narrative in Mark 12:41-44.
requires the standard of intersubjectively observed experiences of phenomenal reality—for only in this way, it is rightly argued, can intersubjective reckoning about a knowledge claim within a community of scholars be maintained. Susan Haack captures the situation in her *Evidence and Inquiry: A Pragmatist Reconstruction of Epistemology* (2nd ed., 2009) when she describes the intersubjective method of a modestly naturalistic epistemology: “. . . It depends on the assumptions both that sensory and introspective experience is a source of empirical information for us, and that there are *no other* [emphasis added] ultimate sources of empirical information.”

Haack, a defender of science “within reason” (i.e., within the limitations of human cognition and acknowledging that all knowledge claims are corrigible), is careful to distance her work from scientism, a pejorative term, describing an unabashed confidence in the scientific enterprise. Interestingly Haack prefers the term *distinguished* when describing the scientific enterprise: she believes privilege has to be earned—something the sciences have not done—but she argues the sciences do comprise a “distinguished” enterprise. At first glance, Haack’s position, that there are no sources for empirical information except the source of sensory experience, could be misinterpreted as an example of what Mikael Stenmark calls ontological scientism.

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32. The pun “within reason” is noted from the title of Haack’s *Defending Science—Within Reason* (2003; repr., 2007a). In *Defending Science*, Haack (2007a, 9) notes her choice of language “within reason” is intentional: (i) the scientific enterprise informs us how the world is, although the enterprise is fallible (“within reason” colloquially), and (ii) the scientific enterprise is limited by our human cognitive capacity and the fact that we bring our own imperfect perceptions of the world to our scientific work (“within reason” philosophically).


reality made known to us by the knowledge claims of scientific theories (or that if there is any
other kind of reality it most certainly is subordinate to the reality made known by science).
This view, however, is not what Haack espouses and I believe the distinction is worth making:
In clarifying the method of a modestly naturalistic epistemology what Haack is essentially
doing is making a case for the high initial plausibility of the assumption that a physical world
exists and that the constitution of this physical world is naturalistic. Formulating an
assumption with a high initial plausibility—even if the assumption assumes the existence of a
physical world only—is a different matter from making an absolutist claim (a claim thought to
be infallible) that the only world which exists is a physical world.35 Put simply, there might be
“other” realities; religious devotees testify to religious experiences originating from “other,”
trans-empirical worlds. However, as will be discussed further, the methodological problem is
that reported religious experiences are not repeatable experiences. Even if some religious
experiences were repeatable, their claims cannot be measured numerically and most especially
their causal connections cannot be reproduced inside the parameters of an experiment. The
non-availability of a method to generate intersubjective scrutiny about the ability of religious
experiences to accurately describe or predict states of affairs in the world, means religious
experience (at least in academic work) is not a legitimate source of empirical information.

35. A similar assumption is made by Willem B. Drees in his Religion, Science and Naturalism: Distinguishing
between existence and access, Drees (1998, 140) notes that, although human cognitive capacities limit access,
this need not exclude the possibility that metaphysical objects have existence outside of sense perceptions. Drees
(1998, 12) summarizes his position as follows: “The natural world is the whole of reality that we know of [italics
mine] and interact with; no supernatural or spiritual realm distinct from the natural world shows up within our
natural world, not even in the mental life of humans.” Drees (1998, 13) explains that in the preceding quotation
he italicizes within to point out that, in applying this assumption, we are concerned with knowledge claims tested
within the natural world only. In contrast, questions which exist at the ontological boundaries of natural science
(e.g., boundaries of particle physics, cosmology) may require concepts or explanatory accounts which do in fact
transcend the natural world (Drees 1998, 18). Note also that Drees’ formulation of this assumption could be
mistaken to be an example of Stenmark’s ontological scientism. Drees’ formulation is most certainly an example
of Stenmark’s epistemic scientism. In this thesis I argue Stenmark’s epistemic scientism should not be classified
a form of scientism.
Thus, here we have another reason that the first assumption—*phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world*—is an assumption with a high initial plausibility.

Another type of scientism proposed by Stenmark is epistemic scientism:36 in this view it is not irrational to hold religious beliefs in one’s personal life; however, we cannot test belief claims as we can test knowledge claims. Therefore, we cannot *know* if our belief claims are accurate descriptions of physical reality. Unlike Stenmark, I will be suggesting this particular view, about tested knowledge claims being epistemically different from non-tested belief claims, should not be classified a form of scientism *per se*. Rather, what I see this particular view amounting to is a researcher making clear an epistemic distinction between origins and uses of knowledge claims in scientific work and origins and uses of belief claims in religious life. Also, in Stenmark’s classification system of six distinct types of scientism,37 outlined in his *Scientism: Science, Ethics and Religion* (2001), so-called epistemic scientism is the most “belief-friendly” type of scientism he proposes. Haack’s perspective outlined previously, concerning sensory and introspective experience as the only source material for empirical information, would still allow the presence of belief claims within the philosophical constitution of one’s own thought patterns and worldview (i.e., it is not irrational to hold religious or other beliefs in one’s personal life). What Haack’s view does not allow is the presence of belief claims in the source material for empirical information (i.e., belief claims cannot be tested as knowledge claims can be tested).


37. The six types of scientism proposed by Stenmark will be revisited in Chapter 3. For now, the six types are: (i) epistemic scientism, (ii) rationalistic scientism, (iii) ontological scientism, (iv) axiological scientism, (v) existential scientism, and (vi) comprehensive scientism.
The second substantive assumption of this thesis—(ii) religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds—speaks to religious experiences as reported by religious devotees. In outlining the rationale for this assumption, I use the language of testimonies because, as mentioned already, I exclude from my analysis the assumption that religious truth possesses an ontological reality. Thus, in this second assumption, I am not assuming the superhuman agents, about which religious people express beliefs, are metaphysical realities. What I am assuming, though, is that, given a population of people (I speak generally here), some of those people, when asked about their religious commitments, will provide testimonies about superhuman agents and/or testimonies about trans-empirical worlds. In this way, superhuman agents and trans-empirical worlds, about which religious people testify, are cultural postulations—types of propositional claims, if you will—which more precisely are belief claims arising from within the cultural construct of religion and, physiologically, from the predilections of a maturationally natural cognitive system.

In a maturationally natural cognitive system, an important feature of religiosity is the apparent detection of CPS-agents in the natural world per the activity of the HADD. Justin L. Barrett describes agents as “...thinking, feeling, intentional beings... people, animals... ghosts, goblins, and gods.” In cognitive science of religion, an experimental component of

38. Drees (1998, 166) points out that various categories of religious experiences are reported: (i) interpreted (e.g., experiences contextualized vis-à-vis a pre-existing framework), (ii) quasi-sensory (e.g., visions, dreams), (iii) revelatory (e.g., insight, inspiration, immediate changes in perception), (iv) regenerative (e.g., feelings of renewal), (v) numinous (e.g., enhanced consciousness), and (vi) mystical (e.g., union with divine reality).

39. Presented initially on page 5, the HADD (hypersensitive agency detection device)—an evolutionary-based, cognitive device—is utilized in cognitive science of religion literature to attempt to “explain” religious activity (Barrett 2004, 33; McCauley 2011, 82).

40. Barrett, Why Would Anyone Believe in God?, viii.
the scientific study of religion which has developed especially in the last few decades, religiosity is understood as embedded in the cultural construct of religion: social institutions allow meaning to be imprinted over the quotidian capacities of a natural cognitive system. For example, the cultural constructs of “God” and “Allah”—sources of metaphysical meaning in religion—are imprinted over the natural cognitive capacity which causes human beings to desire to detect agency in the world. It could be suggested, then, that contemporary religious institutions capitalize on humans’ cognitive inference systems: religious institutions (and religious texts) market the “God-concept” as a “person-like agent”—such person-like agents are cognitively appealing to the human mind. Counter-ontological representations of a person-like agent include an ontological category (e.g., person) and a violation of that category within a catalogue of possible supernatural templates. For cognitive reasons pertaining to outcomes from our evolutionary heritage, the human mind is predisposed to be prepared to acquire counter-ontological variations of certain mental concepts. Variations of these mental concepts seem to coalesce well with the nature of religious thought. Scientific testing in the area of “experimental theology” provides an empirical basis for the claims of cognitive science of religion. (This work will be assessed in Chapter 8.)

1.3. Outline of Thesis Statement and Argument

The following is a detailed outline of the two-fold thesis statement characterizing the aims of this project: As stated, I am arguing (i) that a theory of rationality refers to a system of testing knowledge and belief claims about states of affairs in the world, and (ii) if a philosopher or theologian is successful in designing a compatibility system between science and religion, the compatibility system will consistently test knowledge and belief claims. Debates surrounding
a compatibility system between science and religion often take place without a clear method for adjudicating which side has won. Wiebe in his essay *Science and Religion: Is Compatibility Possible?* (1994) explains *compatibility system*, a concept developed by Ninian Smart, as follows: “A ‘compatibility system’ is essentially a justification of accepting two apparently conflicting systems of thought. If no *prima facie* conflict existed, there would be no impetus to construct such a system.” It seems that for many, upon first impression, science and religion exist in some kind of conflict, encompassing separate domains of reality with distinct methods and distinct aims. In addition, the building of a potential compatibility system between science and religion (or a compatibility system between science and other metaphysical belief systems) tends toward the question of whether the human (yet metaphysical) activity of “thinking about the gods” is an activity to be accomplished with or without an assumption about the nature of the gods—i.e., whether the gods are an ontological or a socially constructed reality? It is my sense that any student of “science and religion” is wise to keep an awareness of these concerns in mind; these concerns will influence my analyses in following chapters.

In terms of revelation, a type of “religious knowledge” thought to present a reality independent from personal human preference, Étienne Gilson outlines options to

41. In the context of the academic study of science and religion, the concept of *compatibility system(s)* is taken from Ninian Smart’s work and is outlined by Smart (2015, 82-83) in his *The Science of Religion and the Sociology of Knowledge: Some Methodological Questions* (1973; repr., 2015). Wiebe discusses and assesses compatibility systems in his *Beyond Legitimation: Essays on the Problem of Religious Knowledge* (1994a)—for example, in *Beyond Legitimation*, see Wiebe’s *Science and Religion: Is Compatibility Possible?* (Wiebe 1994f, 58) or his *Is Science Really an Implicit Religion?* (Wiebe 1994d, 87). In 2014 I utilized the concept of a compatibility system in my *Adventure in Human Knowledges and Beliefs*, presenting a post-Kuhnian-type relationship between knowledge and belief communities (Woodward 2014, 58).


43. Étienne Gilson, *Reason and Revelation in the Middle Ages* (New York: Charles Scribner’s Sons, 1938), 32.
contextualize revelation\textsuperscript{44} in relation to rational speculation about states of affairs in the world: To begin with, in its most ambitious sense, revelation is thought to provide a substitute for all other sources of propositional claims, including sources of science, ethics, and metaphysics.\textsuperscript{45} In more modest terms, attempts are made to epistemically blend claims arising from revelation with claims arising from rational speculation.\textsuperscript{46} Gilson goes on to characterize individual relationships between revelation and rational speculation as various schools of thought founded by Augustine of Hippo, Averroës, and Thomas Aquinas. For example, in the school of Augustine, the certitude of religious faith is taken as the beginning point of all rational knowledge. In such a scenario, all speculation moves in a direction from revelation toward reason.\textsuperscript{47} However, Gilson argues that even for the Augustinian an application of natural reason is initially required: Revelation is accepted only if religious devotees possess “good reasons”\textsuperscript{48} to think that such revelation has occurred. Thus Gilson contends that the action of the Augustinian believing that revelation has occurred—e.g., believing that God has spoken—is a different matter from providing a rational account of the reality of revelation which is held by faith.

Averroism—the school of Averroës—provides another possibility to characterize revelation in relation to rational speculation. The goal of Averroism was to respond to the

\textsuperscript{44} That revelation is thought to present a reality independent from personal human preference will be important as we consider how scientific and religious modes of thought differ: if revelation indicates a substantive and final world-transcending reality, then religious modes of thought, which rely on revelation as a source of knowledge, must be radically different from scientific modes of thought: modern science is open to change and modification, the impetus for change being new information uncovered from new learning about the world; furthermore new information obtained from science impacts evolving human preferences about human behaviours and attitudes.

\textsuperscript{45} Gilson, \textit{Reason and Revelation in the Middle Ages}, 5.

\textsuperscript{46} Ibid., 15.

\textsuperscript{47} Ibid., 16-17.

\textsuperscript{48} Ibid., 18.
attempted reconciliation between philosophical knowledge and the content of Islamic faith. Creating an opposition between faith and reason, Averroës contended that absolute truth is located within the claims of Aristotelian philosophy only—i.e., reason speaks once and for all.\textsuperscript{49} According to Averroës, however, to indicate the exact place and function of religious faith relative to philosophy is to consider the possibility that revelation may prescribe the use of philosophical speculation. As the argument goes, as part of one’s philosophical inquiry into creation, one’s mind is thought to be raised to knowledge of a creator god.\textsuperscript{50} (In this view, philosophy need not be inimical to faith after all.) In a curious twist, the question is then raised as to whether a supernaturalistic ontology is required to provide an account of revelation? Indeed, in a rhetorical sense, revelation is rendered already an absolute truth, cognitively acceptable so long as human imagination remains stronger than natural reason.\textsuperscript{51} However, as Gilson points out, for the dialectically minded, appeals to human imagination and emotion are\textit{ not} justifiable reasons to believe. In response to this accusation, that the appeal to imagination is not enough, the task of faith-imbued theology, then, would become one of formulating a dialectical justification for revelation or a justification which demonstrates that claims arising from revelation are just as probable as claims arising from natural reason.

Thomism—the school of Thomas Aquinas—is helpful in making a distinction between claims that can be\textit{ known} and claims that are\textit{ believed}. Regarding the origins of Thomism, Gilson remarks, “Despite their radical opposition, the Theologism and the Rationalism of the thirteenth century had at least one common feature; their onesidedness. Theologism would

\textsuperscript{49}Gilson, \textit{Reason and Revelation in the Middle Ages}, 39.

\textsuperscript{50}Ibid., 40-41.

\textsuperscript{51}Ibid., 43.
maintain that every part of Revelation should be understood, while Rationalism would uphold the view that no part of Revelation can be understood.”

According to Gilson, Aquinas sees the problem of the opposition between faith and reason as a problem of degree: In the case of faith, assent to a claim is possible because the substantive content of the claim is part and parcel of revelation—e.g., testimonies that “God has said it” or “made it so.” Thus, in faith, assent is determined by the act of believing that the proposition is an accurate description of physical reality. In contrast, in the case of science, assent to a claim is possible because the substantive content of the claim is part and parcel of observed nature. Thus, in science, assent is determined by the act of knowing that the proposition is an accurate and tested description of physical reality. Aquinas’ distinction between claims known and claims believed need not be a complete separation nor an Averroistic opposition between faith and reason.

For the Thomist, the dichotomy of faith and reason is thought to grow into a single “organic unity.” However, it would be an error to neglect Gilson’s thesis that Thomistic thought is grounded in the difference between degrees of assent resulting in either knowledge or belief. Also, in considering the dialectical probabilities of faith, arguments held by faith convince no one unless one already believes arguments based on faith. As such, in Gilson’s view, the typical Thomist never pretends to know what is actually to be believed and likewise does not

52. Gilson, *Reason and Revelation in the Middle Ages*, 69.

53. In this case, intellectual assent is determined by the perceived authority of revelation (an object of a faith-imbued cognition)—by the belief that the proposition (which is thought to be made possible through perceived revelation) provides an accurate description of physical reality.

54. In this case, intellectual assent is determined by the object of science (an object of cognition)—by the tested contents of the proposition itself, which indicate that the proposition is an accurate description of physical reality.

55. Gilson, *Reason and Revelation in the Middle Ages*, 78.

56. Ibid., 84.
claim to believe what can in fact be known. Thus, in such a system, knowledge and belief are distinguishable by their proper places and functions, but nevertheless both knowledge and belief remain important in the life of the Thomist.

I apply Aquinas’ distinction between claims known and claims believed, outlined in the preceding paragraph, to formulate the typology adopted in this thesis of tested knowledge claims and non-tested yet faith-imbued belief claims: Indeed the Thomist believing a non-tested proposition is a different matter, psychologically, from the Thomist knowing a self-evident proposition. Similar to Gilson’s analysis, B. A. Gerrish describes the psychological aspect of Thomistic faith as located in the human intellect. The intellect of faith, however, although amounting to a high degree of certitude for the religious believer, is an intellect not compelled to assent by the proposition, but compelled to assent by a choice of will to believe the proposition. Hence, Gerrish dichotomizes Thomistic faith from Thomistic knowledge (scientia) at least when knowledge is taken in the scientific sense—i.e., knowledge as self-evident propositions. The intellect of knowledge, then, is an intellect compelled to assent by the self-evident character of the proposition itself. In a creative move, Gerrish imagines the intellect of Thomistic faith as landing on a cognitive scale, halfway between the intellect of self-evident knowledge and the intellect of mere opinion (although as mentioned faith still amounts to a certainty for the believer).

Now, having unpacked various options to characterize the relationship between faith and reason, and the rationale for adopting the

57. Gilson, Reason and Revelation in the Middle Ages, 83-84.


60. Ibid., 6.
knowledge claim and belief claim typology, in the following paragraphs I contrast claims from science with claims from religion, pointing out how both types of claims attempt to describe shared states of affairs in one, physical world.

In contrast to quantitative perceptions and our fairly basic assumption that a physical world does in fact exist, mythic perceptions, Platonic universes, and speculation about trans-empirical worlds, all lack the standard of observed experiences necessary for intersubjective study. This leads me to point out how, both scientific and religious exercises making claims about states of affairs in the same physical world, creates epistemic tension in the academic study of science and religion. While it may be the case that some religious testimonies refer to objects of belief residing in a trans-empirical world—a “world” thought to exist outside the limits of sensory experience—it is also the case that many religious testimonies involve claims made about an interplay between this so-called trans-empirical world and the physical, empirical world. For example, claims of religious miracles are often claims concerning events which are thought to occur as violations of the physical laws of nature in the visible world.

In Christianity (one example), there exists the claim that an invisible CPS-agent, through an inexplicable divine mystery, is made visible in physical, human form—a claim seemingly made by liberal and conservative Christian groups alike. Among an Islamic group in Pakistan during the Zia regime (another example), there existed the claim that jinns, creatures depicted in Arabian mythology, are comprised of a physical, chemical composition, capable of being

61. As mentioned, this typology serves (i) as a useful heuristic and (ii) possesses a Thomistic flavour.


63. For example, see biblical passages such as John 1:14 or Phil. 2:8.
extracted as energy.\textsuperscript{64} In Buddhist thought, rather than being a metaphysical component of the illusion of samsāra only, the claim was made by nineteenth-century Buddhist monks that Mount Meru does in fact exist in the \textit{physical} world and that demigods inhabit its summit and slopes.\textsuperscript{65}

Secondly, in more technical matters, regarding the origin and constitution of physical reality, Hebraic creation narratives in Genesis, Arabic creation narratives in Surah Al-A‘raf,\textsuperscript{66} and ancient Near Eastern geocentric cosmology in Joshua,\textsuperscript{67} are used by religious devotees to make claims about states of affairs concerning the origin of human life and the structure of the solar system. At the same time, substantive content of scientific theories of natural selection, common descent, and heliocentrism,\textsuperscript{68} are used by scientific practitioners to make claims about states of affairs concerning the origin of human life and the structure of the solar system. Finally, to consider two timely examples: (i) CPS-agent-based, revelatory information in Leviticus and Romans is used by religious devotees to make claims about states of affairs concerning the naturalness or unnaturalness of non-heterosexual attraction.\textsuperscript{69} At the same time, scientific theories describing sexual orientation as inborn, determined biologically by the

\textsuperscript{64} Hoodbhoy, \textit{Islam and Science}, xiii.

\textsuperscript{65} Donald S. Lopez, Jr., \textit{Buddhism and Science: A Guide for the Perplexed} (Chicago: University of Chicago Press, 2008), 55.

\textsuperscript{66} For example, see biblical passages Gen. 1:1-30 and Gen. 2:4-22 or, in the Qur’ān, see Surah Al-A‘raf 7:11-25.

\textsuperscript{67} See the biblical passage Josh. 10:13.


\textsuperscript{69} For example, see biblical passages such as Lev. 18:22, Lev. 20:13, and Rom. 1:26-27.
modification of gene expression\textsuperscript{70} or determined by biopsychosocial factors,\textsuperscript{71} are used by scientific practitioners to make claims about states of affairs concerning the naturalness or unnaturalness of non-heterosexual attraction. (ii) In questioning the right for aid in dying for terminally ill patients, biblical texts are used by religious devotees to make claims about states of affairs concerning the future course of one’s life as fixed,\textsuperscript{72} predetermined by the activity of a CPS-agent. At the same time, scientific theories about human physiology are used by scientific practitioners to make claims about states of affairs concerning the future course of one’s life as in flux, determined by the chemical reactions of an unpredictable biological organism. In all examples mentioned, information about states of affairs provided by claims of religious devotees is different from—and, in terms of causality, conflicts with—information about the very same states of affairs provided by claims of scientific practitioners.

The epistemic problem outlined in the examples in the preceding paragraphs, where religious exercises make claims about states of affairs in a physical world which is also the territory of the claims of science, cannot be ignored. To disregard this epistemic problem would amount to an intellectually bankrupt thesis: I will not accept that knowledge claims in science and belief claims in religion innocently co-exist in epistemic harmony when in fact both types of claims blatantly attempt to describe the same states of affairs in the same physical world—and in doing so conflict epistemically with one another. Furthermore, to accept that knowledge and belief claims can simply co-exist without any epistemic problems


\textsuperscript{72} For example, see biblical passages such as Ps. 31:15 or 1 Cor. 6:19.
arising, is to deny that any kind of theory of rationality is even necessary in one’s life and academic work. However, when this epistemic conundrum, concerning knowledge versus belief claims and their shared use of the same states of affairs in one physical world, is acknowledged, initial complications for potential compatibility between science and religion inevitably begin to arise. Also relevant now is the question: are knowledge claims an epistemic benchmark for belief claims? I begin to address this question in Chapter 3; however, before doing so I must present in Chapter 2 a survey of various belief claims among diverse religious and philosophical traditions.
2. Knowledge Claims and Belief Claims

2.1. Survey of Religious and Philosophical Beliefs

The plethora of belief claims made and attested to in modern human societies are not limited to a single religious or philosophical tradition, but encompass many traditions. To that end, notoriously problematic in religious studies and academic theology is the task of defining the term *religion*, if such a task is even possible. A large part of the difficulty in defining the term *religion* arises from the multiplicity of popular religious and philosophical belief systems, which are often characterized as types of “religion,” but nevertheless remain mutually exclusive in their substantive content and aims. In *The Sacred Is the Profane: The Political Nature of “Religion”* (2013), William E. Arnal and Russell T. McCutcheon point out that providing a definition for *religion*—to say what religion *is* within some fixed limits—is difficult to achieve without also theorizing about the nature of religion.\(^73\) In this case, then, a circularity among the activities of defining and theorizing becomes unavoidable. However, it may be this apparent interest to develop a suitable definition *per se* for *religion* is misguided; that perhaps the task is not so important after all: As Pascal Boyer observes, anthropological findings in the study of religious behaviour present the (somewhat unexpected) conclusions that religious activity, i.e., religiosity, can exist without having a “religion”—that religiosity can exist without having the concept *religion* at all.\(^74\) Although the idea of a universal religion—which any person could adopt regardless of one’s previous religious background—is not a universal idea, Boyer claims the label *religion*, applied to various modes of thought involving


CPS-agents, is merely a label. In societies where multiple institutional religions exist, the label *religion* is a convenient way to distinguish these various institutions; however, relying on and testifying to the activity of CPS-agents in one’s life does not require that one have a “religion,” as examples from various cultures illustrate. With this in mind, within the scientific study of religion, the concept of *religiosity* seems preferred over the concept of *religion*—in fact, it is more accurate to describe this thesis as a scientific study of religiosity rather than a study of religion. (Although in literature the academic field is formally known as the *scientific study of religion*, the phrase *scientific study of religiosity* is perhaps more accurate in describing the field’s purpose.)

Nevertheless, in attempting briefly to offer a definition for the term *religion* (as a heuristic, if anything), what is the case is that modern religions are grounded in and maintain their existences through the frameworks of socially constructed institutions. To the social reality of *religion*, then, a modern religious institution provides such elements as (i) a religious epistemological framework through which a community adjudicates its beliefs claims and (ii) a group of religious devotees who, through their shared goals, submit belief claims to test in a consensus theory of truth. (Whether a religious institution realizes it possesses these features, or not, is another matter.) To be argued in greater detail later, *religiosity*, in contrast, is a much more open-ended concept: in a cognitive fashion, religiosity exists, is developed, and is transmitted between individuals *without* the aid of any social institution and *without* any consensus on the truth of belief claims. *Religion*, though, may be thought of as a mythopoeic mode of thought—one centred on mythological texts, CPS-agents, and testimonies of religious

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75. See examples referenced in Chapter 8, including examples from Boyer’s fieldwork.
devotees. In an anthropological fashion, connecting religion specifically to the activity of CPS-agents, Melford E. Spiro famously describes religion as “. . . an institution consisting of culturally patterned interaction [relationship] with culturally postulated superhuman beings [agents].”76 Indeed, superhuman agency, causality and relationship are key elements in many current world (and primitive) religions.77 In a different but similar sense, religion amounts to an eros to knowledge, closing “a gap” or making “a jump” between empirical and trans-empirical worlds, and meaning-making in the context of a finite human existence. Indeed, the construction of meaning, especially, as Berger puts it, in face of the seemingly “. . . empty vastness of the universe . . .”78 is a common theme in many religions (not to mention the desire to find sources of meaning in human life is often urgent and intense). More specifically, Wiebe, in his seminal book The Irony of Theology and the Nature of Religious Thought (1991), suggests the following definition for religion: “Religion, that is, will be taken to consist of the stories of transcendence [a trans-empirical world]; of another realm of reality; of superhuman/supernatural being(s) that have the power to help (or to harm) humankind.”79 Wiebe’s definition is useful in this thesis, because it points out common themes in religion regardless of any one particular religious institution or tradition.

Religion defined as belief about a trans-empirical world seems particularly helpful: it is difficult to contemplate a religion that would not involve reflection about (or reported testimony about) some reality “out there” or “in here,” especially one which allows human


77. Wiebe, Religion and Truth, 16.

78. Berger, The Sacred Canopy, 100.

beings to project their human thoughts and emotions, their greatest hopes and fears, beyond their finite human existence. Concerning this, Wiebe rightly observes, “The recognition of human limitation—of finitude—in face of the inexorable processes of nature that eventuate in death, and the transcending of those limitations by postulating (recognizing/assuming) the existence of a superhuman source of power on which humans can draw, is what religion is essentially all about.” The propositional character of religion, then, where the substantive contents of religion are “housed,” if you will, in the epistemic form of belief claims means science and religion are well-suited for epistemic comparison and contrasting: as outlined in Chapter 1, both scientific and religious exercises involve the making of propositional claims about states of affairs in the physical world.

Socially and institutionally, however, religion is perhaps best conceptualized as the corporate expression of faith, displayed in a community of people who share the same beliefs and, more or less, adhere to shared religious testimonies expressed in the form of belief claims. In The Social Construction of Reality: A Treatise in the Sociology of Knowledge (1966), Peter Berger and Thomas Luckmann present their thesis of social construction whereby human beings are thought to act as the producers of their own social worlds. Put simply, Berger and Luckmann propose that the social world of a community was created by the community. (The type of community in question might be what I call a knowledge community composed of scientists or engineers or a belief community composed of religious devotees or members of, say, a theosophic society.) The crux, however, of Berger’s and Luckmann’s thesis is that members of a given community do not realize they have created

their own social world. Instead they believe (assume) their social world maintains an existence, *a priori*, independent of their own human actions. Nevertheless the social world was in fact created by the community.81 Berger and Luckmann present mechanisms through which a social world is thought to be created, unknowingly, by a community:82 From birth, human beings are subject to various influences determined by the community in which they live. For one, languages help to create social worlds, providing human beings with the ability to separate their experiences into various knowledge and belief categories. In a community, different roles are carried out by different individuals; over time, those roles become routine, providing the community with an institutional framework. Also, the sharing of history between community members produces a body of knowledge passed between generations.

Speaking about social construction generally, Ian Hacking is careful to point out that, when the social construction of any X is proposed, the first question to resolve is *what is X?*83 For example, for our concerns in science and religion, is X a physical or metaphysical object, an idea in one’s imagination, or a human institution? Or, more ambiguously, is X a philosophy-laden (or theology-laden) concept such as *truth, fact, or reality?* Suppose, then, that X is taken as the human institution known as *religion*: About religion as a human institution specifically, Berger suggests that “religion is the human enterprise by which a sacred cosmos is established,”84 where *sacred* is “. . . a quality of mysterious and awesome power, other than man [people] and yet related to him [them], which is believed to reside in

certain objects of experience.”85 Here is, yet again, another possible definition for religion and a definition perhaps well suited to the uses of all who identify as theist, atheist, agnostic, or igtheist.86 From sociological, psychological, and psychoanalytic viewpoints, it is widely accepted that gods have a place in the lives of many human beings: in that sense, there is some “reality” for the existence of gods, even though the nature of that reality and its objects of experience may in fact be socially constructed. Characterizing the study of belief claims as a study of worldviews and analyzing the place for beliefs about gods in the lives of human beings, Smart observes, “The modern study of worldviews helps illuminate worldviews, of course, both traditional and secular, which are such an engine of both continuity and change, and therefore it explores feelings and ideas and tries to understand what exists inside the heads of people. What people believe is an important aspect of reality whether or not what they believe is true [emphasis added].”87 My use of the term worldview deserves a brief disambiguation, as this term carries various meanings: Characterizing the study of belief claims as a study of worldviews, the sense in which Smart applies the notion of worldviews,


86. Semantic differences between these four terms—theist, atheist, agnostic, and igtheist—are described as follows: Theist is often used to label a person who says he or she believes in God. In contrast atheist is often used to label a person who says he or she does not believe in God. (Here I am using the term God, but Allah or the name of another CPS-agent—Zeus, Attis, Adonis, etc.—could be substituted here.) However, as I noted from my internship work during university as a high school chaplain and interim minister: “The problem with the terms atheist and theist is that these terms, however useful they may be to categorize groups of people, are only labels. . . . Some people’s beliefs change throughout their lives (we eliminate some beliefs and/or add other beliefs to our conscious minds), but people retain the meaning or purpose in life that arose from previous beliefs even if those beliefs are based on religious stories now understood to be historically irrelevant” (Woodward 2014, 47). Another term, commonly used, is Thomas Huxley’s term agnostic, describing a person who says there is no way to know whether or not God exists. Finally, another term, less commonly used, is Paul Kurtz’s term igtheist, a person who says that the statement God exists, a proposition with no existential import, is a meaningless statement. In The New Skepticism: Inquiry and Reliable Knowledge, Kurtz (1992, 197) explains the life of an igtheist as follows: “I cannot say whether or not such a being [God] exists since I do not comprehend what is being asserted [emphasis added].”

means that a worldview must include a conceptual framework for theorizing about the world and one’s existence in the world. Given the role religions play in creating a meaningful human existence for the religious devotee—especially in face of what is a physically unpredictable, finite human existence—religious beliefs are naturally included in the substantive content of one’s worldview.

James W. Underhill, in his recent study (2013) of the thought of linguist Wilhelm von Humboldt, notes that both Weltanschauung and Weltansicht are used to describe the English worldview, although each German term, Weltanschauung and Weltansicht, brings a different meaning to the English realization of worldview. Humboldt’s contribution to the concept of worldview is that of the less common Weltansicht, the element of language itself in shaping one’s conception of the world. Humboldt argued that Weltansicht is for the most part an unconscious affair, except for a few “exceptional individuals”88 who analyze language itself as a mode of conceptualization.89 In contrast, the more common Weltanschauung, an intuitive mode of thought expressing one’s innate need to conceptualize the world, depends on the more fundamental Weltansicht. The distinction between the two German terms is perhaps best articulated as Weltansicht being one’s first sensory contact with the world, in which language itself contextualizes contact, and Weltanschauung being the secondary formulation of belief claims and application of beliefs to interpret the world.90

Julian Huxley appears to understand worldview as Weltanschauung: Huxley used the metaphor of a human skeleton to describe the nature of religious beliefs as “idea systems” in

89. Underhill, Humboldt, Worldview and Language, 17.
90. Ibid., 18.
As types of worldviews and paradigms of rationality, idea systems comprise frameworks for life similar to the physical framework of a human skeleton. An evolutionary skeleton provides shape and structure to a human body which is then “clothed” by a biological body. Belief claims treated as worldviews provide intellectual structuring to ideas in the mind and, in doing so, cause one to make commitments toward following various paradigms of rationality. Finally, this intellectual structuring of ideas in the mind is “clothed” by the everyday outcomes of human experience, learning, and critical encounters with the world.

Interestingly, an interlocutor as different as Sigmund Freud, whose psychoanalytic theory of mind is utilized as a critical theory of religion, explains Weltanschauung as “. . . an intellectual construction which solves all the problems of our existence . . . which, accordingly, leaves no question unanswered and in which everything that interests us finds its fixed place.” Thus, for Freud, the goals of possessing a Weltanschauung are that, within this intellectual construction, one can feel secure, know what to strive for, and deal expeditiously with one’s emotions—tasks which belief claims in many religions are readily seen to accomplish.

In recognizing the semantic distinction between Weltansicht and Weltanschauung (but a distinction which Underhill points out has not been well understood in the English context of worldview), it seems the use of worldview in this thesis is best correlated with Weltanschauung, the substantive element of one’s conception of the world and the intellectual

foothold in the mind where belief claims are formulated and maintained. Indeed, it is these components of Weltanschauung which appear to situate Smart’s understanding of worldview. At the same time, however, it is worth noting the contribution of Weltansicht to worldview: belief claims of Weltanschauung—themselves types of metaphysical constraints placed around one’s conception of the world—are constrained previously by the particular language system of Weltansicht, which precedes the formulation of beliefs. Therefore, in this thesis, exploration of belief claims as exploration of worldviews presupposes (i) the existence of a language system which contextualizes sensory contact with the world (Weltansicht) and (ii) the seemingly intuitive need of human beings to interpret the physical world and their existence in the world (Weltanschauung).

Regarding the seemingly intuitive need of human beings to interpret the physical world and their existence in the world, Jonathan Evans points out that for some the cognitive foundations of science and religion are thought to share a common goal—to “explain” the world.94 However, to be discussed, the epistemic nature of explanation in scientific causation is radically different from the agentic “explanations” of religious claims. To that end, perhaps unsettling for some, but intriguing for others, is Boyer’s thesis presented in his Religion Explained: The Evolutionary Origins of Religious Thought (2001): Boyer wonders, given such a varied human phenomenon as religiosity, how can religiosity originate from and be explained by a human physiology (brain) which is not varied, but the same for all human beings.

beings? Furthermore, humans can be quite gullible, but they are not gullible in such a way that just any claims are acceptable to them. About this, Boyer remarks:

Religious claims are indeed beyond verification; people do like sensational supernatural tales better than banal stories and generally spend little time rethinking every bit of cultural information they acquire. But this cannot be a sufficient explanation of why people have the concepts they have, the beliefs they have, the emotions they have.

To illustrate the diversity of religiosity as a human phenomenon—and the diverse range of metaphysical claims (“supernatural tales”) reported by various human groups—I provide in the following paragraphs a brief survey of substantive belief claims in some world religions and philosophical and psychical belief systems. Also surveyed are examples of legitimation strategies—rhetorical techniques used by some religious and philosophical groups to attempt to “justify” their claims relative to the epistemology and method of science. The worldviews surveyed in the following paragraphs are as follows: (i) Judaism, Christianity, and Islam (Abrahamic Traditions), (ii) Buddhism (East Asian Tradition), (iii) Hinduism (South Asian Tradition), (iv) Spiritualism and Parapsychology, and (v) New Age and Occult.

1. Judaism, Christianity, and Islam (Abrahamic Traditions)

In the substantive belief claims of Judaism and Christianity, the creation of the physical world ex nihilo, the covenant between God and Israel, and the liberation of God’s people from bondage in Egypt are key themes. In a typological fashion, Christianity adds to these themes additional claims about the relationship between Jesus Christ and God’s chosen people from all races and backgrounds. Similarly, in the belief claims of Islam,

95. Boyer, Religion Explained, 3.
96. Ibid., 29.
Allah’s messenger, Mohammed, receives supernatural information from Allah and delivers that information to Allah’s followers. In all cases, beliefs are held in an axiomatic fashion. Also common to the monotheistic religions is the notion of direct, self-revelation, vouchsafed from a CPS-agent—an anthropomorphic god referred to (generally) as El, Allah, or God—to religious messengers, prophets, and followers. John Hick remarks how the Christian mind employs various degrees of self-consciousness and self-critical reflection, resulting in various Christian worldviews and hermeneutics. Differing accounts about inclusive or pluralistic modes of salvation, beliefs about the resurrection of Jesus as a physical or mythological event, and the lifestyle of the historical Jesus, contribute toward various Christianities. Similarly, as Dorothee Sölle puts it, “There is no one theology, but extremely different theologies, even in one and the same historical situation.” Sölle is speaking from a Christian context, but no doubt her comment applies to Judaism and Islam also. Indeed, post-Enlightenment religiosity involves the splitting of all monotheistic religions into various groups:

In Judaism, the Haskalah, the “Jewish Enlightenment,” from the eighteenth to nineteenth centuries, resulted in the orthodox, conservative, and liberal groups of contemporary Judaism, differing in their interpretations of Mosaic Law and in the cultural trappings they possess. There are also non-religious Jews, living in Tel Aviv,


who cease from work on Saturday to observe a religious law (Shabbat), suggesting some substantive faith expression also for secular Jews. Islam, too, has experienced forms of modernization. In Islam and Science: Religious Orthodoxy and the Battle for Rationality (1991), Pervez Hoodbhoy argues the epistemic values of Islamic society and modern science are incompatible; however, he is careful to note there also exist modernized interpretations of Islam (e.g., Islam practiced in Turkey) which allow a separation between the worldly and other-worldly.  

As a legitimation strategy for monotheistic religions, whose substantive contents include claims about a creator god, Ian G. Barbour (speaking from a Christian context) describes the *anthropic principle*. As the assertion goes, fine-tuned, natural phenomena, including physical constants, the rate of expansion of the universe seconds after the Big Bang, the strength of the strong nuclear force in forming chemical elements, and various particle-antiparticle ratios, exist in such a way that any slight (even infinitesimal) deviations from the values of these parameters would mean that human life could not have evolved. Darwinism of course repudiates any suggestion that cosmic teleology has a place when explaining the origin of life—a major obstacle to


102. The development of the concept *anthropic principle* (*anthrōpos* is Greek for *human*) is attributed (in different instances) to physicists Robert H. Dicke and Brandon Carter in the mid-1960s and 1970s. Two versions of the anthropic principle are reported: (i) The *weak* anthropic principle affirms that for a universe to be “observed,” it requires the potential for living observers to exist. (ii) The *strong* anthropic principle is that described by Barbour (1997, 204-205) which affirms that specific values for physical parameters are required for the potential for life.

theism.\textsuperscript{104} (Darwinism, then, is also an obstacle to “creation science”\textsuperscript{105}—although different from general theism, “creation science” also includes a cosmic teleology.) Some advocates of theism utilize the anthropic principle to argue it could only have been the work of a creator god which brought into existence the very specific values of these physical parameters that are necessary for human life to exist.\textsuperscript{106} To put it bluntly, this amounts to a kind of legitimation strategy which argues that scientific accounts describing the origin of human life in fact support the faith-imbued assumption of an enchanted, agentic world. It is my observation that, when analyzing the merit of the anthropic principle, one is wise to consider whether the assumption of an agentic world itself contributes toward the apparent attractiveness of the anthropic principle as a legitimation strategy.

\section*{II. Buddhism (East Asian Tradition)}

David L. McMahan points out that Buddhism possesses a unique reputation in the West as being a religion which is, in fact, very much compatible with modern science\textsuperscript{107}—this

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\textsuperscript{105} Various types of “creation science” or “creationism” are reported: (i) Young-earth creationists claim the creation narratives in Genesis are literally true—that the earth was created in six, 24-hour days, sometime around 4004 BCE. (ii) Old-earth creationists claim the creation narratives in Genesis are compatible with modern geological chronology. There exist two branches of “theory” for old-earth creationists: (a) Day-Age Theory proposes each of the six “days” in Genesis is actually a long period of time, accommodating the ages of geological dating. (b) Gap Theory proposes the six days in Genesis are literal; however, the creation of the world in six days occurs after a previous period (gap) of geological formation (Haack 2007b, 273).
\textsuperscript{107} To be discussed in Chapter 4, the precise nature of what it means for science and religion to be “compatible” is far more complex than mere “reputed” compatibility: that Buddhism enjoys a reputation in the West for being compatible with science is not enough to conclude that Buddhism and science are, without doubt, compatible. Also, in the popular sense that Buddhism and modern science enjoy a reputation for being “compatible,” there is no indication as to whether this apparent compatibility is epistemic, substantive, institutional, or personal. Such factors will also be dealt with in Chapter 4.
\end{flushright}
reputation alone lends itself well toward a legitimation strategy for Buddhism.\textsuperscript{108} There exists speculation to whether Buddhism is better classified a world religion or philosophical belief system: as there is no CPS-agent utilized in the metaphysics of Buddhism, the label \textit{religion}, to some, seems inappropriate. As Donald S. Lopez notes in his \textit{Buddhism and Science: A Guide for the Perplexed} (2008):

\begin{quote}
His [the Buddha’s] was a religion, if it was a religion at all, that required no dogma, no faith, no divinely inspired scriptures, no ritual, no worship of images, no God. This view of the Buddha seemed to have enjoyed particular popularity among the more anticlerical of the European scholars.\textsuperscript{109}
\end{quote}

However, like other world religions, what Buddhism does possess is the notion of closing “a gap” or making “a jump” between empirical and trans-empirical worlds—in Buddhism’s case, the ultimate metaphysical reality of nirvāṇa. Also, like the CPS-agents of other religions, nirvāṇa is a culturally postulated reality which is interacted with (culturally) by followers of Buddhism.\textsuperscript{110}

In Buddhist cosmology, metaphysical and physical beings, including gods, humans, animals, ghosts, and demons, wander through samsāra—the realm of rebirth. The flat earth cosmography of Buddhism includes the mythological Mount Meru which floats in a large body of water also containing several islands.\textsuperscript{111} In addition, above and

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\textsuperscript{109} Lopez, \textit{Buddhism and Science}, 6.

\textsuperscript{110} About the objection that Buddhism not be classified a world religion \textit{per se}, Wiebe notes how this objection often arises from the accusation that one’s definition for \textit{religion} is ethnocentric, assuming the truth of one particular \textit{type} of religion over another. However, as Wiebe (1981, 16) points out, such an objection can be overcome by the simple clarification that, in a scientific study of religion, the truth of religion is bracketed anyway—religion proper is assumed to be no more “true” than any other human enterprise, including secular ones.

\textsuperscript{111} McMahan, “Buddhism as the ‘Religion of Science,’” in \textit{Handbook}, 125.
\end{flushright}
below the surface of the water are various realms of rebirth. “Gods” are distinguished into three types: (i) gods of the Realm of Desire, inhabiting different heavens and celestial realms, (ii) gods of the Realm of Form, inhabiting states of deep concentration in various heavens, and (iii) gods of the Formless Realm, inhabiting a non-physical state of rebirth.\textsuperscript{112} Finally, just as there are various Christianities or various Judaisms, various Buddhisms are reported. For example, for Victorian Buddhist scholar Thomas W. Rhys Davids, it was the southern Buddhism of Sri Lanka which is closest to the Buddhism of the historical Buddha.\textsuperscript{113} (Southern Buddhism contrasts with the northern Buddhism of Tibet and Nepal.)

III. Hinduism (South Asian Tradition)

Swami Vivekananda, the nineteenth-century Bengali teacher who brought Vedantic philosophies to the West, attempted to describe the belief claims of Advaita Vedānta—a branch of Hinduism—as claims that are scientific in nature.\textsuperscript{114} Stressing that, not only do spiritual laws of the Vedas parallel physical laws of nature, but also that the Vedas proclaim truths about the world which modern science is only now just confirming, Hinduism has sought a legitimation strategy through the distancing of itself from other religions and the aligning of itself, or so it claims, with scientific theories. According to C. Mackenzie Brown, Vivekananda attempted to legitimate Advaita Vedānta specifically by separating it from other world religions via the claim that Advaita Vedānta is, in fact,  

\begin{itemize}
\item \textsuperscript{112} Lopez, Buddhism and Science, 44.
\item \textsuperscript{113} Ibid., 5.
\end{itemize}
a scientifically verified worldview.\textsuperscript{115} To accomplish this task, Vivekananda presented propositions such that the law of the conversation of energy conflicts with a Judaeo-Christian understanding of creation \textit{ex nihilo}: since the total cosmic energy of the world has always been constant, there never could have existed a time, or so went his argument, when matter did not exist. In addition, Meera Nanda points out that in present day India it is not uncommon to find a cultural milieu where Hindu metaphysical claims about karma, Ātman, or prana, are repositioned to be aligned parallel with scientific theories of evolution and quantum mechanics. The precise nature of this repositioning seems difficult to contemplate; however, it involves the general belief that Hindu religious thought (or, for some, Hindu \textit{philosophical} thought) presents answers to questions about states of affairs in the world which are currently asked by modern science or will be asked in the future.\textsuperscript{116}

The modern Hindu worldview, concerning in particular its use of both scientific and religious claims to describe the world, includes a hierarchy of truths, but also a blurring of the precise nature of causality: Nanda explains how the evolutionism invoked in the belief claims of Hinduism is not always a strictly Darwinian account of the origin of life. While Darwinian theories of natural selection and common descent are permitted, these claims are often relegated to a “lower” level truth, describing the merely physical components utilized in providing an account for the origin of life. Modern Vedic Evolutionism,\textsuperscript{117} on the other hand, expresses a “higher” level truth about


the existence of human beings. In terms of causality, then, Darwinism loses, contributing no explanatory function toward the mechanism(s) responsible for the origin of life. Instead, “higher” level truths—spiritual forces—are said to co-exist with physical reality, the result being that the causation claimed to actually occur in Modern Vedic Evolutionism is that of the reincarnation of a karma-bearing soul.

IV. Spiritualism and Parapsychology

Spiritualism (or Spiritism) refers to claims about the sources and meanings of alternative states of consciousness—e.g., mesmerism, trances, manifestation of foreign personalities, and mediumship. Spiritualism is an example of both an esoteric tradition and a “medical” one (a pseudo-medical one in modern terms). The ability of Spiritualism to attract medical-based and psychoanalytic practitioners to study its claims (and to take those claims seriously) has been a legitimating force for Spiritualism. Cathy Gutierrez dates the origin of Spiritualism to 1848 when two sisters in New York State reported to have attempted communicating with a poltergeist, resulting in a trans-Atlantic interest in séances and paranormal phenomena. Key tenets of Spiritualism evolved to include claims that (i) members of all religions and races go to heaven, (ii) the dead—being culturally superior to the living—exist on an advanced plane, providing guidance to the living, and (iii) when allied with science, the communicative techniques of Spiritualism, between the living and the dead, are perfected. In Claiming Knowledge: Strategies of Epistemology From Theosophy to the New Age (2004), Olav

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Hammer explains how, for the members of any esoteric tradition, such as Spiritualism, the adoption of a pragmatic, emic epistemology is helpful in legitimating the claims in question—i.e., the creed, “if it works, it is true,” becomes favoured.\(^\text{121}\) As a kind of naive realism, then, Spiritualism may be thought to capitalize on the “fact” that Enlightenment values of critical rationalism have gone astray: reports of alternative states of consciousness are suddenly taken at face value. As Hammer puts it, in such a scenario, the epistemic step from professed belief to established fact is very small.\(^\text{122}\)

Nevertheless, despite the apparent naive realism of Spiritualism, the field of parapsychology, established via the efforts of the Society for Psychical Research in 1882, seeks to organize a scientific discipline centred on claims about the supernatural.\(^\text{123}\) As a legitimation strategy, naturalizing the supernatural context of Spiritualism is problematic: on the one hand, parapsychology is careful to avoid explicit reference to supernatural causation; however, parapsychology also wishes to avoid the tendency toward describing its claims as illusions or epiphenomena. According to Egil Asprem, in looking toward the as of yet unexplained, parapsychology presents a residual category for “scientific” research—i.e., theorizing about claims which fall outside the established epistemic boundaries of science.\(^\text{124}\) Concepts common to parapsychology such as supernormal and telepathy also aid in the attempted legitimation of Spiritualism and other psychical phenomena: For example, Frederic W. H. Myers’ concept of the

\(^{121}\) Hammer, *Claiming Knowledge*, 507.

\(^{122}\) Ibid., 507.


supernormal contends that some phenomena deviate from “normality”—that a priori these phenomena are not fixed by the physical laws of nature. In utilizing such a concept, parapsychology attempts to avoid the problematic contention that it does in fact make claims about invisible, supernatural phenomena (thereby avoiding the contention that it makes claims which violate the laws of nature), but keeps itself open to the fact that it does (unashamedly) make claims about phenomena which are residually separate from the “normal,” natural world. Similarly, when no natural cause can be discerned, Jeffrey J. Kripal points out that, in psychical research, telepathy is posited as a causal mechanism to explain seemingly coincidental relationships between internal, subjective visions and external, physical events. In all cases, the empirical concept of causality is mixed with the supernormal aims of parapsychology in attempts to legitimate claims about reported psychical realities.

V. New Age and Occult

Jochen Scherer explains how the concept of synchronicity—that is, meaningful coincidences—permeates New Age thought. C. G. Jung coined the term synchronicity to describe a situation where an event in one’s life in the physical world appears to coincide in an extraordinary way with a psychological breakthrough in the same person’s life. Indeed, for “New Agers,” as Scherer calls them, coincidences are by no means random accidents but are thought to be scenarios (synchronicities) which connect


different events in one’s life into a purposeful and unified whole. Notions of a “thread of continuity” in one’s life or that one has been “guided” are common to New Age; the popular notions of “that’s a miracle,” serendipity, or that an event was “lucky” may also be interpreted as examples of synchronicity.

In her *Freud on Religion* (2014), Marsha Aileen Hewitt describes the “kernel of truth” which Freud thought telepathy (thought-transference without the aid of the senses) might provide to the study of the occult. Interestingly, according to Hewitt, Freud was unable to completely resolve his view on telepathy, fluctuating between attitudes of accepting telepathy as a reported phenomenon to be taken seriously and rejection of telepathy as charlatanism. At any rate, what is the case is that, unlike the occult generally speaking, Freud kept in mind the possibility that an investigation into the causality of telepathy might aid in legitimating claims of reported thought-transference. It is important to note, Hewitt stresses, that in terms of investigating the causality of telepathy Freud was not advocating supernatural explanatory forces. Unlike the notion in parapsychology of *as of yet unexplained*, where a residual category of supernormal explanatory forces is permitted, Freud felt the inability to elucidate the causality of telepathy was “a temporary state of affairs,” one that might eventually be overcome via natural explanations. Freud’s interpretation of telepathy as an affective mode of transfer—unconscious communication between two minds with the help of a

129. Ibid., 86.
130. Ibid., 86.
131. Ibid., 87.
conscious “bridge,” embedded in emotional human relationships\textsuperscript{132}—allowed him to distance his interpretation of telepathy from other notions of the occult which seemed more fraudulent.\textsuperscript{133}

This concludes the survey of substantive belief claims in some world religions and philosophical and psychical belief systems. Also surveyed were examples of legitimation strategies used by some religious and philosophical groups to attempt to “justify” their claims relative to the epistemology and method of science. It is to that topic—the epistemology and method of science—that I now turn.

2.2. Epistemic Justification of Scientific Beliefs

Olav Hammer and James R. Lewis (eds.), in their introduction to the very provocative \textit{Handbook of Religion and the Authority of Science} (2011),\textsuperscript{134} point out how the rhetorical strength of science—the institutional backing of science; the ability of science to employ intersubjective scrutiny in experiments—means a harmony between science \textit{and} religion seems desired by religious institutions and religious people.\textsuperscript{135} To that end, when assessing any epistemic relationships between scientific and religious modes of thought, it is worth noting that the word \textit{and} in the phrase “science \textit{and} religion” is not merely a conjunction connecting the term \textit{science} with the term \textit{religion}. Like the terms \textit{science} and \textit{religion}, the

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133. In addition to his work on telepathy, it is worth noting Freud’s methodology in the study of religion, which interestingly helps clarify the particular aims of methodological atheism in general. About this, Hewitt (2014, 6) observes, “He [Freud] was an atheist in the double sense that he did not believe in God and he had no direct, subjective experience that might be called mystical. . . . \textit{Yet it does not automatically follow that he was invested in promoting atheism} [emphasis added].” Like other etic scholars of religion, Freud’s projects are non-confessional, but are also different from projects espousing a so-called “fundamentalist atheism.”

134. Much of the content used in the survey of belief claims and legitimation strategies in Section 2.1 included references from essays contained in \textit{Handbook of Religion and the Authority of Science} (2011).

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intended meaning of the word and in the context of “science and religion” is important to consider.\textsuperscript{136} For example, the potential conjoining of the religious referent Islam with science—rendering the phrase “Islam and science”—may suggest for some an attempted conjoining of Islamic epistemic values with the cognitive values of science, or a substantive conjoining of scientific and Islamic claims. The notion of an “Islamic science,” then, would include an epistemic connotation as well as faith-imbued substantive claims; the same would apply for “Christian science,” “Jewish science,” or “Hindu science,” etc. Prima facie attempted epistemic and substantive conjoining of the empirical thought of science with the mythopoeic thought of religion(s) seems problematic:

Winner of the Nobel Prize in Physics (1979) and self-proclaimed Muslim believer, Mohammed Abdus Salam, writing the Foreword to Pervez Hoodbhoy’s Islam and Science (mentioned previously), makes the point well when he states, “There is only one universal science, its problems and modalities are international and there is no such thing as Islamic science just as there is no Hindu science, no Jewish science, no Confucian science, nor Christian science.”\textsuperscript{137} As Salam points out, so long as it is understood that the apologetic aims of religious beliefs have no role to play in testing scientific beliefs, problems of “Islamic science” or “Christian science” are nonexistent (even if people do choose to combine these concepts, epistemically and/or substantively, for personal use). Recognizing an epistemic distinction between knowledge and belief claims would suggest that, when “science and religion” are studied, the academic analysis takes on the character of a “comparing and

\textsuperscript{136} Lopez, Buddhism and Science, 2.

contrasting” rather than an attempted substantive conjoining of the two (i.e., implications of different meanings of the word and in “science and religion”). The only question is, how acceptable is an epistemic distinction between knowledge and belief claims for practicing scientists, engineers, and religious devotees? With this in mind, in the remainder of this chapter, and as a lead-in to Chapter 3, I take up the topic of the epistemic justification of scientific beliefs. In doing so, I focus on the more abstract elements of the philosophy of scientific theories rather than possible conceptions of science that find a consensus in everyday practice. (At a later stage I discuss the question of consensus in science, a topic central to the post-Kuhnian compatibility system.)

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138. As mentioned, the distinction I am considering is the epistemic difference (and later the cognitive difference) between knowledge and belief claims—a distinction which plays heavily into my discussion of science and religion compatibility systems in Chapter 4, the chapter where possible relationships between science and religion are specifically addressed. Oddly enough, the need to discuss an epistemic distinction, generally, between what I call knowledge and belief claims, permeates philosophy of science in areas that are also purely secular: As an example—to assist in pointing out the epistemic difference between scientific and religious beliefs—consider that thought experiments in philosophy of science also involve an epistemic distinction between tested and non-tested beliefs. John D. Norton, in his essay Why Thought Experiments Do Not Transcend Empiricism [A Hypothetico-Deductive Method] in Contemporary Debates in Philosophy of Science, describes how the epistemic quandary presented by thought experiments is a problem which asks whether thought experiments—i.e., imaginary experiments which occur in a person’s mind—can really provide us with knowledge of the physical world (Norton 2004, 44)? More specifically, Norton asks, what epistemic standards are being used to adjudicate beliefs in thought experiments? The question of epistemic adjudication is important, because in thought experiments sense data are not available; indeed, sense data are non-existent. The core of Norton’s approach, then, to evaluating the epistemic status of thought experiments is to assess thought experiments as forms of arguments, deductive or inductive, which are epistemically acceptable if they produce verified beliefs. However, if the thought experiment is shown to be a faulty argument, new knowledge was never disseminated from the thought experiment (Norton 2004, 49). I find Norton’s translation of thought experiments into arguments useful: a belief claim where sense data are not available is assessed by whether the belief claim constitutes a legitimate argument. To any objectors, I would reply that at least through translation into an argument, which elucidates verified or non-verified beliefs, we achieve a common ground for adjudicating any and all beliefs. Debates about the epistemic merit of thought experiments, examples of non-tested beliefs, are complicated: they open up difficult questions, such as are there legitimate knowledge claims outside of tested beliefs? Conveniently, this epistemic conundrum provides a gateway to likewise consider “religious knowledge,” another type of non-tested belief, testified to by religious devotees and reported to be arrived at from revelatory sources independent of tested scientific theories.

139. As mentioned, in writing this thesis, I function, in part, as a student of the philosophy of science: my analysis of scientific products and method may be different from the analysis that a practicing scientist or engineer would provide about the same topics. Likewise, my analysis of religious products and discourse may be different from the analysis that a practicing religious devotee would provide about the same topics. It is also possible, however, that in some cases the analyses of philosophers of science and scientific practitioners may overlap. Also that in some cases the analyses of philosophers of religion and religious devotees may overlap.
In the epistemic justification of scientific beliefs, the concept of *theory* indicates a form of knowledge used to express propositional claims about states of affairs in the world. In *Personal Knowledge: Towards a Post-Critical Philosophy* (1962; repr., 1974), Michael Polanyi explains a *theory* as follows: “A theory is something other than myself. It may be set out on paper as a system of rules, and it is the more truly a theory the more completely it can be put down in such terms.” Polanyi also notes, “Indeed, all theory may be regarded as a kind of map extended over space and time.” Similarly, Karl R. Popper presents the notion that “theories are nets cast to catch what we call ‘the world.’ . . .” Furthermore, Popper urges, “We endeavour to make the mesh [of the nets] even finer and finer.” In terms of the ontological status of the external world, which is thought to be revealed by tested scientific theories, various philosophies of science have been put forward:

(i) For *realists*, a theory provides a substantive description of physical reality as reality is. This view is perhaps the view closest to maintaining that scientific theories are

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140. In the context of this thesis, the concept of *theory*, of course, pertains to the analysis of *scientific theory* in the field of the philosophy of science. It is also worth noting how the concept of *theory* is applied differently in other areas of academia: In the Frankfurt School, Max Horkheimer agrees with the notion of theory as a form of knowledge, at least in its traditional sense. In his *Traditional and Critical Theory*, Horkheimer notes, “Theory is stored-up knowledge, put in a form that makes it useful for the closest possible description of facts” (Horkheimer 1999, 188; emphasis added). However, in addition to theory in its traditional sense, Horkheimer (1999, 197) asks, what does theory mean for human life? While traditional theory provides an epistemic platform for expressing the form of scientific knowledge, traditional theory, from Horkheimer’s perspective, also possesses the disadvantage that it includes no direct connection to the activity of society, at least in so far as how society might influence theory. To appreciate more fully the concept of *theory*, then, Horkheimer argues a social mechanism—“critical theory”—must be included. In summary, critical theory, in the context of the Frankfurt School, connects abstract “theory” to a social framework which includes a concern for human life, rendering critical theory a project with an emancipatory character: critical theory includes concerns for elements of human work and circumstances of production in society.


substantive truths (the view which I exclude from the assumptions of this thesis). Popper, who defends realism, describes the realists as those who believe “... the laws of nature reveal to us an inner, a structural, simplicity of our world beneath its outer appearance of lavish variety.” (In direct contrast to this view, see the conventionalist view in point iv on page 58.) However, per the nuances of his methodology to be sketched further on, Popper stops short of equating scientific theories with absolute truth claims. It is likely the case that many practicing scientists and engineers function as realists (whether or not they would use that label to describe themselves is a different matter).

(ii) For critical realists, there is a physical object to be studied, and a theory provides an abstract description of that object; however, the theory may not provide a complete, foolproof description of physical reality as reality is. For some theologians and philosophers of religion, critical realism is seen as lending itself well towards conceptualizing science as an activity which provides, at best, tentative descriptions of physical reality. Similarly, Ian Barbour, who defends critical realism, explains that, for critical realists, religion provides, at best, analogical models for metaphysical reality. In both cases, neither science nor religion are seen to


147. See also Geoffrey Stokes in his *Popper: Philosophy, Politics and Scientific Method*: Regarding Popper’s methodology, Stokes (1998, 140) remarks, “If a theory is judged to have more empirical content [i.e., a higher degree of falsifiability], it may be designated as closer to the truth even though it may be a false theory [emphasis added].”


149. Ibid., 119.
provide foolproof, literal descriptions of physical or metaphysical objects. However, it seems critical realists accept that science and religion possess at least realist intents: i.e., so far as is possible, science and religion seek to know and interpret reality as reality is.

(iii) For instrumentalists, a theory serves as a model for predicting states of affairs in the world. Here, a theory has shifted from providing a description of physical reality to serving as a model for predicting some aspect of reality or demonstrating the usefulness of some aspect of reality. For this reason, instrumentalists may claim “reality” is unknowable or that “reality”—independent of the theory-ladenness of perception—is meaningless. For instrumentalists, the scientific enterprise provides useful opportunities to model the physical world, but theories cannot provide descriptions, substantive or abstract, of physical reality as reality is. In a curious twist, Nancy Cartwright, an instrumentalist, suggests the difference between realists and instrumentalists has a kind of theological character: According to Cartwright, realists are prepared to interpret reality in an abstract, yet elegant and unified, form. In contrast, instrumentalists will accept physical details and components of theories as useful, but will not impose very much (if any) abstract organization over particular details. Hence, in theological terms, the question of whether God places highly organized laws of nature over physical reality (realist) or whether God functions in a more sporadic, untidy manner (instrumentalist), becomes

I shall return briefly to a discussion of the interface of religion and instrumentalism in Chapter 3.

(iv) Finally, for conventionalists, theories are mere intellectual inventions—so-called “laws of nature” created by human beings. For conventionalists, Popper remarks how “. . . theoretical natural science is not a picture of nature but merely a logical construction.” Furthermore, “laws of nature" invented by conventionalists determine what an observation or measurement is—the “world” which conventionalist science speaks to is an intellectual world invented by human beings. (This is an important difference between conventionalists and instrumentalists: Although for instrumentalists theories and laws are intellectual tools, the world which science speaks to remains, for instrumentalists, a world with a physical existence independent of observers. For conventionalists, however, the world which science speaks to is an “artificial world”—a world invented by observers, stipulated, as it were, by laws of nature invented by observers.)

Outlining his philosophy of science as a “theory of theories,” or a “theory of experience,” in *The Logic of Scientific Discovery* (1959; repr., 1992) and other essays,

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151. As an entertaining aside, Cartwright’s motivation in proposing a “theological” distinction between realists and instrumentalists is based on her report that nineteenth-century philosopher of science, Pierre Duhem, contrasted the French mind with the English mind: According to Duhem, the French mind interprets reality in an abstract but narrow fashion whereas the English mind accepts physical details but does not impose much abstract order over details. Per Duhem’s classification, Cartwright (2002, 19) characterizes the god of realists as a god with a “French mind” while the god of instrumentalists is a god with an “English mind.”

152. Popper (1992, 57) identifies nineteenth-century (and early twentieth-century) philosophers, Henri Poincaré and Pierre Duhem, as representatives of conventionalism.


154. Ibid., 58.

155. Ibid., 37.

156. Ibid., 35.
Popper suggests that, even though a scientific theory may be falsified, the theory was still a great intellectual achievement.\footnote{Popper, “Back to the Presocratics,” in \textit{Conjectures and Refutations}, 190.} Put simply, a theory which is falsified provides researchers with an opportunity to modify the “old” theory and develop a new, more accurate theory. It is the case that a lot of existing (“old”) theories possess high degrees of certitude, so they are unlikely to be discarded, but even theories with high degrees of certitude are continuously subject to ruthless, critical tests. In a Popperian fashion, this continuous subjecting of scientific theories to critical, empirical tests is thought to accomplish the following aims: (i) Testing a theory ensures that a theory does in fact describe or predict real life states of affairs in the world. (ii) Testing a theory ensures that, if a theory is false and does not describe or predict real life states of affairs in the world, this falsity will in fact be uncovered.

According to Popper, for a scientific theory to be tested, a theory should have the potential to be falsified. A brief digression is in order: How can a scientific theory have the potential to be falsified? A theory predicts real life states of affairs in the world. A real life experiment, then, based on the theory in question, is performed. In this real life experiment, should the theory \textit{not} predict as expected, the theory may be false.\footnote{Popper, \textit{The Logic of Scientific Discovery}, 95-96.} Of course, Popper is careful to point out that a theory is not falsified if a single time the theory does not predict as expected—random experimental anomalies can occur.\footnote{For example, random experimental anomalies may occur because of a compromised experimental apparatus or because of unintentional negligence on the part of the researcher.} However, if a theory \textit{repeatedly} fails to predict as expected, we may consider seriously the possibility that the theory is false.

Concerning scientific testing, empirical information requires we observe evidence of a causal connection in the physical world. The purpose of such an exercise is to demonstrate,
with as high a degree of certitude as possible, that the causal connection is in fact an accurate
description of some aspect of physical reality or a useful model for predicting states of affairs
in the world. For example, to collect empirical information we sometimes read the mass of an
object on a scale, we assess the acidity of a solution using a chemical test, or we read the
temperature off a thermometer. In addition, empirical information collected from laboratory
devices and techniques such as scales, chemical tests, or thermometers, must be collected
multiple times. Experimental designs and the execution of experimental set-ups must be
capable of being repeated as many times as is necessary to collect multiple sets of
experimental values—multiple sets of experimental values comprise the empirical information
(data) for a project.\textsuperscript{160} After empirical information is collected, a rigorous process of data
interpretation ensues: for example, the mathematical modelling of experimental values using
equations and spreadsheets, the completion of statistical analyses to determine confidence
intervals for values, comparisons of experimental values with values previously reported in
literature, and the formulation of conclusions which either corroborate or (sometimes) falsify
initial hypotheses. In this fashion, scientific testing and data interpretation presume an

\textsuperscript{160} For example, in my experimental research as an engineering chemistry student, the engineering thesis
project I completed was working toward improving the flexibility of water-based, polymer gels, with the goal
that the gels might be used as scaffold structures to grow artificial cartilage cells. In completing the experimental
work necessary to generate experimental values suitable for data interpretation, I was required to run physical
(stress) tests on the gels to see if the outcome of my chemical work had actually resulted in gels that were more
flexible than previously studied gels in literature. The physical tests were tedious to complete, because for every
gel tested I had to run the same test three different times at three different locations on each gel. Then, in the
process of data interpretation, I would calculate the average and standard deviation for each set of values for each
test. The reason that I had to run the test multiple times at multiple locations on each gel was to ensure that my
experimental values were consistent. It was not enough to simply run the test a single time at a single location on
each gel, because it was possible the single test would be faulty for some reason—e.g., faulty because of a
compromised experimental apparatus or because of unintentional negligence on my part as the researcher. By
running the physical test multiple times at multiple gel locations, and then calculating the average and standard
deviation for each set of values from each test, I ensured that every test was providing me with roughly the same
result. Without an experimental design, such as the design described in this footnote where repeated experimental
tests are possible, any data interpretation is unconvincing and intersubjective scrutiny, a hallmark of the scientific
enterprise, not possible.
epistemic realism, the view that consistent empirical support for a theory means we are justified in concluding the theory provides a description of physical reality which is (at the very least) close to accurate. In summary, scientific researchers must have all experimental design and data interpretation options mentioned in this paragraph available to them so they can adequately and convincingly test beliefs.

However, no commitment per se to belief entails knowledge, including commitments to previously tested beliefs. A hallmark of the scientific method includes a continuous level of skepticism toward all beliefs. As Imre Lakatos explains, “Thus a statement may be pseudoscientific even if it is eminently ‘plausible’ and everybody believes in it [i.e., is committed to it], and it may be scientifically valuable [testable] even if it is unbelievable and nobody believes in it.” To that end, although commitments generated by the experiences of religiosity, dreams, or myths, could all (potentially) stimulate the conjectural nature of scientific thought, testing beliefs—elucidating causal connections to explain claims—is an empirical process only. The possible influence of religiosity, dreams, or myths on scientific thought, although potentially important for human creativity, ends after one moves out of the realm of discovery and into the realm of justification. Consider August Kekulé’s reported dream of a snake biting its tail—the supposed inspiration for the discovery of the molecular


163. Imre Lakatos is known for his notion of research programs. Research programs are attempts to understand the scientific practice in a more highly organized conceptual scheme than Popper’s falsifiability criterion only: Lakatosian “hard core” theories are protected from falsification by a “protective belt” of auxiliary hypotheses (Lakatos 1978, 4).


165. This characterization is Reichenbachian: i.e., the scientific realms of “discovery” versus “justification.”
structure of benzene—but hardly a justification for benzene’s structure. In summary, scientific epistemology, even in simple, everyday practice, cannot allow different “rationalities” to influence epistemic justification.

Finally, this leads me to point out that Thomas S. Kuhn, in his seminal book The Structure of Scientific Revolutions (1962; 4th ed., 2012), describes normal science\textsuperscript{166} as new scientific research based on past, successful scientific achievements. Successful achievements are those acknowledged by a scientific community\textsuperscript{167} as being a strong foundation for future research. Kuhn popularized the term paradigm, using the concept of paradigms to explain his interpretation of scientific thinking: In simple terms, a paradigm\textsuperscript{168} is a pattern, such as a pattern in grammar which allows one to conjugate a verb using a series of pre-established verb endings.\textsuperscript{169} In Kuhn’s philosophy of science, a paradigm possesses two qualities: (i) the initial achievement of the paradigm was unprecedented,\textsuperscript{170} and (ii) the initial achievement of the paradigm includes space for new research.\textsuperscript{171} Examples of paradigms include atomic theory and molecular orbital diagrams (chemistry), quantum mechanics and general relativity (physics), and theories of natural selection and common descent (biology). In modern universities, the study of paradigms prepares natural sciences and engineering students to join professional scientific and engineering communities. Furthermore, Kuhn points out,

\begin{itemize}
\item \textsuperscript{167} The notion of “scientific community,” composed of practitioners with shared research goals, is Kuhnian: e.g., see Kuhn’s The Essential Tension (Kuhn 1977, 296) or his Postscript to The Structure of Scientific Revolutions (Kuhn 2012, 175-177).
\item \textsuperscript{168} The etymology of paradigm is the Greek parádeigma, meaning pattern.
\item \textsuperscript{169} Kuhn, The Structure of Scientific Revolutions, 23.
\item \textsuperscript{170} Ibid., 10.
\item \textsuperscript{171} Ibid., 11.
\end{itemize}
Paradigms help researchers resolve disagreements over the foundations of their work (e.g., disagreements over the scientific laws they follow); to share rules that resolve methodological ambiguities. All in all, paradigms allow researchers to find a common experimental ground in their practice.

172. Paul Feyerabend maintains that a clear distinction between the terms theory and law has eluded contemporary philosophy of science. For example, the phrases Newton’s “Theory” of Gravitation and Kepler’s “Laws” are both used. The only apparent distinction between the terms theory and laws as applied in the preceding phrases is that Newton’s Theory of Gravitation applies to all physical phenomena whereas Kepler’s Laws apply to the planets only. However, that distinction—theory applied to all phenomena; law reserved for some phenomena only—fails when one considers, for example, that the Second Law of Thermodynamics applies to all physical phenomena. In conclusion, Feyerabend (2011, 131) suggests the task of formulating a foolproof distinction between the terms theory and law should not be taken very seriously.

3. Attitudes of Mind Toward Testing Beliefs

3.1. Religion and a Modest Naturalism

As mentioned, empirical information requires we observe evidence of a causal connection in the physical world. In this chapter, I attempt to show that evidence for a causal connection is a distinguishing feature of knowledge claims (science), separating knowledge claims, epistemically, from belief claims (religion). However, this discussion of knowledge claims will open up a wider discussion about the philosophy of “belief” in general. Our study of the philosophy of “belief” includes: tested beliefs compared with non-tested beliefs, the psychological state of believing as opposed to the content of beliefs, and basic beliefs contrasted with derived beliefs. During this time I shall begin to assess the cogency of an epistemology of belief claims relative to knowledge claims. This assessment considers the relationship of belief claims to knowledge claims within an epistemic stance like what Susan Haack calls a “modestly naturalistic” epistemology. Finally, these topics and assessments set the overall stage for the continuation of the thesis.

Recall, though, my previous comment near the end of the preceding chapter that “... no commitment per se to belief entails knowledge, including commitments to previously tested beliefs.” This point is important: the histories of philosophy and theology are saturated with “retreats to commitments,” as the title of William Warren Bartley’s book *The Retreat to Commitment* (1962; 2nd ed., 1984) alludes. Thus, as I attempt to show that evidence for a causal connection is a distinguishing feature of knowledge claims (tested beliefs), I will also be attempting to show that intellectual assent to evidence is not the same as unwavering

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commitment to evidence. In order to distance myself, as far as is possible, from the inherent tendency to commit oneself to the tenets of any one philosophy (or theology), I strive to maintain a sufficient level of skepticism even toward the observed evidence which supports knowledge claims. Throughout the continuation of this thesis, the epistemological projects of Karl R. Popper,\(^\text{176}\) William Warren Bartley,\(^\text{177}\) and Susan Haack\(^\text{178}\) will help me to accomplish my goal. Twentieth-century and early twenty-first-century philosophies of science to be utilized, then, in order of historical development, are: (i) Popper’s critical rationalism, (ii) Bartley’s pancritical rationalism, and most recently (iii) Haack’s foundherentism and innocent realism. Popper’s, Bartley’s, and Haack’s philosophies of science share common themes: (a) they utilize a hypothetico-deductive method, (b) they avoid scientistic tendencies, and (c) for my use (which I shall be arguing), they provide methodological approaches well suited to discussing the epistemic possibility of a “religious epistemology” contextualized in a modern, Western university.

Attempting to distinguish knowledge from belief, Wiebe notes, “... That distinction cannot be based simply on the attendance of ‘complete conviction,’ for that reveals merely a psychological (subjective) certainty. One must always, that is, distinguish between knowledge

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\(^{176}\) Sir Karl R. Popper is arguably one of the greatest philosophers of science of the twentieth century. Popper’s seminal book *The Logic of Scientific Discovery* (1959; repr., 1992) presents his epistemology termed critical rationalism and his famous demarcation criterion of falsifiability.

\(^{177}\) William Warren Bartley, III, was one of Karl Popper’s students at the London School of Economics. Bartley expands Popperian epistemology in his *The Retreat to Commitment* (1962; 2nd ed., 1984), decoupling justification and criticism to propose a non-justificationary philosophy of criticism termed pancritical rationalism. Bartley’s work includes analyses of theology and philosophy of science.

\(^{178}\) Susan Haack is Cooper Senior Scholar in Arts and Sciences, Distinguished Professor in the Humanities, Professor of Philosophy, and Professor of Law at the University of Miami. Following what she calls a modestly naturalistic epistemology, Haack’s projects termed foundherentism and innocent realism are presented in her *Evidence and Inquiry* (1993; 2nd ed., 2009) and *Defending Science—Within Reason* (2003; repr., 2007a), respectively.
and the claim to knowledge [emphasis added].”¹⁷⁹ For a scientific explanation to accomplish the epistemic task of distinguishing knowledge claims from belief claims, a scientific explanation, as I see it, must accomplish three goals:¹⁸⁰

(i) An explanation reveals the cause for how a state of affairs in the world occurred.
(ii) An explanation articulates the cause in a meaningful or useful fashion.
(iii) An explanation presents a cause which can be repeated and reproduced during an experiment. This ensures that the cause is a justified cause.

Popper’s epistemology, which is skeptical about induction,¹⁸¹ characterizes the rationality of science as a rationality marked by—indeed, a rationality possible because of—our ability to subject all beliefs to ruthless, critical tests (hence the label critical rationalism). Popper’s criterion of falsifiability, considered in Chapter 2 and defended by Popper as a form of deduction per modus tollens,¹⁸² is a method that separates tested beliefs from non-tested beliefs, knowledge claims from belief claims (per the typology adopted in this thesis). Like Wiebe’s caution in the preceding quotation in this paragraph, Popper’s distinction between claims to knowledge and any other claims is a distinction not centred on one’s conviction (or unwavering commitment) toward the beliefs one makes claims about. Furthermore, the critical tests Popper proposes never cease—indeed never cease even after a belief has reached a high

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¹⁸⁰. Woodward, Adventure in Human Knowledges and Beliefs, 67.

¹⁸¹. David Stove (2001, 111-112), who traces Popper’s skepticism about induction to Hume’s own skepticism about induction, describes an inductive argument as follows: “In an inductive argument, the premises are simply reports of something which has been (or could have been) observed; the conclusion is a contingent proposition about what has not been (and perhaps could not be) observed. In addition, of course, what the conclusion of an inductive argument says about the unobserved is like what the premises say about the observed.”

degree of certitude. About this, Popper states, “A system such as classical mechanics may be ‘scientific’ to any degree you like; but those who uphold it dogmatically—believing, perhaps, that it is their business to defend such a successful system against criticism as long as it is not conclusively disproved—are adopting the very reverse of that critical attitude which in my view is the proper one for the scientist.”\textsuperscript{183} As such, Popper’s philosophy of science seeks always to increase the degree of testability of a scientific theory—to increase the number of states of affairs ruled out by a theory. For example, Popper suggests, (i) one might introduce to a theoretical system \textit{ad hoc} hypotheses which increase the degree of falsifiability:\textsuperscript{184} the formulation of a new theory permitting fewer events in the physical world than the previous theory permitted. Or, (ii) one might introduce changes to the ostensive definitions\textsuperscript{185} of higher-level concepts especially if a change is thought to be useful or helpful in testing:\textsuperscript{186} e.g., the term \textit{energy} and its corresponding definition and conceptual scheme are established by linguistic usage; however, if another term and conceptual scheme are thought to be more useful in representing the higher-level physical concept known as “energy,” a change toward the new term (symbol) and scheme would be permitted. In another option (iii), which regards the possible lack of competence on the parts of the researcher or the theoretician, one might implement a rigorous system of intersubjective testing to determine whether counter-experiments and counter-theories are to be accepted or discarded.\textsuperscript{187} This third option seems to

\textsuperscript{183} Popper, \textit{The Logic of Scientific Discovery}, 28.

\textsuperscript{184} Ibid., 62.

\textsuperscript{185} In this context, ostensive definitions are “empirical meanings” assigned to concepts by linking concepts to physical objects/realities. Ostensive definitions function, then, as symbols (Popper 1992, 54).

\textsuperscript{186} Popper, \textit{The Logic of Scientific Discovery}, 63.

\textsuperscript{187} Ibid., 63.
represent the focal point of the Popperian worldview, although it is supported by the preceding two options regarding *ad hoc* hypotheses and ostensive definitions.

Are knowledge claims an epistemic benchmark for belief claims? Is the acceptability of belief claims assessed by their ability to conform to the epistemic structure of knowledge claims—by their ability to stand up to the unforgiving, ruthless, critical tests faced by knowledge claims? Centrally my project concerns the design of a “religious epistemology” contextualized in a modern, Western university. Given the number of theologically oriented readers I may have perusing this thesis, and given my awareness of the importance of faith-imbued experiences in many people’s lives (as testimonies of religious devotees inform me), I do not wish to provide at this stage an explicit answer to the question *are knowledge claims an epistemic benchmark for belief claims?* My intention (and hope) is that further development in this thesis will speak for itself, suggesting possibilities for answering this question as well as limitations. What I can say quite assuredly at this point, however, is that the epistemic structure of an *explanation* in scientific causation is radically different from the structure of agentic “explanations” applied to formulate religious claims.

Clarifying another possibility to contextualize the concept of *explanation*, religion classified instrumentally (*vis-à-vis* the philosophy called instrumentalism) seems to elude the explanatory challenge created by CPS-agentic modes of thought: Religious models of physical reality interpreted as psychological constructions need not be explained by CPS-agents but can be explained via performative, instrumentalist functions: e.g., religion helps to make sense of reality; to bring to conscious awareness ethical attitudes that seem desirable in a civilized life. Bartley, though, sees instrumentalism applied to religion to be an escape hatch, but not
because instrumentalist religion eschews the need for CPS-agents. For now, in simple terms, Bartley’s *pancritical rationalism*, whose tenets I will sketch fully and apply in Chapter 6, refers to a thesis that rationality is unlimited in terms of criticism: Bartley decouples the philosophical concepts of *justification* and *criticism*, arguing that in the history of Western philosophy these concepts have become confused; that we should not attempt to justify our beliefs (which invariably requires some commitment), but should strive primarily to criticize our beliefs, even to the point of criticizing the concept of criticism itself (hence the label *pancritical rationalism*). Bartley’s concern with instrumentalism is that instrumentalism applied in scientific practice directly counteracts the very pancritical attitude toward beliefs he proposes. With instrumentalism, Bartley suggests, “Scientific activity is a sort of ‘glorified plumbing,’ but never glorified enough to ‘plumb the depths.’ Moreover, if such notions [theories] are just tools, their internal troubles hardly matter; we can use them when they are useful and discard them for other tools when they break down.” Thus, that instrumentalism does not provide tested descriptions, substantive or abstract, of physical reality as reality is, that instrumentalism does not impose very much (if any) organization over particular details, instrumentalism for Bartley furthers an irrationalist cause. As instrumentalist religion or instrumentalist science appear to psychologically choose different beliefs when they are useful rather than being too concerned with the substantive content of beliefs, Bartley’s concern with instrumentalism unexpectedly open up a new discussion about the psychological state of

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188. Bartley’s *pancritical rationalism* is by some accounts epistemically radical; perhaps even dangerous. By my account, as a student of the philosophy of science and religion, his work is unusually fantastic, yet the nuances of his work need to be unpacked to fully appreciate his thesis. When I first read Bartley I felt led to label him my “new epistemic hero.” I devote portions of Chapter 6 to pancritical rationalism and to Bartley’s arguments.


190. Ibid., 93.
believing contrasted with the content of beliefs. Moving toward an initial orientation with Haack’s projects in the following paragraph, these different aspects of the general concept of belief become apparent.

At the core of scientific and religious epistemologies is the question of realism and, in the case of a religious epistemology, whether or not an ontological reality for revelation is permitted? If revelation is permitted, a priori there must be a realist understanding of revelation. To respond adequately to this question, then, realism is first in need of some disambiguation. In its simplest form the term realism implies that “something” exists independent of what you or I think about the “something,” whether or not you or I think the “something” exists. However, I note that from this fairly simple concept many brands of realism exist within the philosophies of science and religion. In Religion, Science and Naturalism (1996; repr., 1998), Willem B. Drees comments that differing brands of realism perhaps do all agree that “something” exists independent of us, but they disagree about how accurately our current knowledge claims describe the constitution of the “something,” the quality of our knowledge claims, so to speak.191 As examples, for a religious person, the “something” in question might be an ontology for religious revelation; for a scientific person, the “something” might be an ontology for a molecular orbital system in quantum mechanics. For a “scientific-religious” person, the “something” might be an ontology for (a) contents of religious revelation coalesced with (b) quantitative information from quantum mechanics (whatever that would look like).

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In *Defending Science—Within Reason* (2003), Haack outlines her particular brand of realism, called *innocent realism*. In a tone strikingly similar to Berger’s and Luckmann’s thesis of the social construction of reality, Haack presents innocent realism:

> There is one, real world; and the sciences aim to discover something of how this world is. Of course, human beings intervene in the world, and we, and our physical and mental activities, are part of the world. The world we humans inhabit is not brute nature, but nature modified by our physical activities and overlaid by our semiotic webs, including the imaginative constructions of writers and artists, and the explanations, descriptions, and theories of detectives, historians, theologians, etc.—and of scientists. The imaginative constructions of novelists and artists, their fictional characters and events, are both imaginative and imaginary. *But, when they are successful, the imaginative constructions of inquirers, their theoretical entities and categories, are not imaginary but real, and their explanations true* [emphasis added].

Following Haack’s lead to distinguish the brute nature of the one, real world from our physical activities and from the semiotic webs of our mental activities, it seems that in innocent realism one might characterize belief about a real “something” in the world in a three-fold manner: (i) *realize* the “something,” (ii) *identify* a belief about the “something,” and (iii) *explain* the “something.” Inspired by Haack, I suggest we implement this three-fold characterization as follows:

(i) *Realize* the “something” physiologically and/or psychologically.

(ii) *Identify* a belief about the “something” by locating the “something” in sociocultural institutions: e.g., locating the “something” in religious or scientific communities.

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193. Susan Haack, “The World According to Innocent Realism: The One and the Many, the Real and the Imaginary, the Natural and the Social” (video of lecture, The Institute for the Study of Western Civilization, Texas Tech University, April 29, 2013), accessed May 27, 2015, https://www.youtube.com/watch?v=RzUM7F5gUcQ.
For Haack, the task of identifying involves the use of words in the believer’s language and the relating of words to objects in the physical world.\(^{194}\)

(iii) *Explain* the “something” using tested theories about states of affairs in the world.\(^{195}\)

Per the preceding three-fold characterization, Haack’s innocent realism allows for metaphysics, but a metaphysics she argues is about *the world*,\(^{196}\) centred on natural human experience in the world. In terms of explanation, Haack eschews the activities of CPS-agents as explanatory forces, for as she rightly points out the activities of CPS-agents do not mechanically *explain*.\(^{197}\) What Haack does allow, however, is for sociocultural institutions, which includes religious institutions, to identify and locate objects of human belief as objects of natural human experience. These objects, which include the theoretical entities of artists, theologians, historians, novelists, and scientists, take on existences of their own which may be “physical” but are also “social.” Examples of these theoretical entities might include paintings (artists), myths (theologians), timelines (historians), literary characters (novelists), or atomic models (scientists). Finally, as mentioned, experiences of these objects of human belief are realized (felt/observed) in the physiological and/or psychological states of human life. In summary, as I understand it, Haack’s innocent realism permits the *a priori* assumption that “something” exists independent of you or me, but this form of realism appears “innocent” in the sense that the “something” which exists is about the phenomenal world as perceived and

\(^{194}\) Haack, “The World According to Innocent Realism.”

\(^{195}\) In this characterization, the third suggestion to classify belief about a real “something,” where explanation is connected to tested theories, is my own suggestion.

\(^{196}\) Haack, “The World According to Innocent Realism.”

constructed by *us*: how *we*—as fallible and imperfect, yet rational and sophisticated creatures—know, interpret, and construct the world to be. (Haack’s innocent realism, like all elements of her pragmatic philosophy of science presumes her epistemology, foundherentism, linking basic and derived beliefs: Chapter 6 includes this topic along with Bartley’s pancritical rationalism.)

Although by definition innocent realism does not make claims about realities outside of natural human experience, innocent realism is also, according to Haack, non-reductionistic. Innocent realism does not reduce human experiences to mere causal interactions among physical particles. It appears this aspect of innocent realism is ambiguous: yes, innocent realism might explain human experiences in terms of causal interactions among physical particles; however, in Haack’s defense, I would like to aver that what innocent realism does not do is erase all *meaning* from a human experience. That sociocultural institutions, including religions, exist in the first place points to the fact that human experiences carry greater weight for individuals when experiences are contextualized in the meaning-structures of these communities—greater weight than experiences would carry if they were interpreted as outcomes of neurobiology only. A complete reductionist account of human experiences would have to deny that objects of human belief (the “somethings”) have significance

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198. My suggestion that human experiences carry greater *weight* for individuals when experiences are contextualized in the meaning-structures of sociocultural institutions refers to degrees of importance, quality, and value humans attach to their experiences. In choosing the term *weight*, I am thinking of experiences that are memorable, emotionally charged, and built into the individual’s personal value system: e.g., experiences that are passed down through generations, for example, participation in religious rituals introduced to offspring by their parents; experiences of secular holidays that also include religious elements, such as Christmas. Or, purely secular events, such as the experiences of secular school graduations or other formalized rites of passage.

199. This point will become more apparent when we consider, for example, the role of the hypersensitive agency detection device (“HADD”), an evolutionary-based, cognitive device, in attempting to explain religious activity. Even still, when proposed neurophysiological, cognitive devices from our evolutionary past are employed to “explain” religion, experiences generated by religious activity can still take on *social* existences of their own. Finding a balance, then, between “explaining” religious activity and receiving meaning and orientation in life from religious experience will play into the analysis in Part III.
independent of you or me. However, innocent realism, as a modest naturalism, permits objects of human belief—including objects that are socially constructed—to inhabit a “level” of reality of their own.

The “level” of reality inhabited by objects of belief in innocent realism is best alluded to by Haack’s statement about the imaginative constructions of inquirers, whether they be artistic, theological, historical, literary, or scientific inquirers: Haack remarks, “. . . When they are successful, the imaginative constructions of inquirers, their theoretical entities and categories [e.g., paintings (artists), myths (theologians), timelines (historians), literary characters (novelists), or atomic models (scientists)], are not imaginary but real, and their explanations true.”200 This leads me to say that, when applied to the interface of science and religion and the potential design of a “religious epistemology,” Haack’s innocent realism presents some very interesting and useful possibilities. In Part III, where the philosophical design of a “religious epistemology” is the specific goal, I will consider in detail what contribution innocent realism has to my project about the compatibility of the scientific study of religion and a “religious epistemology.” Prior to that stage, however, I would like the material in Chapters 4 and 5 (Part II) to speak for itself, as there are a number of concepts, including the concept of myth, which still need to be unpacked before the attractiveness of innocent realism toward the design of a “religious epistemology” can be fully digested. My purpose, however, in introducing innocent realism at this stage in the thesis was so that an awareness of the central tenets of innocent realism can permeate the following chapters. As we

shall see in Part II, Haack’s innocent realism dialogues quite naturally with additional theses
to be considered from such interlocutors as Peter Berger, Ninian Smart, and John Searle.

3.2. Science and Scientism

Before Part II, a consideration of the relationship between science and scientism is necessary.
At the core of Drees’ thesis in Religion, Science and Naturalism (mentioned in the preceding
section) is that religious phenomena are part and parcel of nature. Religion, then, amounts to
constitutive reductionism, but not a complete reductionism for Drees’ work also includes
conceptual and explanatory non-reductionism, such that concepts and explanations for
religion are permitted in levels of reality outside of physical reality. Although intriguing, it is
difficult to figure out what precisely Drees is getting at: Drees does not advocate superhuman
agency (his ontology is natural), but he also keeps open the possibility that concepts and
explanations for religion exist outside the domain of natural science. This distinction, between
a completely reductionist account of religious phenomena and allowing religious phenomena
to inhabit their own “level” of reality (with their own concepts and “explanations”) while also
being constituted by nature only, is perhaps best articulated by Drees’ suggestion that “humans
[including humans’ religious and scientific enterprises] . . . ‘are the earth in one of its
manifestations.’” (Drees is reflecting on a quotation from John Dewey’s Art as Experience
(1934) that natural phenomena, such as mountain peaks, “. . . do not flow unsupported; they
do not even just rest upon the earth. They are the earth in one of its manifest operations.”

202. Ibid., 16.
203. Ibid., 1.
So, in Drees’ view, religious phenomena are more significant than mere causal interactions in the physical world, but religious phenomena nevertheless remain constituted by nature only.

Along a similar but not identical vein to Haack, it seems that Drees presents a kind of “innocent realism” himself but he proposes a different possibility from Haack to identify an object of belief: Per the three-fold characterization to realize, identify, and explain objects of belief, both Drees and Haack would have to agree that experiences of objects of belief are realized physiologically and/or psychologically for the simple reason that both Drees and Haack are ontological naturalists. While Haack identifies a belief by locating its object in sociocultural institutions (via the language of the believer), Drees instead distinguishes between existence and access, noting that, although human cognitive capacities limit access to possible trans-empirical worlds, this limitation need not exclude the possibility that metaphysical objects exist outside of sense perceptions. So, Drees keeps open the possibility of identifying a belief by locating its object in a trans-empirical world, albeit a world we do not have substantive access to and so cannot affirm anything, positive or negative, about its existence. Conveniently, we are now provided with two possibilities to identify an object of belief from two philosophers who agree at least that realizations (experiences) of objects of belief occur in the natural world only. In addition, after realization has occurred, Haack suggests objects be identified in sociocultural institutions while Drees

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keeps open the possibility of identifying objects in trans-empirical worlds (stopping short, however, of affirming the existence of such worlds).\textsuperscript{206}

According to Mikael Stenmark’s notion of an epistemic scientism,\textsuperscript{207} both Haack’s and Drees’ projects outlined in this chapter would have to be classified as scientistic—a claim I refute in the remainder of this section by arguing that what Stenmark calls epistemic scientism should not be classified a form of scientism. My argument draws on Popper’s critical rationalism: I attempt to show the tenets of Stenmark’s epistemic scientism to be in fact the tenets of the modern scientific method, which, if understood and applied with modesty, is not a scientistic endeavour at all. Epistemic scientism is described by Stenmark as “the view that the only reality that we can know [emphasis added] anything about is the one science has

\textsuperscript{206} Although it seems difficult to figure out what precisely Drees is proposing in his balancing act between constitutive reductionism and conceptual and explanatory non-reductionism, the point here, about Drees keeping open the possibility to identify objects of belief in trans-empirical worlds although experiences of those objects are realized naturally, may shed some light on his position articulated in Religion, Science and Naturalism. It may not be so much that Drees is proposing to explicitly allow into one’s conceptual scheme those concepts and explanatory forces thought to originate from trans-empirical worlds, but that, in acknowledging our fallible physiology (the limitations of our cognitive capacities), although we cannot access such concepts/explanatory forces we also cannot rule them out. What this amounts to on a practical level may not be any different from Haack’s recommendation to identify objects of belief in sociocultural institutions: if we cannot access hypothesized trans-empirical worlds, but can acknowledge only that affirming their existence is beyond our cognitive ability, it seems our next option is to follow Haack’s lead per identification of objects of belief via sociocultural institutions. In my Adventure in Human Knowledges and Beliefs I did, however, express a view similar to the view which I think Drees is articulating, as least how this view might actualize itself when lived out practically. Commenting on my faith position at the time of writing Adventure, I stated, “. . . Even if I end up having to say that ‘God’ does not exist (because to believe in something I have never seen is really so hard for me to do), the action of faith that I possess in my life opens me up to the real ‘GOD’ who is beyond my grasp of knowledge; the real ‘GOD’ who I cannot really ever know or understand. I can never stop growing in a relationship with this ‘GOD’—the ‘GOD’ who escapes the boundaries of my human mind and the boundaries of human knowledge” (Woodward 2014, 57-58). Thus, the point I make in the preceding quotation and the point that Drees’ view seems to imply if lived out practically is that, yes, the observed world is the world that humans know about, the world humans experience, and intersubjectively within this world one would have to conclude that no evidence suggests the existence of a CPS-agent (“God”). At the same time, and in an apophatic fashion, wondering about the limitations of human knowledge, an activity made possible via faith, perhaps opens one up in some partial way to a more abstract, ineffable theological realism (“GOD”) that otherwise would be left unknowable. Drees (1998, 18) summarizes this aspect by explaining that questions which exist at the ontological boundaries of natural science (e.g., boundaries of particle physics, cosmology) may require concepts or explanatory accounts which do in fact transcend the natural world. It is not my intention to try to coalesce Drees’ and my views but it does seem plausible to me that when Drees talks about concepts or explanatory accounts transcending the natural world, and when I talk about the “GOD” who escapes the boundaries of my human mind, he and I may in fact be trying to express the same idea but in different words.

\textsuperscript{207} Stenmark, Scientism: Science, Ethics and Religion, 4.
access to.” My summary of epistemic scientism (also included in Chapter 1) is that within this worldview it is not irrational to hold religious beliefs in one’s personal life; however, we cannot test belief claims as we can test knowledge claims. Therefore, we cannot know if our belief claims are accurate descriptions of physical reality. Stenmark maintains that his problem with this view is that it makes the assumption “all knowledge is scientific,” but that assumption, he points out, is a philosophical statement and not a scientific one. Therefore, Stenmark avers, the assumption “all knowledge is scientific” is not in fact knowledge. In a backhanded manner, then, Stenmark goes on to claim the philosophical assumption “all knowledge is scientific” weakens the case for epistemic scientism. As I see it, Stenmark’s argument against epistemic scientism, then, includes two points: (i) If taken seriously, “all knowledge is scientific” implies that philosophical questions were handed over to the relevant science to resolve, as if to say philosophy proper was repudiated, that philosophy is now part and parcel of science. (ii) Stenmark goes on, the implication that philosophy is now part of science weakens the case for epistemic scientism, because if philosophy (which was not knowledge per the assumption “all knowledge is scientific”) suddenly becomes “knowledge,” absorbed by science, the assumption “all knowledge is scientific” no longer stands as a lone arbiter, independent of science itself.

Stenmark’s rebuttal of epistemic scientism is tiresome: on the one hand he formulates the view he calls epistemic scientism, but then goes on to criticize the view in effect by pointing out that epistemic scientism is a weak form of scientism. He contends the definition

209. Ibid., 5.
210. Ibid., 5.
of science provided by epistemic scientism is too broad, causing epistemic scientism to fall apart once we acknowledge that epistemic scientism requires philosophy to be science, too, to permit the philosophical assumption “all knowledge is scientific” into the tenets of epistemic scientism.\(^\text{211}\) However, in this complicated rebuttal of epistemic scientism, Stenmark trades on a doubleness in his use of the concept of knowledge. In doing so, he fails to see the import of Popper’s critical rationalism in the assumption “all knowledge is scientific”—which does not require philosophy be handed over to science to preserve the integrity of philosophy as a type of knowledge.

Stenmark’s double use of the concept of knowledge involves (a) use of the concept of knowledge as it pertains to various fields of inquiry, local knowledges, counter-knowledges, etc., and (b) use of the concept of knowledge as it pertains to the “claim to knowledge,” a trait peculiar to science. In trading on this double use, Stenmark contends, “The expansion of the boundaries of science . . . consists of the move from accepting that ‘Science gives us knowledge of reality,’ to maintaining that ‘Nothing but science gives us knowledge of reality.’”\(^\text{212}\) This quotation is confusing: For one, the methodological boundaries of science, which concern belief testing, expand nothing; moreover they cannot be expanded.\(^\text{213}\) Secondly, to assert that “. . . Science gives us knowledge of reality . . .”\(^\text{214}\) fails to point out

\(^{211}\) To build his argument against the view he calls epistemic scientism, Stenmark (2001, 5) contends, “If science were defined by the advocates of Scientism in such a way that philosophy is considered a part of science proper, this criticism [that “all knowledge is scientific” is a philosophical statement and not a scientific one] would lose its point and, of course, Scientism would also lose its point; it would not be a very controversial view.”

\(^{212}\) Stenmark, Scientism: Science, Ethics and Religion, 25.

\(^{213}\) I am assuming the “boundaries” referenced in the quotation cited in preceding footnote 212 are methodological boundaries: in this quotation there is no mention of ontological scientism; the concern is about science providing knowledge of reality—a methodological question.

\(^{214}\) Stenmark, Scientism: Science, Ethics and Religion, 25.
what type of knowledge this refers to: e.g., does it refer to local knowledge; to counter-knowledge? Finally, anyone who has learned their Popper understands that science does not give us knowledge of reality, but science, as one particular (and peculiar) type of knowledge, gives us “tested knowledge claims about reality.” (The tested element in the preceding phrase is the Popperian feature.) As science gives us tested knowledge claims about reality, and given that intersubjectively testing beliefs is possible via observed experience only, the extension toward maintaining that nothing but science gives us tested knowledge claims about reality is natural. Indeed, it is not really an extension at all because the fact that intersubjectively testing beliefs is possible via observed experience only implies no other human enterprise can provide tested knowledge claims about states of affairs in the world.

Given Stenmark’s other concern, that philosophical assumptions cannot dictate what knowledge is or isn’t (because then they would have to be scientific assumptions), for one, my pointing out of Stenmark’s double use of the concept of knowledge already alleviates this concern: science does not speak to the general concept of knowledge; science speaks to the claim to knowledge. Therefore, with the precise nature of the epistemology of science resolved, philosophy, religion, folklore, magic, alchemy, fortune-telling, sexism, racism, and homophobia, all constitute types of knowledge. Indeed, in the preceding sentence, I could replace term knowledge with the term belief, but there is no need to—I already resolved how science, another type of knowledge, is epistemically different from the other types mentioned (and, of course, other types mentioned are also substantively different from one another). In closing, Popper’s critical rationalism as philosophy is a type of knowledge, which I suppose,

for some, is no better than folklore. Given, however, that intrinsic to critical rationalism is the notion that all beliefs are subject to ruthless, critical tests, and, following Bartley’s lead, that even the concept of criticism is subject to criticism,\(^{217}\) it seems difficult to then come back and say that Popper’s philosophy does not set appropriate standards for establishing the rationality of science. One would have to attack Bartley directly since he formally extends the Popperian project to criticize the philosophy of criticism, too. Thus I conclude this case study by noting that what Stenmark calls epistemic scientism—the view that we cannot test belief claims as we can test knowledge claims; therefore, we cannot know if our belief claims are accurate descriptions of physical reality—is not an example of scientism, but is an epistemic effect of the scientific method.

Finally, it is worth noting that, in addition to epistemic scientism, Stenmark proposes five other types of scientism—all much less “belief-friendly” than epistemic scientism. Although his classification system is admirable—he categorizes what he sees to be six different types of scientism—in doing so he also gives the impression that religious devotees ought to feel threatened by science. It’s almost as though the six types of scientism are like a secret code to religious believers: if faced with any scientific claim, religious believers can choose any one of the six types of scientism and effortlessly shun any scientific claim as scientistic; in effect “saving” religion from any and all of science. All the while, we have no indication from Stenmark about how religion might in fact abuse the cognitive values of science (but, in fairness to him, that question does not seem to be one of his interests). Note also that scientism is defined in a more straightforward manner by other scholars: According

\(^{217}\) Bartley, *The Retreat to Commitment*, 122.
to Hammer, a different, but straightforward, definition of *scientism* is that scientism is the use of legitimation strategies, the positioning of one’s claims relative to science to “legitimate” one’s claims.\(^{218}\) (Examples of legitimation strategies were presented in Chapter 2.) As Hammer points out, the positioning of non-scientific claims relative to science requires a re-interpreting, a manipulating, of the scientific method and/or results:\(^{219}\) whatever the legitimation strategy amounts to is no longer “science” as science is understood and accepted by academic and professional scientific communities. For Hammer, this irresponsible act of manipulating science is scientism. Or consider Haack’s pragmatic definition of *scientism* (different from Hammer’s but also very simple) that scientism points out “. . . an exaggerated kind of deference towards science, an excessive readiness to accept as authoritative any claim made by the sciences, and to dismiss every kind of criticism of science or its practitioners as anti-scientific prejudice.”\(^{220}\) To me, these definitions get to the hearts of the situations Hammer and Haack are reflecting on, without picking apart belief claims (Hammer’s situation only) and also without picking apart every aspect of the scientific method—what Stenmark has done in categorizing six different types of scientism.

For completeness, though, a concluding word to Stenmark’s other five (more severe) types of scientism: In rationalistic scientism, it is irrational to hold religious beliefs or any beliefs which are not tested empirically:\(^{221}\) in rationalistic scientism, the criterion for accepting a belief claim as being a reasonable belief claim to *believe* is the same criterion for accepting a

\(^{218}\) Hammer, *Claiming Knowledge*, 206.

\(^{219}\) Ibid., 207.

\(^{220}\) Haack, *Defending Science—Within Reason*, 17-18.

knowledge claim as being a reasonable knowledge claim to know—the criterion being tested
evidence. Next, in ontological scientism, some philosophers go a step further to argue the only
reality which exists is the reality revealed to us by scientific theories: this is a more severe
position; it is different from stating that the physical world or ontological naturalism are
assumptions with high initial plausibilities through which academic work proceeds.
Ontological scientism rather makes an absolute statement that no reality exists except physical
reality. Another more severe position, I suggest, is Stenmark’s comprehensive scientism,
arguing that in time science will solve all human problems: questions about human meaning
and purpose, which, for some, are more suited to religious life, will eventually be solved by
science. Stenmark also classifies what he calls existential scientism, the view that
eventually science will explain and replace religion: to simplify matters, what he calls
existential scientism could be equated with comprehensive scientism—the view that science
has annexed fields of inquiry not traditionally thought to be amenable to science. Finally,
Stenmark also proposes axiological scientism which, put simply, is the view that science is the
most valuable human activity: again, this type of scientism could be grouped with
comprehensive scientism and existential scientism, because if science is thought to be the
most valuable human activity then any field of inquiry would be assessed via science. Like all
labels, these categories are useful when taken as guides—they should not prevent us from

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223. Ibid., 15.
224. Ibid., 14.
225. Ibid., 11.
thinking beyond their definitions and from appreciating how the content of any category presents itself in degrees along a spectrum.

Here ends Part I.
Part II. Science and Religion Compatibility Systems

One paradox, however, must be accepted and this is that it is necessary to continually attempt the seemingly impossible.

—Hermann Hesse, *The Journey to the East* (p. 7)


4.1. Outline and Description of a Compatibility System

In this chapter I begin to extend my project to wider intellectual groups of academics, professionals, and scientific and/or religious people. As such, this chapter will consider questions including: (i) Does science and religion compatibility matter? (ii) Who is interested in possible science and religion compatibility? These questions help to contextualize this project at practical as well as theoretical levels. Comparisons and contrasts of the modern scientific enterprise with *Christian* modes of thought has permeated much of the academic and popular debate colloquially referred to as “science and religion.” Over the past 150 years or so, notable aspects of the “science and religion” debate have included:

(i) Nineteenth-century, popular debates: e.g., Anglican bishop of Oxford, Samuel Wilberforce, participated in a public debate with biologist, Thomas Henry Huxley (1860). This debate was a struggle for Christianity in the face of science or, as some might wish to phrase it, a struggle for science in the face of Christianity: Wilberforce argued for a biblical account of the origin of life whereas Huxley argued for the biological mechanisms of natural selection and common descent. At
the end of the debate, it was not clear which side had won, but rather it seems both
sides went away feeling like winners.\footnote{226}

(ii) Nineteenth-century books which argue a “conflict”\footnote{227} thesis between science and
religion: e.g., John William Draper’s \textit{History of the Conflict Between Religion and
Science} (1874)\footnote{228} or Andrew Dickson White’s \textit{A History of the Warfare of Science
With Theology in Christendom} (1896).\footnote{229}

(iii) A twentieth-century legal trial: the Scopes “Monkey Trial” in Tennessee (1925),
centred on the allegation that a high school teacher, John T. Scopes, had taught the
theory of evolution in a state-funded (“Christian”-state-funded) school. Scopes was
convicted and fined $100, but in the end did not have to pay the fine.\footnote{230}

(iv) Present-day, popular debates: e.g., polarized debates in the media between self-
proclaimed atheist and theist debaters, including Richard Dawkins, Victor J.
Stenger, Alister McGrath, and William Lane Craig.\footnote{231}

\footnote{226}{Philip Luscombe, \textit{Groundwork of Science and Religion} (Peterborough: Epworth Press, 2000), 2.}

\footnote{227}{The notion of a “conflict” thesis between science and religion (science and Christianity) has been portrayed
by some writers as misguided. For example, Michael J. Murray (2009, 234) maintains that both the Galileo Affair
and the Scopes Trial have been historically misrepresented to the point that common portrayals of these events
are actually scams. Be that as it may (I am not a student of history, so I will not comment on the historical
context of either event), what is the case is that claims of science and claims of religion provide different
descriptions of shared states of affairs in the world. Whether or not it is fair to label that a “conflict” may be
debatable; however, there are substantive and epistemic \textit{differences} between claims of science and claims of
religion.}

\footnote{228}{John William Draper, \textit{History of the Conflict Between Religion and Science} (New York: D. Appleton, 1874).}

\footnote{229}{Andrew Dickson White, \textit{A History of the Warfare of Science With Theology in Christendom} (1896; repr.,
New York: George Braziller, 1955).}

\footnote{230}{Victor J. Stenger, \textit{God and the Folly of Faith: The Incompatibility of Science and Religion} (Amherst:
Prometheus Books, 2012), 112.}

\footnote{231}{A quick internet search about “science and religion debates” returns links to videos of present-day, popular
debates between these speakers and others. Most common are debates contrasting modern science with
Christianity.}
(v) Twenty-first-century books, written from seemingly faith-imbued perspectives, which argue a “non-conflict”\textsuperscript{232} thesis between science and religion: e.g., John C. Polkinghorne’s *One World: The Interaction of Science and Theology* (2007)\textsuperscript{233} or Alvin Plantinga’s *Where the Conflict Really Lies: Science, Religion, and Naturalism* (2011).\textsuperscript{234}

Put simply, it seems most comparisons and contrasts of “science and religion” are really comparisons and contrasts of “science and Christianity.” Also, the brand of Christianity which is compared and contrasted with modern science is often a Christianity which makes belief claims about metaphysical objects, rather than a demythologized Christianity regarding the Christian worldview more as an ethical system or a way of life, arising from ancient Hebrew and Greek modes of thought. Beginning with an outline of the compatibility system concept, I shall be presenting a comparison and contrast of “science and religiosity simpliciter”—i.e., a comparison and contrast of modern science with what is (by many accounts) the universal

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\textsuperscript{232} Here I use the term *non-conflict* rather than *compatibility* to describe the apparent aims of such faith-imbued projects, because I would like to reserve the term *compatibility* for two reasons: (i) Compatibility systems, to be discussed beginning in this chapter, are attempts to provide intellectual justification for the accepting of two apparently conflicting modes of thought. The task of designing a compatibility system may draw on resources from such fields as epistemology, sociology, academic theology, and analytic philosophy. (ii) In the scientific study of religion, compatibility systems are not designed merely by the invoking of a faith position—the invoking of one’s faith to argue for the harmony of science and religion is what I instead call a “non-conflict” thesis. (Note: This distinction is not meant to belittle the invoking of a faith position to “create” harmony between science and religion; however, the invoking of a faith position is still a different matter from designing, on academic grounds, a compatibility system between science and religion.)
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activity of the deferring of the human mind to the actions of CPS-agents. My comparison and contrast of “science and religiosity,” then, might also be described as a comparison and contrast of “disenchan
ted” (scientific) thinking with “agentic” (religious) thinking. I shall continue to use the term religion when mentioning the academic debate I am partaking in; that is, the “science and religion” debate. The term religion, though, is not meant to signify a faith tradition, but points to the agentic thinking characteristic of the human behaviour scholars call “religion.”

Ninian Smart’s concept of compatibility system(s), which I utilize in this chapter, involves articulating the precise nature of the relationship between science and religion. Whether that relationship is one of agreement, where science and religion are in fact compatible systems of belief, or whether that relationship is one of disagreement, where science and religion are incompatible, remains to be seen. Indeed, much of what it means to be “compatible” or “incompatible” will need to be unpacked before a decision can be made as to whether science and religion are compatible, incompatible, or paradoxically both compatible and incompatible.

In addition, we must consider how science and religion might be

235. Some of my doctoral student colleagues were confused by my interest in comparing and contrasting science and religion without first defining a specific religious tradition from which my comparison originates. Such confusion arises from a lack of awareness that religious institutions/traditions presuppose qualities of a more universal religiosity: via the lenses of the scientific study of religion and cognitive science of religion, a comparative analysis of underlying cognitive sources of religion (i.e., the deferring of the human mind to the actions of CPS-agents) and modern science is possible. As the human mind continues to defer to the actions of CPS-agents, mythopoetic and agentic modes of thought continue to permeate the “religious epistemic” standards of modern religious institutions.

236. This point was also mentioned previously: see pages 6 and 32-33.

237. The task of attempting to design a compatibility system between science and religion may find science and religion to be in fact compatible, but also incompatible, or paradoxically both compatible and incompatible. These are possible options for contextualizing the relationship between science and religion. At this stage, I am not arguing which of these options, if any, is academically sound in terms of the epistemologies of science and religion.
incommensurable or commensurable: only after that matter is resolved can any useful
discussion really be had about compatibility or incompatibility among science and religion.

In *The Science of Religion and the Sociology of Knowledge: Some Methodological
Questions* (1973; repr., 2015), Smart identifies the overall goal of designing a compatibility
system as one of establishing, on an intellectual basis, a compatibility between religion and
modern science.\textsuperscript{238} That task, he maintains, amounts to a modern strategy for contextualizing
and placing the sacred in modern life.\textsuperscript{239} Indeed, much of the motivation in attempting to
design a compatible system arises from the realization that the scientific enterprise has
ushered in a “new,” disenchanted cosmos,\textsuperscript{240} incommensurable with the pre-scientific
cosmologies of antiquity.\textsuperscript{241} As Smart candidly observes, “The shifting perspective on the
cosmos provided by modern science and social science poses questions not dreamed of in
Paul’s letters or in the Vedic hymns.”\textsuperscript{242} Similar to the role of science in legitimating religion
(examples of which were mentioned previously), compatibility systems also function as types
of legitimation strategies.\textsuperscript{243} Compatibility systems seek to legitimate styles of human
behaviour—they contribute toward human activities of world-construction and meaning-
making. Also, it is worth nothing that a compatibility system need not be concerned about

\textsuperscript{238} Ninian Smart, *The Science of Religion and the Sociology of Knowledge: Some Methodological

\textsuperscript{239} Smart, *The Science of Religion and the Sociology of Knowledge*, 82.

\textsuperscript{240} That the disenchanted cosmos of modern science be described as “new” is not such a stretch: modern
science has existed in a few human societies for about 400 years only.

\textsuperscript{241} In this context, incommensurability suggests the modern scientific cosmos cannot be compared with pre-
scientific cosmologies. To that end, Lucien Lévy-Bruhl’s dichotomy thesis of pre-logical contrasted with logical
minds is defensible only with the assumption that, at the substantive level, mythopoeic thought is
incommensurable with scientific thought (Wiebe 1991, 5).

\textsuperscript{242} Smart, *The Science of Religion and the Sociology of Knowledge*, 91.

\textsuperscript{243} Ibid., 88.
whether one should believe the claims of science or the claims of religion. Rather the primary concern of a compatibility system is whether one can in fact consistently maintain beliefs about science and beliefs about religion in one’s academic work and/or personal life.

Interestingly, from the outset, Smart is aware the proposed task to design a compatibility system will be difficult. He remarks, “It does not matter particularly for my argument here whether compatibility systems fully work, in the sense of correctly handling the relationship between religion and science. What is important is that they provide an account which intelligent and honest people can accept.” Furthermore, as Wiebe reminds us, if a prima facie conflict between science and religion did not exist, there would be no impetus to design a compatibility system. With these observations in mind, we are wise to consider whether our proposed task to design a compatibility system is faced with complications even before we begin? This appears to be the case for (i) the impetus to construct a compatibility system assumes prima facie a conflict between science and religion and (ii) Smart himself, the originator of the compatibility system concept, alludes to the fact that compatibility systems may not “fully work.”

Despite these initial complications, however, when religious life is intellectually cut off from the scientific enterprise, religious life is, in effect, practically cut off from modern, Western life itself. Hence, I suggest it would be a mistake to dismiss a priori the possibility that a useful compatibility system could be developed, just as it would be a mistake to dismiss the possibility that religious life and

247. Ibid., 105.
modern life might coexist in a meaningful or useful way. Smart also points out the self-reflexive nature of the scientific study of religion as lending itself well toward the designing of compatibility systems. All in all, the task of designing a compatibility system is what the academic study of science and religion amounts to, although the task is fraught with some difficulty.

According to Smart, the splitting of a myth into its component parts of fact and symbol, and the attempted rejoining of fact and symbol in the modern scientific cosmos, is what a compatibility system amounts to. To illustrate this, figure 2 shows (i) splitting of fact and symbol from their origins in a pre-scientific myth and (ii) realization and attempted rejoining of fact and symbol in a compatibility system in the modern scientific cosmos.

![Diagram](image_url)

Figure 2. Splitting of pre-scientific myth into components of fact and symbol; attempted re-joining of those components in a compatibility system in the modern scientific cosmos

249. Ibid., 90-91.
My treatment of the concept of myth, displayed in figure 2, is grounded in Harry Slochower’s and Donald Wiebe’s assessments of the activity of mythopoesis. As Slochower and Wiebe understand it, myths (stories) function as pictorial hypotheses about human emotions, especially as emotions (e.g., hopes, fears, loves) are related to a concrete human existence. What is most important, however, is the role myths play—that is, mythopoesis—in formulating a symbolic reality for the religious observer. As Smart points out, the myth-maker picks out contingent features of the universe and then arranges those features in a particular symbolic fashion. In Origins of the Modern Mind (1991), Merlin Donald speaks of myth as the prototype of an integrative mind tool: myth-making, a form of modelling, integrates various events in the natural world, forming conceptual models of the universe. Models formed might include creation stories, thoughts about death, and ideas about cosmology. Per figure 2, and concerning the splitting of myth into component parts of fact and symbol, a viable relationship between fact and symbol (for the purpose of this thesis) must be ascertained:


251. The etymology of mythopoesis includes the Greek poiesis, which means making. The activity of mythopoesis is thought to indicate the making/formulating of a symbolic reality through the telling of the myth itself. Thus the act of telling the myth is a participation in the reality of the myth, creating a social model for human thought and action.


255. Myth-making as modelling begins to occur in stage (ii), mimetic to mythic culture, of Merlin Donald’s three stages of the evolution of the modern human mind, outlined in his Origins of the Modern Mind. Donald’s three stages are: (i) episodic to mimetic culture, (ii) mimetic to mythic culture, and (iii) development of external symbolic storage (e.g., use of graphic symbols) and a theoretic culture (Donald 1991, 162-360).

To start, I note that Ian Hacking points out that facts are not objects in the world, but facts nevertheless may be in the world in some other way. In a similar fashion, Norwood Russell Hanson remarks, “Facts are not picturable, observable entities.” To further complicate matters (although only slightly) John R. Searle in The Construction of Social Reality (1995) speaks of brute facts, social facts, and institutional facts: institutional facts are created out of social facts while social facts depend first upon the existence of brute (physical) facts. Take, for instance, the example of money, an institutional fact: regarding the pieces of paper we call “money,” Searle contends, “If everybody stops believing it is money, it ceases to function as money, and eventually ceases to be money.” Brute facts, in contrast, at least presume an external realism: unlike social and institutional facts, brute facts exist independent of human thought and action. Social facts, on the other hand, imply some collective intentionality. Finally, collective recognition of a phenomenon and collective imposition of a function onto a phenomenon (even if the imposition is unconscious) results in the creation of an institutional fact. Searle considers that phenomena onto which functions are imposed may be either non-mental brute facts or mental facts (states).

261. Marc Lange (2014, 235, Kindle), in his chapter “Laws of Nature” in The Routledge Companion to Philosophy of Science, furthermore classifies brute facts into three categories: (i) logical necessities, (ii) nomological necessities derived from laws of nature, and (iii) accidents which do not depend on laws of nature.
263. Ibid., 125.
264. Ibid., 122.
Searle goes on, institutional facts can be discerned by their subject matter (e.g., whether they are legal or religious facts), by their continued social maintenance (an institution’s temporal status), or by any logical operations internal to the institutional fact itself.265

I suggest that, per Searle’s thesis of the creation and maintenance of institutional facts, one might conceptualize objects of religious knowledge, e.g., CPS-agents, as types of institutional facts. My reasons for proposing this characterization are as follows: (i) The existence of CPS-agents is reported in a collective fashion: from the testimonies of religious devotees, we find a collective recognition of the existence of CPS-agents. (ii) CPS-agents are reported to possess beliefs and desires—they possess functions related to reported “supernatural” events thought to occur in the natural world. (iii) Religious experiences, which involve purported CPS-agents, are realized physiologically and/or psychologically: hence it could be argued the apparent functions of CPS-agents are in fact socially constructed functions imposed upon non-mental brute facts (physiological experiences) and/or mental facts (psychological states),266 rendering “CPS-agents” examples of institutional facts. In addition, human beliefs about CPS-agents are maintained and strengthened within the institutional frameworks of modern religions: the sharing of history between members of any religious community produces a body of knowledge passed between generations, ensuring the survival (albeit unwittingly) of CPS-agents as institutional facts.


266. For example, Hewitt characterizes functions of religious beliefs in the contexts of psychodynamics and contemporary attachment theory: Hewitt (2014, 27) explains, “The need to restore a sense of felt security can be achieved through personal relationships with figures conjured by the mind, such as gods.” Or, for example, consider the Feuerbachian conception of God whereby “God” is a psychological projection of humanity’s ultimate concern, the function of which is to objectify humanity’s most ideal qualities.
At this point I hope the relationship between fact and symbol I am proposing will become clear. The splitting of a myth (which originated in a pre-scientific cosmos) into its component parts of fact and symbol no doubt occurs because at some point in the history of a human society it becomes no longer possible for the “fact” element of a myth to be believed—or at least believed in the way it was believed when the myth was contextualized in a pre-scientific cosmos only. An example of a “fact” in a pre-scientific myth would be the reported “fact” that the god, El, of the ancient Near Eastern religions is an ontological reality. The “fact” of a myth is closely related to (if not equated with) the purported substantive reality of the myth. When fact is split from symbol (or when fact is discarded completely), the “symbol” element of a myth takes on an existence of its own, an existence that is social rather than substantive. Then, in a compatibility system in the modern scientific cosmos, where attempted rejoining of fact and symbol occurs, symbol takes precedence, recovering any values contained within the pre-scientific myth and most importantly re-contextualizing those values in the compatibility system. According to Wiebe, “In this sense mythopoesis refers to the recovering of the value of the ancient stories (myths) for a culture that can no longer believe that what the stories narrate actually took place.”267 To that end, Wiebe goes on, “The values the stories contain are transposed into symbolic meaning.”268 In real life scenarios, social institutions are

268. Ibid., 39.
experienced via the symbolic meanings of institutions. Symbols express the “ultimate” by implying their own lack of ultimacy: the most important aspect of symbols, then, is the ultimate reality to which they point. In addition, symbols allow societies to move beyond typical space-time perspectives, serving as cultural mediums through which the testimonies of religious devotees can be relayed to those not privy to experiences reported by religious devotees.

We conclude the analysis in the preceding paragraph by recognizing that, in a pre-scientific myth, fact indicates a purported substantive reality (e.g., El is an ontological reality) while symbol takes on a more subordinate role, serving as a consequence of fact (or fact and symbol are simply equated). Following the splitting of fact and symbol, and their attempted rejoining in a modern compatibility system, symbol takes precedence, recovering and representing whatever “ultimacy” was intended by the original myth. Finally, in the compatibility system, fact is rendered an institutional fact—which may have always been the case; however, in the modern scientific cosmos, the realization of mythological facts as institutional facts becomes possible. Returning briefly to Peter Berger’s work, we are reminded by Berger how the “other worlds” of religious life, although not available as


270. Here, I deliberately place the term ultimate in scare quotes to point out the ambiguous nature of ultimate—to be considered again in Part III vis-à-vis the design of a “religious epistemology.” As I bracket ontological realities for religious concepts, any substantive reality for the “ultimate,” to which symbols point, also remains bracketed. Note, however, that in this section I argue how, in a compatibility system, the “symbol” element of a myth is social rather than substantive: in a compatibility system, the concept of an “ultimate,” then, is also taken to be a social reality—one that is constructed, realized, and identified within the physical world of natural human experience.


empirical realities, are nevertheless realized by human beings as “meaning-enclaves within this world, the world of human experience in nature and history.” In this sense, both Berger and Smart contribute toward an understanding of the concept of myth although Smart’s critique of Berger’s work sets the two professors apart. However, as I see it, where Berger and Smart differ is also where the precise, yet ambiguous, nature of myths conceptualized in the modern world is best articulated. I take up this analysis in the following section.

4.2. Myths and Igmythicists

The goal, then, is to understand myths as articulations of human values when values are located in a modestly naturalistic epistemology. Unlike Berger, Smart understands “this world”—i.e., the physical world of human experience—as a cosmos which is socially constructed. Distinguishing facts from human products, Smart seems less reluctant than Berger to separate completely (a) the independent, physical world and (b) human projections placed onto the world per the activities of world-construction and meaning-making. Rather, for Smart, to conceptualize the physical world (universe) in a completely neutral, objective fashion is somewhat naive. Smart’s primary concern with Berger’s neutral universe amounts to the observation that many physical objects, such as the sun or mountains, are included in


275. Ibid., 89.


277. Recall that, for Berger, meaning-structures of a social world are projected onto the physical world such that events existing in brute nature only are generally meaningless, although events in brute nature may be similar to events in the projected, social world: Berger (1967, 82) presents a clear, albeit extreme, example whereby in brute nature a person can be killed by a falling rock—an accident; whereas in a social world a person can be killed by the state—an execution (assuming the state permits such a barbaric practice). However, constructed meaning attached to an execution is different from meaning attached to a natural accident (indeed if there is any meaning at all attached to a natural accident). In the social world, constructed meaning, being reified as objective, means the person killed in an execution is thought to die “correctly,” an interpretation which cannot be made if the person is killed in a natural accident.
religious belief systems, fulfilling functions not as human products, but as what appear to be brute facts.\textsuperscript{278} Thus Smart sees a degree of subjectivizing as concerns the physical world itself: In his view, not only are human projections placed onto a “neutral” world (the term \textit{neutral} is now seen to be tendentious), but also the physical world undergoes some form of social construction \textit{prior} to additional human projections being placed onto the world. It would be more precise, then, Smart argues, to consider the possibility that brute facts may lead to human products followed by those products acting back upon their producers as \textit{new} brute facts. This process, resulting in what Smart calls “outbreaks of the experience of the numinous,”\textsuperscript{279} continually produces new facts from human projections onto a physical world of “old” facts. In turn, the new facts become the “neutral” physical world (universe) onto which additional human projections are then produced and actualized. (A biblical example of this process is perhaps the theophanies experienced by Isaiah in the Temple.\textsuperscript{280})

For my purposes, Smart’s distancing of himself from Berger’s neutral universe is interesting for two reasons:

(i) Although Smart disapproves of a conception of the physical world where the physical world is seen to be completely independent and objective, Smart’s separation of facts from human products helps to point out what is, for some, the faith-imbued status of myths—stories already dependent upon an agentic, enchanted world. Or, even more importantly, Smart’s separation of facts from human products points out the influence that myths (religious stories) continue to have on

\textsuperscript{278} Smart, \textit{The Science of Religion and the Sociology of Knowledge}, 90.

\textsuperscript{279} Ibid., 79.

\textsuperscript{280} See the biblical narrative in Isaiah 6.
perceptions and mental states of human beings who live in the modern, natural world (as testimonies of religious devotees inform us). If the physical world is not in fact subjectivized, as Berger would like us to think, myths must be entirely human creations (projected onto a neutral world) whose origins must be either mere psychological delusions or, alternatively, reflections of what is an ontological reality for the gods (the latter option assuming, of course, that such a reality exists and could serve as the origin of reflections).

(ii) Rather than being mere delusions or reflections of an ontological reality for the gods, Smart’s distancing of himself from Berger unwittingly opens up a third option to contextualize the nature of myths and an approach I argue is really fitting to both Smart’s and Berger’s projects. I call this approach the igmythicist approach. In the following paragraphs I defend the igmythicist approach, which, on a psychological scale, seems to fall halfway between acceptance of myths as mere delusions and belief about myths as reflections of an ontological reality for the gods.

Berger’s notion of “meaning-enclaves” within the world of natural human experience is particularly helpful here. Indeed, although Smart parts company with Berger, regarding the extent to which tested beliefs about states of affairs in the world (brute facts) can echo the physical world itself, Smart’s critique of Berger’s neutral universe is untenable: Unlike Berger, Smart allows human products to serve as “new” (albeit faith-imbued) brute facts, but then, like Berger, Smart also allows human projections onto those “new” facts. Thus it could be demonstrated that even Smart’s initial acceptance of human products created out of

\[281. \text{To be outlined in this section, my coining of the term igmythicist is inspired by Paul Kurtz’s term igtheist.}
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\[282. \text{Berger, The Sacred Canopy, 88-89.}\]
brute facts is itself a type of projection—the faith-imbued projection-realization of brute facts constituted by something other than brute physical reality. (For example, the physical object of a burning bush\textsuperscript{283} which, via a faith-oriented human projection, is “imbued” with sacred qualities.) In this way, then, Smart is no different from Berger; both Smart and Berger approach the notion of meaning-enclaves as social realities initiated, at least in part, by human projection. Although I do appreciate Smart’s more nuanced distinction between facts and human products, he and Berger deal fundamentally with the same topic—i.e., human projection onto the physical world. The only major difference between Smart and Berger, so far as I can tell, is that Berger seems less inclined than Smart to recognize the possible faith-imbued element at play in the social construction of human products from brute facts.\textsuperscript{284} (However, in a more ambiguous way and not concerning any mechanisms for social construction, Berger is prepared to speak generally about possible theological reflection of some unseen, superhuman reality.\textsuperscript{285})

\textsuperscript{283} See the biblical narrative in Exodus 3.

\textsuperscript{284} As a methodological atheist, Berger, of course, brackets ontological realities for religious concepts from his academic analysis. Thus, the possibility of a faith-imbued element at play in the mechanisms of social construction (as in Smart’s thought) is also excluded from Berger’s analysis. In contrast, Smart prefers what he calls a “methodological agnosticism.” In Worldviews: Crosscultural Explorations of Human Beliefs, Smart explains his contrasting position: “It is one thing not to assume that God does exist; it is another thing to assume that he does not. If we assume, more generally, that there is no Ultimate, no Beyond, then we assume that religion is false. Religion, then, is a finger that points, but at nothing. There is no moon for it to point to. It does not seem especially scientific to begin with the assumption that religion is false, nor need we begin with the assumption that it is true” (Smart 2000, 135; emphasis added). The latter aspect of Smart’s position, in the last sentence in the preceding quotation, aligns with my view in this thesis whereby I do not affirm either way the truth or falsity of ontological realities for religious concepts. The first aspect of Smart’s position, in the first sentence in the preceding quotation, where Smart places the emphasis on one not assuming God exists rather than one assuming God does not exist points to a methodological quandary: regardless of where the emphasis of the assumption is placed, in not assuming God exists one still intends to bracket ontological realities for CPS-agents as does the person who assumes God does not exist. In that way, the methodological atheist and methodological agnostic are the same. Smart’s methodological agnosticism, however, seems to direct us to the possibility that in our personal lives we might affirm the existence of God, but in our academic work we bracket God’s existence. The methodological atheist, though, might in fact do the same. In that case, then, it is really a matter of personal choice of terms: e.g., methodological atheist or methodological agnostic.

\textsuperscript{285} Berger, A Rumor of Angels, 46-47.
I suggest that, falling halfway between acceptance of myths as delusions and belief about myths as reflections of an ontological reality for the gods, we conceptualize myths in a practical sense—as the *application* of meaning-enclaves enclosed in the world of natural human experience. For one, this particular conception of myths is in keeping with my previous statement that in this thesis I function as a methodological atheist, bracketing ontological realities for religious concepts. (The bracketing imperative separates me from the camp that would identify myths as reflections of an ontological reality for the gods.) At the same time, however, and especially in a real life and *practical* sense, my approach concerning myths as realizations of meaning-enclaves in the world of natural human experience places me in a camp which is perhaps more appropriately termed “methodological igtheism.”

Paul Kurtz, who coined the term *igtheism*, describes the life of the igtheist, a follower of igtheism, in this way: “I [as an igtheist] cannot say whether or not such a being [God] exists since *I do not comprehend what is being asserted* [emphasis added].” Put simply, the igtheist is a person who argues the statement *God exists*, a proposition with no existential import, is a meaningless statement. Kurtz outlined the tenets of what he called *igtheism* in 1992 in his book *The New Skepticism: Inquiry and Reliable Knowledge*. Almost 60 years earlier, a young A. J. Ayer, in *Language, Truth and Logic* (1936; 2nd ed., 1946), spoke of a similar school of thought to Kurtz’s, although Ayer’s outline of the position (now

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286. So far as I am aware, the particular phrase “methodological igtheism” is my own, although the concept of *igtheism* (also called *ignosticism*) is discussed in various schools of philosophical theology and philosophy of belief.

287. In *igtheism*, the prefix *ig* is taken from the word *ignorant* although *ignorant* in this sense is not meant to imply a negative attitude toward theism *per se*. Rather the “ignorance” of *igtheism* refers to the group of igtheists’ realization that “. . . we are totally incapable of knowing what is meant by ‘theism’ when we use the term ‘God’ to denote a transcendent being or the ‘ground’ of being” (Kurtz 1992, 196).

called igtheism) seems to present a stronger version of logical positivism than does Kurtz’s characterization.²⁸⁹ I shall comment briefly on Ayer’s epistemic approach toward propositional claims about superhuman agents for indeed Ayer’s approach is very clear—and for that reason is helpful in clarifying what is now called igtheism. This is followed by a discussion of how the notion of a “methodological igtheism” is useful in characterizing my own practical approach toward myths—myths conceptualized as meaning-enclaves within a modestly naturalistic epistemology.

As mentioned, the igtheist is one who argues the statement God exists is a meaningless statement. In Language, Truth and Logic, Ayer maintains the statement God exists is a metaphysical statement which cannot be either true or false.²⁹⁰ As in logical positivism, central to Ayer’s epistemology is the notion that meaningful propositions are only those hypotheses which can be tested empirically. It is no surprise, then, that Ayer would classify the statement God exists as a proposition which is nonsensical: the statement God exists is a hypothesis that cannot be tested empirically.²⁹¹ However, it is my sense that most observers, including the most pious of religious devotees, would have to agree with Ayer’s conclusion. After all, “God-talk,” the expression of the substantive reality of religious life, is meant primarily to indicate a reality not intended to be known through empirical observation but a reality intended to be

²⁸⁹. By Kurtz’s own admission, religious devotees will likely criticize the igtheist position as positivistic (Kurtz 1992, 196). However, Kurtz also explains that he accepts that the term God may include some meaningful content so long as God is defined as the anthropomorphic God of the Abrahamic religions (questions of the truth or falsity of claims about “God” remain irrelevant). Kurtz considers that, since an anthropomorphic God includes seemingly physical descriptors, such as “God the Father,” “God the Son,” or the claim that human beings are created in the image of God, such an anthropomorphic God may include some quasi-empirical content. In that way, the statement God exists could be a meaningful statement since God defined as an anthropomorphic God may not completely violate standards of meaningful language and observed experience (Kurtz 1992, 197-198).


²⁹¹. For Ayer, as for other logical positivists, propositions involving non-tested beliefs, such as “religious knowledge,” are not only non-verifiable, but also constitute nonsensical language.
known and accessed through the activity of faith.\textsuperscript{292} At any rate, it would be premature to dismiss Ayer’s epistemic approach toward propositional claims about CPS-agents. Ayer’s approach, although seen to be inimical to the faith-based aspirations of religious life (he maintains “God-talk” is nonsensical), is at the same time an approach which opens up a wider range of epistemic issues concerning what precisely we are doing when we attempt to define the term (or the reality of) \textit{God}, especially \textit{vis-à-vis} the academic study of “science and religion.”

In outlining the tenets of the view which later becomes known as \textit{igtheism},\textsuperscript{293} Ayer meticulously notes:

For it is characteristic of an agnostic to hold that the existence of a god is a possibility in which there is no good reason either to believe or disbelieve; and it is characteristic of an atheist to hold that it is at least probable that no god exists. And our view [the view which later becomes \textit{igtheism}], that all utterances about the nature of God are nonsensical, so far from being identical with, or even lending support to, either of these familiar contentions, is actually incompatible with them. For if the assertion that there is a god is nonsensical, then the atheist’s assertion that there is no god is equally nonsensical, \textit{since it is only a significant proposition that can be significantly contradicted} [emphasis added]. As for the agnostic, although he refrains from saying either that there is or that there is not a god, he does not deny that the question whether a transcendent god exists is a genuine question.\textsuperscript{294}

\textsuperscript{292} However, as discussed in Section 1.3, while it is the case that some religious testimonies refer to objects of belief residing in a trans-empirical world—a “world” thought to exist beyond the limits of empirical observation—it is also the case that many religious testimonies involve claims made about an interplay between that so-called trans-empirical world and the observed, empirical world (e.g., religious miracles as violations of the laws of nature). At any rate, the distinction made here, between empirical observation and the activity of faith, serves to point out that in religious life the \textit{emphasis} is toward the activity of faith as being one’s source for knowledge about the world.

\textsuperscript{293} Ayer died in 1989, so he never knew the term \textit{igtheism} that Kurtz coined a few years later in 1992. It should also be noted that Kurtz, in developing the concept of \textit{igtheism} in \textit{The New Skepticism}, does not mention Ayer. It seems, then, that Kurtz’s formulation of the igtheist position evolved independent of Ayer, although Ayer and Kurtz do more or less present and explain the same position.

\textsuperscript{294} Ayer, \textit{Language, Truth and Logic}, 115, Kindle.
From Ayer’s remarks in the preceding quotation, we come to appreciate that a definition for any physical or metaphysical object must be established prior to any discussion about whether the object (a) does exist, (b) does not exist, (c) presents “good reasons” for us to believe or disbelieve it exists,\(^{295}\) or finally (d) constitutes sensical or nonsensical language. Choosing from among these four options represents the core of the igtheist’s position: the igtheist would be willing to engage in debate about the existence of God should a suitable definition for the term *God* be presented. However, until such a definition is presented, the statement *God exists* remains (to the igtheist) a meaningless statement. Of course, in the case of the metaphysical object called *God*, what constitutes a suitable definition for *God* will likely vary among faith traditions, religious sects, and academic contexts. For example, in the context of Christianity, where *God* is often defined as a “transcendent and immanent agent” (one that has feelings and desires), I would maintain that I am an igtheist (“CPS-agent-talk” is nonsensical to me). However, in the context of an academic classroom in a modern, Western university, where *God* is perhaps defined as an “institutional fact” (for the purpose of academic research), I might change my position from that of the igtheist to that of the theist.

As mentioned, I suggest the notion of a “methodological igtheism” is useful in characterizing a practical approach toward myths, conceptualizing myths as meaning-enclaves

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295. The notion that “good reasons” be available to believe or disbelieve that a physical or metaphysical object exists amounts to the theory of rationality referred to as *evidentialism*. In his *How to Relate Science and Religion*, Stenmark (2004, 89) rejects unwavering support for evidentialism: he argues judgement-based evidentialism (which he sees amounting to an attitude of mind whereby beliefs are “intellectually guilty until proven innocent”) cannot be applied in *all* aspects of one’s practical life. In contrast to judgement-based evidentialism, Stenmark (2004, 90) suggests a presumptionism model of rationality whereby belief-forming processes and beliefs are taken as justified (“intellectually innocent until proven guilty”) until such a time as good reasons not to accept one’s belief-forming processes and/or beliefs are presented. In addition, Stenmark makes a case that possessing “good reasons” to accept or reject belief-forming processes and/or beliefs involves more practical factors than possessing tested evidence only. Stenmark (2004, 91) cites additional factors such as one being consciously aware of one’s evidence, one assessing the quality of one’s evidence, and one comparing one’s evidence to the evidence of alternative beliefs.
within a modestly naturalistic epistemology. However, to specify in what sense a “methodological igtheism” might apply to myths, I need to unpack what I see to be potential applications of the igtheist position in religious life. (These potential applications transcend uses of igtheism discussed already.) For one, igtheism speaks primarily to matters of definition, stressing the importance of providing a definition for an object. Also, igtheism emphasizes how the activity of defining must occur prior to any discussion about an object’s purported reality (or lack thereof). Although igtheism speaks to the object of God directly, I suggest we apply the tenets of igtheism toward other religious concepts as well, such as adopting an igtheist position vis-à-vis the concept of myth. Indeed, this is not such a stretch for religious myths involve a superhuman agent called “God” who intervenes in the physical world—i.e., the concepts of myth and God are intimately related. To identify as an igtheist about the concept of God implies that one would likely also identify in an igtheist manner about the concept of myth:

Similar to the statement God exists, which the igtheist maintains is a meaningless statement (until perhaps a definition for God suitable to the igtheist is presented), we can propose a statement that myths provide descriptions of physical reality. About the statement myths provide descriptions of physical reality, the igtheist—in this case, the “igmythicist,” if you will—would maintain that such a statement is nonsensical. However, like the igtheist, the igmythicist would be willing to engage in debate about the existence of myths should a suitable definition for myth be presented. What I call the igmythicist approach to myths relates more widely to the topic of compatibility systems: the igmythicist approach to myths involves my attempt to conceptualize religious life (beliefs) within the world of natural human
experience. Recall from earlier in this chapter that Smart identifies the primary function of compatibility systems as one of re-contextualizing, re-placing, the “sacred” in modern life. About this, Smart observes:

> For in order to translate the beliefs of one age for the benefit of another age, members of the faith will always be presented with a certain dilemma, namely how far transitions can be made without sacrificing the essential meaning of the original faith. Further, it happens that religions on the whole, in order to preserve the past upon which they partly depend, have conservative tendencies. Insecurity in a changing world may also introduce a conservative literalism.

In the preceding quotation, Smart’s emphasis on the notion of a “changing world”—a fluctuating, evolving human world immersed within the faith-imbued realities of religious life—is striking. Indeed, in setting the stage in this fashion, so to speak, Smart is outlining a rationale for the academic study of science and religion—an academic discipline, which, unlike other aspects of philosophy and theology, only has relevance (indeed only has meaning) since the modern scientific cosmos arose. Smart’s rationale in a nutshell amounts to the realization that, with the development of the modern scientific cosmos, the need arises to “translate” religious myths from pre-scientific cosmologies into systems of values compatible with the epistemic standards of the modern scientific cosmos. To that end, the notion of “value maintenance” is central to Smart’s project. In summary, compatibility systems serve (i) to

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297. Ibid., 101.

298. Ibid., 87.
identify religious values from the pre-scientific past and (ii) to maintain the qualities of those values while also recognizing our life in the modern scientific cosmos.\textsuperscript{299}

In addition, according to Owen Flanagan, the modern scientific outlook need not be deflating or even disenchanting:\textsuperscript{300} naturalism continues to accept that human beings are conscious creatures; human goals and interests are preserved. Although the physical constitutions and cognitive capacities of human beings are explained by science, potential remains for human beings to construct and appreciate meaning; to have some control over their fluctuating circumstances.\textsuperscript{301} Germane to my project, Flanagan articulates well the aims of value maintenance in a naturalistic ontology: He writes, “We are biological beings living in a material world that we have constructed. \textit{Our norms and values are designed to serve our purposes as social mammals living in different social worlds} [emphasis added]. History, and possibly our psychology, has led us to mystify norms and values.”\textsuperscript{302} It is precisely this “mystification” of norms and values, alluded to by Flanagan, that modern compatibility

\textsuperscript{299} Drees comments on the project to “translate” pre-scientific myths (beliefs) into systems of values compatible with the modern scientific cosmos. He points out that understanding one’s motivations for attempting this kind of “translating” work is important: Drees (1998, 4) states, “That such beliefs arose in certain circumstances does not imply that they must be wrong, but their historical contingency in relation to human history and human nature raises the question of why we would consider particular beliefs of an earlier epoch as serious candidates for truth or as existentially relevant insights, worth reformulating in our time.” It is my sense that, since religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds, that realization is sufficient enough to consider “translating” pre-scientific myths into values compatible with modern science.

\textsuperscript{300} Owen Flanagan, \textit{The Really Hard Problem: Meaning in a Material World} (Cambridge: MIT Press, 2007), Location 1469, Kindle.

\textsuperscript{301} Flanagan, \textit{The Really Hard Problem}, Location 1469, Kindle.

\textsuperscript{302} Ibid., Location 1469, Kindle.
systems seek to delimit and clarify. As mentioned, this process of value maintenance recovers the “symbolic,” leaving behind the metaphysical “brute” facts we no longer can assent to.303

Returning to our statement *myths provide descriptions of physical reality*, which the igmythicist says is nonsensical, I acknowledge that, like the concept of *God*, when myths are conceptualized as metaphysical “brute” facts myths lack existential import. However, that myths be conceptualized as metaphysical facts is one possibility only. We have seen already how the splitting of a myth into *fact* and *symbol* in the modern scientific cosmos presents another possibility to conceptualize myths: as mentioned, in this case, the “symbol” element of a myth takes precedence, recovering the “ultimacy” of values in the myth, but doing so in a representational fashion which does not require any explicit substantive claims. When myths are understood to function in a representational fashion, the statement *myths provide descriptions of physical reality* is contextualized differently: *Descriptions* in the preceding statement are no longer descriptions of metaphysical “brute” facts, but are *symbolic* descriptions. Symbolic descriptions do not include claims about trans-empirical worlds, but rather are *human-inspired* representations of physical reality. Also, while they are “representations” realized physiologically and/or psychologically and “representations”

303. That it becomes difficult to assent to metaphysical “brute” facts occurs not merely because the modern scientific enterprise exists, but occurs because of what I see to be two main epistemic reasons, alluded to in various sections of this thesis: (i) Religious and scientific exercises make conflicting claims about *shared* states of affairs in one, physical world—this produces epistemic tension but that is still not enough to maintain that it is in fact difficult to assent to the metaphysical objects of religious claims. (ii) However, unlike religious exercises, scientific exercises are inherently *open to change*, permitting modification of beliefs and worldviews, a process which makes learning possible. As I note in *Adventure*, “In our everyday learning we need opportunities to work out inconsistencies and mistakes as we uncover them. This leads us, ultimately, to deeper and more mature understandings of the world. A denial of this type of attitude of mind is a denial of the purpose of learning, a denial of intellect, and a denial of ourselves” (Woodward 2014, 57). Thus, in light of point (i), and with the motivation toward learning expressed in point (ii), *vis-à-vis* modern science it does become difficult to *continue* to assent to metaphysical/religious “brute” facts. This, however, does not preclude the possibility that myths play a role in a symbolic fashion, as representations of physical reality: I am not suggesting a dismissal of religious myths, but I am advocating for a re-configuration of the precise nature of myths as myths are contextualized in a modestly naturalistic epistemology.
identified and located in the sociocultural institutions of modern religions, these symbolic
descriptions (myths) remain representations only. Similar, though, to the notion of an
anthropomorphic God, symbolically oriented myths may include some “observed” fact in the
sense that their physiological and/or psychological realizations and their identification in
sociocultural institutions are part and parcel of what have already been called brute facts and
institutional facts (Searle), respectively. Without wishing to overdo the point too much here, I
will leave this argument to rest here, revisiting these themes in Part III where the
philosophical design of a “religious epistemology” is the specific goal.

4.3. Initial Responses

The upcoming Chapter 5 will address examples of compatibility systems existing in “science
and religion” literature, developed from analytic philosophy, philosophical theology, and
sociology. To begin with here, I note that, in a general sense, theories of rationality serve as
attempts to design compatibility systems. In addition, Smart suggests examples of projects
within the discipline of systematic theology are attempts at designing compatibility
systems. For example, in natural theology, Smart goes on, attempts are made to relate the
tenets of religious faith toward developments in modern scientific knowledge, to the evolving
nature of human perceptions of physical reality, and to overall changes in the Zeitgeist.
Despite the main imperative of compatibility systems to “translate” pre-scientific myths into
values compatible with the modern scientific cosmos, there is some leeway. For example,
Smart notes how a faith-imbued compatibility system would be open to continue to treat the
cosmos as sacred: that is, derived from the actions of CPS-agents. However, the metaphysics

of such compatibility systems would be similar to pre-scientific cosmologies and, I would add, sensible to individuals functioning under the presuppositions of faith-imbued communities only. Conversely, notions of the sacred or other metaphysics are often removed from compatibility system design. In this way, the focus of the compatibility system is not toward substantive contents of either religious beliefs or scientific theories, but rather toward an etically oriented philosophical or sociological comparison of science and religion. Most compatibility systems assessed in Chapter 5 are attempts to fit this last category.

Smart models five initial responses one might experience toward the relationship of science and religion as one begins the task of compatibility system design. For each model, in the following pages, I summarize the nature of the response, including a brief practical example, illustrating how the response might be actualized in religious and/or scientific life. (My examples are current, twenty-first-century examples; not necessarily examples relevant to Smart’s era a few decades ago.) There is, of course, much variation among the commitments, experiences, and beliefs of different religious devotees and scientific practitioners. For that reason, the examples I include in the following pages may seem polarized or stereotypical; however, they serve well the purpose of illustrating what the epistemic implications of each response would be:

(i) Accept an incompatibility between science and religion, although in a state of what Smart calls a “paradoxical tension.” For some religious devotees, this model results in a rejection of tested beliefs about states of affairs in the world—i.e., a

306. Ibid., 104-105.
307. Ibid., 104.
rejection of the modern scientific enterprise.\textsuperscript{308} An example which fits this model would be the claim made by young-earth creationists that the creation narratives in Genesis are accurate descriptions of the origin of physical reality\textsuperscript{309}—that the earth was created in six, 24-hour days, sometime around 4004 BCE, per James Usher’s “calculation” made in 1650.\textsuperscript{310} To honestly make the claim made by young-earth creationists requires one to reject tested geological dating and hence reject modern science.\textsuperscript{311}

(ii) Attempt to make religion “fit” science:\textsuperscript{312} Contextualize the non-tested beliefs of religious life relative to the tested beliefs of scientific practice. This model accepts the method and epistemology of the modern scientific enterprise, replacing any pre-scientific cosmologies with the contemporary scientific cosmos. Nevertheless this option also recognizes that religious beliefs continue to permeate modern societies, as testimonies of religious devotees inform us.\textsuperscript{313} An example which fits this model would be Day-Age Theory of old-earth creationists. Day-Age Theory maintains that

\textsuperscript{308} Dubbed the “Bible belt reaction,” Smart (2015, 104) points out how a rejection of the modern scientific enterprise, enhanced by a strong emotional attachment to a conservative religious literalism, is and only can be a contemporary phenomenon: it is only in face of modern science that such a response exists; such an emotional response is not applicable to, for example, what Smart calls “medieval belief.”

\textsuperscript{309} Haack, “Point of Honor: On Science and Religion,” in Defending Science—Within Reason, 273.

\textsuperscript{310} White, A History of the Warfare of Science With Theology in Christendom, 1:253.

\textsuperscript{311} Unless, of course, one chooses to accept the method of modern science as a benchmark in some matters but not in others: e.g., one rejects modern geological dating, but more generally accepts quantum physics. Such an option, however, would amount to an inconsistent application of the scientific method.

\textsuperscript{312} Smart, The Science of Religion and the Sociology of Knowledge, 104.

\textsuperscript{313} That religious beliefs continue to permeate modern societies is a theme in works such as Peter Berger’s A Rumor of Angels: Modern Society and the Rediscovery of the Supernatural (1970). More recently see, for example, Jürgen Habermas’ essays in Between Naturalism and Religion, in particular his “Religion in the Public Sphere: Cognitive Presuppositions for the ‘Public Use of Reason’ by Religious and Secular Citizens” (Habermas 2008, 114-147).
each of the six “days” in Genesis is actually a very long period of time, accommodating ages of modern geological dating.\textsuperscript{314} Here, the modern scientific enterprise sets a benchmark in terms of method (geological dating is permitted) while the six “days” in Genesis are contextualized in a figurative (non-literal) sense for the purpose of religious life.

(iii) Attempt to make science “fit” religion:\textsuperscript{315} Contextualize the tested beliefs of scientific practice relative to the non-tested beliefs of religious life. This model accepts the method of modern science but only in a limited, quasi-intellectual sense, amounting to what Smart calls “deviant scientific ideas”\textsuperscript{316} and, in my view, suppressed learning and growth in modern society. In this model, it seems tested information from scientific theories is acknowledged, but, due to religious motivations, constraints are placed on how such information may be utilized. An example which fits this model would be the claim of some religious groups that, although scientific theories describe non-heterosexual attraction as inborn, per religious proscriptions non-heterosexual individuals should nevertheless resist their

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\textsuperscript{315} Smart, \textit{The Science of Religion and the Sociology of Knowledge}, 104.

\textsuperscript{316} Ibid., 104.
natural sexual interests: here the modern scientific enterprise sets a benchmark at least in terms of method (i.e., information from scientific theories is acknowledged) but religious motivations limit modern science, suppressing the extent to which

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317. Per this distressing example, regarding strained relationships between sexual orientation, religion, and science, it is my sense there are immediate practical problems with the model in which science is made to “fit” religion: For one, such a model obfuscates the Popperian principle of unlimited criticism, preventing oneself from being led freely and openly in the direction of one’s own critical learning via observed experience (which, of course, respects the culturally conditioned responses that no one’s rights be infringed and no one be harmed). Secondly, restraints placed on the ability of science to promote intellectual growth, but done so as to make science “fit” religion, amounts to a quasi-intellectual activity. As Ian C. Jarvie (1984, 106) in Rationality and Relativism succinctly notes, “A characteristic aim of the scientific world-view is to hold all questions open, allow all existing ideas to be challenged, to forbid entrenched clauses in the cognitive reconstruction [emphasis added].” Per Jarvie’s assessment, not only does science test beliefs, but modern science initiates into conscious awareness an attitude of mind whereby all beliefs are thought to be corrigible, requiring some possible rectification (Wiebe 1991, 38). In contrast to the attitude of mind characteristic of modern science, I note that, unlike scientific knowledge, revelatory-based, religious knowledge does not seem to be open to modification (not considering the possibility that in post-Enlightenment religiosity varied interpretations exist for the reading of religious texts). Per the example of non-heterosexual attraction vis-à-vis religion, I also note how the action of embracing the possibility that revelatory-based beliefs about sexual orientation are in fact corrigible—and may require some modification per their application in modern society—is linked to overall learning and growth in modern society: evolving beliefs about sexual orientation can lead to changes in public perceptions of human activities and attitudes such that intellectual growth, including growth in a practical sense, is unlimited and not suppressed by beliefs of other worldviews—especially worldviews where beliefs are thought to be incorrigible and not open to modification. In a different matter, although it is not the purpose here to discuss motivations at play in the “psyches” of some institutions in making proscriptions against non-heterosexual individuals, for a rather brilliant analysis of that topic vis-à-vis political, legal, and religious life, see: Martha C. Nussbaum, From Disgust to Humanity: Sexual Orientation and Constitutional Law (Oxford: Oxford University Press, 2010). In summary, from my own perspective, it is an unfortunate situation that mainstream religious communities have failed to understand the vast range of sexual diversity in the biological world. Rather than the neutral category of sexual orientation being applied in discussions about sexuality and religion, various sex acts deemed inappropriate by religious texts seem to implicitly replace the category sexual orientation with the category sex acts (but, as I say, this “replacement” is implicit). Religious proscriptions against non-heterosexual attraction severely misunderstand the range of sexual diversity: e.g., some gay males are interested primarily in anal sex, while other gay males are not—they call themselves “sides” in contrast to “tops” or “bottoms”; other sex acts, such as oral sex, are common among LGBTI and heterosexual couples. My point is that to discuss sexual orientation is to discuss enduring sexual interest (which includes various sex acts but those acts are secondary to sexual orientation itself). So, when religious texts, which apparently prohibit some sex acts, are used to make proscriptions generally against “non-heterosexual attraction”—and thus implicitly against any and all sex acts—such proscriptions are substantively misinformed. Nussbaum (2010, 25) sums this up well in the following: “Contemporary Christians, even those who think of themselves as fundamentalist, disregard statements in the Bible all the time. For example, the Bible devotes much more space to punishing the evils of fortune-telling than to [punishing] the evils of homosexuality—treated in half a sentence in Leviticus [the revelatory-prescribed punishment for alleged homosexuality: i.e., execution per Lev. 20:13], which makes no reference to women and targets only some male-male sex acts [emphasis added]. . . . we have made a selective use of our Biblical heritage. We should ask ourselves why we have made the choices we have.”
scientific findings are allowed to promote intellectual growth and betterment in society.\textsuperscript{318}

(iv) Place science and religion in separate “compartments” such that each enterprise neither communicates with the other nor even knows the other exists. Although this model may elude the epistemic tension which motivates the formulating of preceding models, Smart is concerned this model tends toward an over-compartmentalized worldview.\textsuperscript{319} An over-compartmentalized worldview may lead to an over-compartmentalized practical life. An example which fits this model would be Stephen Jay Gould’s non-overlapping magisteria (NOMA) principle outlined in his \textit{Rocks of Ages: Science and Religion in the Fullness of Life} (1999).\textsuperscript{320} Here, science and religion exists in separate domains (magisteria), fulfilling separate, incommensurable roles in society. Stenmark comments on Gould’s NOMA, remarking that, while Gould accepts that evidentialism is mandatory in science, evidentialism is a \textit{possibility} only in religion.\textsuperscript{321} Thus, per Gould’s notion of

\textsuperscript{318} It is worth mentioning that, like all examples mentioned in these paragraphs, the example regarding religious proscriptions against non-heterosexual individuals applies to some religious groups only. Other religious groups have adjusted their positions on sexual orientation \textit{vis-à-vis} new information obtained via modern science: For information about those religious groups, see: David Rayside, \textit{Queer Inclusions, Continental Divisions: Public Recognition of Sexual Diversity in Canada and the United States} (Toronto: University of Toronto Press, 2008), 153.

\textsuperscript{319} Smart, \textit{The Science of Religion and the Sociology of Knowledge}, 104-105.


\textsuperscript{321} The notion of evidentialism is, of course, only one aspect of a theory of rationality. To treat the scientific method as a method governed by evidentialism only (or primarily) is to limit one’s understanding of the scope and purpose of the scientific method. In its wider scope, the scientific method includes inherent capacities to allow intellectual growth, permit new learning, and (if required) modification of existing beliefs. These goals are possible because of evidentialism (which makes testing beliefs possible), but the motivation to apply the scientific method in one’s life need not be evidentialism only (or at all), but rather an attitude of mind open to the possibility of new learning . . . to the possibility of a more mature understanding of the physical world.

incommensurable domains for science and religion, it is not an epistemic problem in this model that science accepts evidentialism as mandatory whereas religion does not.

(v) Undergo a complete rejection of the non-tested beliefs of religious life\textsuperscript{323}—the epistemic tension experienced by the attempted design of a compatibility system between science and religion was too great and the tested beliefs of modern scientific life are chosen exclusively. An example which fits this model would be the proposed abandonment of the academic project to attempt to design a compatibility system, as proposed by Donald Wiebe in his essay \textit{Is Science Really an Implicit Religion?} in his \textit{Beyond Legitimation: Essays on the Problem of Religious Knowledge} (1994)\textsuperscript{324} here, it is concluded that compatibility systems fulfill a social function, however, the attainment of a compatibility system which is logically justified is deemed not possible\textsuperscript{325} Since the ideals of the Popperian attitude of mind toward learning are built into the epistemic structure of modern science—beliefs can be proposed, tested, and then accepted or discarded\textsuperscript{326}—the tested beliefs of modern science are chosen exclusively and the non-tested beliefs of religious life rejected.

Before progressing to examples of compatibility systems in Chapter 5, our final task in this chapter is to consider that discussions about “compatibility” or “incompatibility” between science and religion presuppose that science and religion are commensurable human activities

\textsuperscript{323}Smart, \textit{The Science of Religion and the Sociology of Knowledge}, 105.


\textsuperscript{325}Wiebe, “Is Science Really an Implicit Religion?” in \textit{Beyond Legitimation}, 99.

\textsuperscript{326}Wiebe, \textit{The Irony of Theology and the Nature of Religious Thought}, 38.
—i.e., that science and religion can be compared in the first place. However, as I mentioned near the start of this chapter, only after we resolve whether science and religion are in fact commensurable or incommensurable can any useful discussion about compatibility or incompatibility really be had. This is an interesting point: it seems most academic and popular debates about “science and religion” jump right to the question of compatibility or incompatibility without first asking whether the project of comparing science and religion is even tenable. For example, should scientific and religious modes of thought be in fact incommensurable, comparing and contrasting them would a senseless endeavour. About incommensurability, Wiebe notes, “Neither requires justification outside itself—they simply are what they are, neither better nor worse than the other.” Also, science and religion deemed incommensurable might be an intellectual escape hatch—an avoidance or denial of the “science and religion” question. Alternatively, for some, science and religion deemed incommensurable means the individual roles of science and religion can be most clearly articulated (e.g., Gould’s NOMA principle). The question for us, however, is not whether we possess a preference either way toward the commensurability or incommensurability of science and religion. Rather, the question at hand is whether the internal structures of science and religion—their substantive aims; their cognitive intentions—can render science and religion commensurable or incommensurable.

In response to the question of science and religion’s alleged commensurability or incommensurability, à la Wiebe, a consideration of human modes of communication is helpful: In *The Domestication of the Savage Mind* (1977), a twentieth-century anthropological

text, Jack Goody contends that culture amounts to “a series of communicative acts.”

Similarly, for Steven Mithen, cultures are “. . . not just lists of facts about the world, but specific ways of thinking and understanding.” Differences in modes of communication and ways of thinking are crucial, then, to analyze differences among societies where critical attitudes are normative and those where any beliefs freely dominate. For example, exclusively oral societies (what Goody terms “traditional” societies) would find it difficult to practice skepticism: a critical attitude toward beliefs can hardly exist (if at all) when the substantive contents of beliefs are not recorded. As goes Goody’s argument, the invention of written language ushers in a new mode of communication whereby the contents of beliefs are written down, allowing critical reflection about beliefs in both communal and private settings.

Written language, however, is not the only “component” at play. In addition to written language, Wiebe points out that an explicit, conscious intent to know the world ushers in a radical, alternative mode of thought in contrast to the unconscious intentions of mythopoeic


330. The concept of skepticism includes various schools of thought, including nihilism, mitigated skepticism, and Paul Kurtz’s “new skepticism” (Kurtz 1992, 23-30). In the sense employed in the current discussion about modes of communication which include language, skepticism refers to inquiry where the focus of the “skeptic” is on pragmatic, methodological concerns and the testing of beliefs. In addition, Asbjørn Dyrendal (2011, 897) points out that modern skeptical rhetoric serves as a “counter-rhetoric,” acting to naturalize controversial claims about supernatural phenomena. This counter-rhetorical strategy (“counter” because it aims to delegitimate the rhetorical strategy employed by belief communities whereby they “appeal” to science to attempt to legitimate their own claims) often amounts to the skeptic’s counter-argument that a natural explanation for the controversial claim in question has simply not yet been uncovered.

331. Goody, The Domestication of the Savage Mind, 43.

332. The continued existence of theology, too, requires the invention of written language much more than does the continued existence of religiosity. Theology is systematic, polemical, and analytic; these features seem to be supported by (may even require) written language. Religiosity, in contrast, is cognitively natural with or without recording and/or systematizing its claims. See also McCauley’s analysis of what he terms “popular religion” compared with theology (McCauley 2011, 153-154).
thought.\textsuperscript{333} The well-known Popperian thesis of a new mode of thought (alternative to myth) appearing among the Presocratics supports this view: According to Popper, the Presocratics ventured to make simple yet bold theories about the physical world.\textsuperscript{334} Initiating a tradition of critical discussion,\textsuperscript{335} the view that free and open criticism of beliefs be tolerated, the Presocratics transitioned from the medium of myth toward a new method of critically critiquing their theories. Wiebe summarizes this venture as follows:

The easiest way to summarize this discussion is to say that the emergence of [Presocratic] philosophy signals the emergence of a more purely cognitive intentionality in human thought. “Beliefs” come to function in an essentially cognitive capacity rather than in what has been called a “catechismic” one. Primitive thought certainly produces and operates with beliefs, but their beliefs function primarily socially rather than epistemically; they function as a social bond amongst the members of the group rather than merely supplying them with knowledge.\textsuperscript{336}

For Wiebe, “religious knowledge” (e.g., catechismic belief) functions as a local knowledge, because with “religious knowledge” no distinction between the concepts knowledge and meaning is maintained.\textsuperscript{337} However, although “religious knowledge” cannot be tested,\textsuperscript{338} it nevertheless remains, for religious devotees, “knowledge” about the world. Conveniently, it is

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\textsuperscript{333} Wiebe, “Is Science Really an Implicit Religion?” in Beyond Legitimation, 97.

\textsuperscript{334} Popper, “Back to the Presocratics,” in Conjectures and Refutations, 183-185.

\textsuperscript{335} Ibid., 200.

\textsuperscript{336} Wiebe, “Is Science Really an Implicit Religion?” in Beyond Legitimation, 96.


\textsuperscript{338} I note that for some a noncognitivist interpretation of religious objects of knowledge may appear to capitulate too easily toward positivism. (Ironically, such concerns reveal what Wiebe calls a “lack of nerve” in the scientific study of religion.) In this section, the highlighting of socially bonded meaning, a goal and outcome of religious life, may help to ease the concerns of those who feel my distinction between tested knowledge claims and non-tested belief claims tends toward positivism. I’m not a closet positivist—I openly admit that, in terms of epistemology, my work includes a positivistic flavour. In terms of the social realities of religious life, however, my work allows the possibility of “religious knowledge” as socially bonded meaning located in a religious/belief community. These ideas and their implications for the possibility of a “religious epistemology” are considered extensively in Part III.
this distinction, between impersonal, tested knowledge (“religious knowledge”), which helps elucidate the question of science and religion’s alleged commensurability or incommensurability:

Put simply, mythopoeic (religious) thought is not concerned with testing beliefs. Or, if there is any intentionality toward testing beliefs (any at all), the intentionality is unconscious. In mythopoeic thought, there seems to be no explicit desire to know and interpret the world—for if there was, beliefs would be freely and openly critiqued. Granted, the argument here is not trying to say that persons employing mythopoeic thought are inherently inferior to persons employing modern science (the argument is not a racist one), but the goal of the argument is to point out that individuals employing mythopoeic thought are capitalizing on cognitive capacities different from those capacities utilized by persons employing modern science. In this sense, some individuals could experience cognitive capacities responsible for both mythopoeic and scientific thought. Depending on personal preference or, more importantly, awareness of these differing capacities, one may or may not display a conscious desire to know and interpret the world. It might also be argued that persons seeking to incorporate both science and religion in their lives are attempting to utilize different cognitive capacities at the same time—capacities responsible for mythopoeic thought and those required for scientific thought.

Continuing with the theme in the preceding paragraph, we observe that in scientific thought there is an explicit desire to test beliefs—an explicit, indeed self-proclaimed, interest to know and interpret the world. Also, this explicit interest to know the world motivates

critical belief testing. The intentionality, then, toward testing beliefs in science is conscious. In terms of intentionality, mythopoeic and scientific thought are incommensurable: As they are grounded in different cognitive capacities, resulting in different motivations to know and interpret the world (unconscious or conscious), mythopoeic and scientific thought cannot be compared. Neither one is more “correct” than the other. To say one is more “correct” than the other would be to say that some cognitive capacities are more superior or more “right” than others—a claim I am not prepared nor am qualified to make. However, in light of this realization—that, in terms of intentionality, science and religion are incommensurable—has our project foundered? Shall I close the curtain and stop the show?

Perhaps a short intermission, but not a complete ending just yet. For surely, and following Wiebe’s lead, in terms of mentation, mythopoeic and scientific thought are commensurable: Both science and religion, although arising from different cognitive capacities, include shared mental functions—i.e., goals to know, interpret, and discover and impose meaning onto the world. In fact, we already considered this in Chapter 1 when I made the case that both science and religion make claims about shared states of affairs in the world. In doing so, science and religion conflict—they claim to “know” and “interpret” the world in radically different ways—but nevertheless they display shared mental functions. As “science and religion” scholars, we are justified, then, in comparing and contrasting science and religion at the methodological level—my departure point in Chapter 5. Potential compatibility systems will assess compatibility or incompatibility via methodology—i.e., the consideration of mental functions shared between science and religion. Figure 3 is a schematic outline of

341. Ibid., 98.
mental functions realized and observed in the subjective existence (life) of the human being vis-à-vis what is an independent, objective world: in terms of mental functions, science and religion are commensurable. Also in figure 3, under the heading Intentionality, substantive differences between mythopoeic and scientific thought are outlined: in terms of intentionality, science and religion are incommensurable.

Finally, I noted earlier in this chapter that notions of the sacred or other metaphysics are often removed from compatibility system design; that preferably the focus of a compatibility system be not toward the attempted reconciliation of substantive contents of religious beliefs and scientific theories. I hope now it is more clear why in my work I choose to distance myself from what I call the faith-imbued projects of other “science and religion” scholars—those projects which propose a reconciliation between substantive contents of science and religion. In short, those projects are misguided: they fail to realize that in terms of intentionality (unconscious or conscious desires to know the world) science and religion are incommensurable. However, as science and religion are commensurable in terms of metal...

342. Recall that, for Smart, to conceptualize the physical world (universe) in a completely neutral, objective fashion is somewhat naive. In contrast, Berger separates completely (a) the independent, physical world and (b) human projections placed onto the world per the activities of world-construction and meaning-making. I follow Berger’s lead, however, per figure 3 I also place the independent, objective world in a two-way dialogue with subjective, human existence, as marked by the two-way arrows in the schematic. For Smart, in a two-way dialogue, brute facts could lead to human products followed by those products acting back upon their producers as new brute facts.

343. Examples of faith-imbued “science and religion” projects include the projects of young-earth and old-earth creationists, projects that equate religious miracles with violations of the laws of nature, Fritjof Capra’s The Tao of Physics (Eastern mysticism and physics), theosophist Helena Blavatsky’s esoteric theory of evolution (Hindu cosmology and evolution), and the Christian-centred projects of John C. Polkinghorne (One World: The Interaction of Science and Theology) or Alvin Plantinga (Where the Conflict Really Lies: Science, Religion, and Naturalism).
functions, compatibility or incompatibility can be assessed via the methodologies of science and religion.\textsuperscript{344}

\textsuperscript{344} Note also from Smart’s five initial responses toward attempted reconciliation between science and religion, and from the examples I provided to highlight the epistemic implications of each response, the following: Response (i)—\textit{rejection of the modern scientific enterprise}, and response (v)—\textit{rejection of the non-tested beliefs of religious life}, presume (albeit unknowingly) that science and religion are commensurable in terms of mental functions, making their assessments (quite rightly) on methodological grounds. In contrast, response (ii)—\textit{attempt to make religion “fit” science}, and response (iii)—\textit{attempt to make science “fit” religion}, presume (albeit unknowingly) that science and religion can be compared on substantive grounds (by manipulating the contents of either religion or science) even though science and religion are in fact incommensurable in terms of intentionally. Finally, response (iv)—\textit{place science and religion in separate “compartments”} evades the academic assessment of compatibility or incompatibility by assuming that science and religion are incommensurable. Note, however, that this assumption in response (iv) is not necessarily based on the realization that science and religion cannot be compared because they employ different cognitive intentions, but just that it has been determined \textit{a priori} that science and religion are incommensurable. As science and religion are in fact commensurable in terms of mental functions, the \textit{a priori} assumption of incommensurability made in response (iv) is questionable.
Figure 3. Subjective human projections onto an independent, objective world: (i) Human projections serve mental functions to know, interpret, and discover and impose meaning onto the physical world. (ii) Projections are accomplished under the intentionality of an unconscious or conscious desire to know and interpret the world. In terms of mental functions, science and religion are commensurable. In terms of intentionality, science and religion are incommensurable.
5. Presentation of Potential Compatibility Systems

5.1. Knowledge and Belief Communities: “You too!”

Jürgen Habermas’ presentation of postmetaphysical thinking in his *Between Naturalism and Religion* (2008) is strikingly similar to Smart’s concept of compatibility systems. In fact, the tenets of postmetaphysical thinking align quite well with the aims of compatibility system design. Habermas, a methodological atheist, alerts us in a general sense toward not passing judgement too quickly on religious motivations, but rather encourages us to orient ourselves toward the observation that religious communities, in one form or another, continue to permeate secular society. While he does insist on an epistemic separation between scientific and religious beliefs, Habermas’ motivation to orient his readers to the continued existence of religious communities is centred on a realization of what religions might offer a *postsecular* society. Habermas notes:

> It would be unreasonable to reject out of hand the idea that the major world religions—as the only surviving element of the now alien cultures of the Ancient Empires—can claim a place within the differentiated architecture of modernity, because their cognitive substance has not yet been exhausted. At any rate, we cannot exclude that they involve semantic potentials capable of exercising an inspirational force on society *as a whole* as soon as they divulge their profane truth contents.

Consider Habermas’ suggestions in the preceding quotation (i) of making known the “profane truth contents” of religious statements, including (ii) the exercising of religion’s

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346. Habermas, “Religion in the Public Sphere,” in *Between Naturalism and Religion*, 142.

347. Ibid., 142.
“inspirational force on society.”

A brief digression is in order: In the context of postmetaphysical thinking, precisely what it means to make known the truth contents of religious statements must be unpacked. Similar to compatibility system design, postmetaphysical modes of thought, for one, avoid substantive assumptions about ontological realities—the substantive truth contents of statements (if any) are irrelevant. (For example, as Habermas puts it, “Postmetaphysical thinking refrains from making ontological pronouncements on the constitution of being. . . .”

But secondly, and this aspect of postmetaphysical thinking is also similar to Haack’s innocent realism, postmetaphysical thinking avoids a devaluation of those statements—moral, religious, artistic, emotional, etc.—not reducible to natural, causal interactions only.

It appears that, like compatibility systems, postmetaphysical thinking vis-à-vis religion embraces the possibility that religious values can be re-contextualized (re-placed) in the modern scientific cosmos—e.g., Habermas’ divulging of the “profane truths contents” of religions. I would like, then, to think of this chapter as an extension of the postmetaphysical project; that potential compatibility systems are attempts to actualize some of the aims of a postsecular society.

Per the argument in Chapter 4, ideal compatibility systems assess compatibility or incompatibility via methodology—a consideration of mental functions shared between science and religion. For each potential compatibility system presented, I shall endeavour to show how the compatibility system assesses compatibility or incompatibility via methodology or, if

348. Habermas, “Religion in the Public Sphere,” in Between Naturalism and Religion, 142.

349. Ibid., 140.

350. Ibid., 141.

351. Ibid., 142.
it does not, why it does not. I must also mention that examples to be presented, although taken from literature, are not termed *compatibility systems* in the respective literature: rather I apply Smart’s phrase *compatibility system* to systems of thought deemed by myself and/or the scholars mentioned to be examples of projects which attempt reconciliation between science and religion. My purpose for doing this is so that a more organized and helpful structure might be applied to the various projects I have come across which seek to, in some way, unite science and religion or distance them. Merits and downfalls of compatibility systems are also addressed.

We begin with a compatibility system that I call the *post-Kuhnian compatibility system*, made possible via Thomas Kuhn’s philosophy of science formulated in *The Structure of Scientific Revolutions* (1962; 4th ed., 2012), and alluded to in various contributions to “science and religion” literature. Post-Kuhnian compatibility systems, which in most general terms argue a subjectivist interpretation of the scientific enterprise, are similar to traditional, religious apologetics: whereas prior to Kuhn, religious beliefs were argued to share cognitive values with science, post-Kuhn, compatibility system enthusiasts began to argue that science is no more rational than religion. As the argument goes, if religion is irrational, science is irrational too. Another version of this approach to compatibility system design replaces Kuhnian paradigms with Lakatosian research programs, but in effect the gist of the argument *vis-à-vis* Lakatos remains the same: i.e., the mantra *if religion is irrational, science is irrational too*. Classifying scientific practitioners as members of a *knowledge community*

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and religious devotees as members of a belief community, the post-Kuhnian compatibility system allows members in each community to make use of the rather fashionable tu quoque argument: “you too!” Various scholars including Ian Barbour, Hans Küng, Nancey Murphy, and Donald Wiebe have proposed compatibility systems based on knowledge and belief communities. (Wiebe has since abandoned the project of compatibility system design.) Applying Kuhnian paradigms, in the following paragraphs, I outline my take on the argument which supports a compatibility system centred on knowledge and belief communities:

Kuhn describes three modes through which scientific research is accomplished within a paradigm. Using my own examples, I summarize these modes as follows:

(i) Facts, known through previous research, are applied to solve scientific problems:

Facts may be numerical constants—e.g., Planck’s constant, a fundamental physical constant, which is $6.63 \times 10^{-34}$ m$^2$kg$s^{-1}$. Or, facts may be formulas—e.g., Newton’s second law that force is mass multiplied by acceleration, expressed by the formula $F=ma$. Alternatively, facts may be other laws—e.g., the second law of

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354. This classification of scientific practitioners into a knowledge community and religious devotees into a belief community is in keeping with my Thomistic-flavoured knowledge claim and belief claim typology.


359. In proposing compatibility systems based on knowledge and belief communities, Barbour, Küng, and Wiebe draw primarily on Kuhnian paradigms while Murphy draws primarily on Lakatosian research programs.


361. Woodward, Adventure in Human Knowledges and Beliefs, 53.
thermodynamics which states that the disorder of an isolated system will always become more disordered or remain the same.

(ii) Apply the theories of a paradigm to solve a real life problem. For example, applying the theories of electrochemistry to solve a chemical engineering problem.

(iii) Work toward resolving ambiguities in a scientific theory which helps to make the theory stronger and more reliable. Kuhn believes this method to be the most common method in modern scientific research.362

Reflecting on the preceding paradigmatic modes, and especially the third mode, Kuhn sees the paradigmatic work of normal science, as the work, not of formulating new theories, but of re-expressing previous theories.363 A “revolution” in science, then, Kuhn goes on, is a rare chance for a new paradigm to be formulated, referred to by Kuhn as extraordinary science.364 Curiously, and it is this aspect of Kuhn’s philosophy most amenable to compatibility system design, Kuhn avers, “. . . The transition between competing paradigms cannot be made a step at a time, forced by logic and neutral experience. Like the gestalt switch, it must occur all at once (though not necessarily in an instant) or not at all.”365 In addition, Lakatos commenting on Kuhn’s extraordinary science, confirms that “scientific change [for Kuhn] is a kind of religious change [emphasis added].”366 The question, then, of consensus (or lack thereof) in science is central to the post-Kuhnian compatibility system:

Religious life notoriously lacks consensus, except possibly for whatever stated consensus is

363. Ibid., 24.
364. Ibid., 83.
365. Ibid., 149.
published by belief communities in community documents or on community websites; however, that information concerns nothing about personal experiences and beliefs of religious devotees, which, invariably, lack consensus. Post Kuhn, a hermeneutic of suspicion is applied to scientific life: as the argument goes, not counting whatever stated consensus is published by scientific communities in community documents or on community websites, perceptions of experimental practice among scientific practitioners lack consensus (except for those internal to a single paradigm). The implications for compatibility system design are indeed epistemically attractive: if accused by knowledge communities of being internally inconsistent, belief communities can respond by saying, “you too!”—and, vis-à-vis Kuhn, they would be right. The post-Kuhnian compatibility system provides a simple and elegant comparison of science and religion on methodological grounds—in this comparison, via the tu quoque, science and religion can be rendered compatible.

Despite the attractiveness of the post-Kuhnian compatibility system, it is worth mentioning that extraordinary science—the concept which grounds this compatibility system—has faced critique: In Science and Values (1984), which includes a critique of extraordinary science, Larry Laudan disparagingly asks: “Did he [Kuhn] really believe that accepting a new theory was a ‘conversion experience,’ subject only to the Gestalt-like exigencies of the religious life?” Also, since revolutions are not determined by external logical factors, revolutions are not rational events. It is here, Laudan emphasizes, that Kuhn breaks away from typical modes of rationality. Kuhn relativizes rationality by insisting there is no supra-

paradigmatic framework to adjudicate the various ontologies, methodologies, and cognitive values characteristic of different paradigms. As Laudan puts it, Kuhn’s failure to acknowledge any universal standards to adjudicate different paradigms produces “. . . a kind of self-reinforcing solipsism in science.”370 In addition, although Kuhn himself notes that he and Popper agree that adherence to tradition is fairly essential in the scientific enterprise,371 at the juncture of extraordinary science, Popper parts company with Kuhn: while Popper sees criticism as the hallmark of science during any phase of scientific practice, Kuhn sees criticism as occurring during a revolution only and then leveling out during periods of normal science (so normal science is not really a critical enterprise). Moreover, philosophical notions of “revolutions” in science are gradually being replaced with notions of “stability” in science. Hacking explains, “From now on (it is already being said) future large-scale instability seems quite unlikely. We will witness radical developments at present unforeseen. But what we have may persist, modified and built upon.”372 Hacking speaks of a “robust fit”373 occurring among a plethora of factors including one’s experimental apparatus, background beliefs about the apparatus, the scientific theory being tested, and interpretation and analysis of experimental results.374 Granted, Hacking contends that a robust fit is not determined by however the inherent-structurism375 of the physical world really is.376 Rather, different research

370. Laudan, Science and Values, 72.
373. Ibid., 73.
374. Ibid., 72-73.
375. Ibid., 83.
376. Ibid., 74.
programs—accommodating and/or resisting different adjustments to one’s apparatus, theory, or method of data interpretation—produce various robust fits. Temporary halts to processes of accommodating and/or resisting various adjustments to auxiliary hypotheses (which pertain to apparatus, theory, etc.) result in these robust fits. However, at any rate, minor changes to auxiliary hypotheses—whether they apply to apparatus or theory—are different from radical revolutions ushering in new paradigms with new theories and new perceptions of the physical world.\textsuperscript{377}

It seems, then, that, within the everyday life of the scientific community, shifts toward a supra-paradigmatic rationality, overall stability, and minor adjustments to auxiliary hypotheses are the orders of the day. These trends, however, are no reason for belief communities to refrain from maintaining a hermeneutic of suspicion toward science (should they choose to), from applying the coveted \textit{tu quoque}: Paul Feyerabend, known for his “anarchic” epistemology, claims that events and developments in the history of science occurred because scientific practitioners deliberately chose not to follow some methodological rules or unwittingly broke rules.\textsuperscript{378} As examples, Feyerabend cites the invention of atomism, the Copernican Revolution, and the formulation of nineteenth- and twentieth-century theories such as the kinetic theories of gases and quantum mechanics. Another example of a radically counterintuitive scientific revolution is the delayed acceptance of the germ theory of

\textsuperscript{377} Regarding scientific revolutions, Kuhn remarks that, after a paradigm change, one perhaps responds to a different world, suggesting also that for Kuhn the status of a propositional truth claim depends on the paradigm one is working under. Kuhn (2012, 111) explains, “[…] Paradigm changes do cause scientists to see the world of their research-engagement differently. In so far as their only recourse to that world is through what they see and do, we may want to say that \textit{after a revolution scientists are responding to a different world} [emphasis added].” Minor changes to auxiliary hypotheses, however, do not constitute a response to a different world.

disease.\textsuperscript{379} As Robert N. McCauley notes, it took over 200 years since microorganisms were first discovered for Louis Pasteur to then propose germ theory. The radical causality of germ theory (microorganisms) seemed disproportionate to effects of diseases.\textsuperscript{380} Even toward the end of the nineteenth century, Canadian physician William Osler,\textsuperscript{381} although aware of germ theory, continued to recommend bleeding to treat pneumonia. In anything, what these example do point out is that different paradigms have existed during the history of science. These examples, in and of themselves, do not make a case that twenty-first-century science will produce radical paradigm changes; however, it would also be naive to believe that science has not experienced considerable changes—indeed the very notion that science is open to change, intrinsic to its epistemology, suggests that science and the evolution of learning go hand in hand.\textsuperscript{382}

### 5.2. Further Examples

Applying what he terms *African traditionalism* and *Western modernity* as departure points, Robin Horton presents a thesis of the continuity of thought and discourse among “traditional,” religious modes of thought (which utilize CPS-agents) and modern science.\textsuperscript{383} Horton’s work in this regard, described by Wiebe as a kind of neo-Tylooreanism\textsuperscript{384}—it suggests a resurgence

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\textsuperscript{380} Ibid., 108.

\textsuperscript{381} Sir William Osler attended Trinity College, Toronto, studying theology before he studied medicine.

\textsuperscript{382} My point here is not that, given that science is open to change, we may be surprised and one day found out that scientific data in fact suggest the existence of a CPS-agent (the hypothesis that CPS-agents are ontological realities is not falsifiable anyway). However I also do not wish to deny to belief communities the option to employ the *tu quoque*: so long as one is aware of the possible drawbacks of Kuhn’s philosophy of science, there still are reasonable grounds for religious devotees to argue that consensus in science is perhaps not as cut-and-dried as some scientists or engineers would like those external to the scientific enterprise to think.


\textsuperscript{384} Wiebe, *The Irony of Theology and the Nature of Religious Thought*, 68.
of the nineteenth-century assumption per Edward Burnett Tylor of the uniformity of the human mind across all space and time—amounts to the attempted design of a compatibility system. I call it the neo-Tyloorean compatibility system. In his essay *Tradition and Modernity Revisited* in *Rationality and Relativism* (1982) Horton philosophizes two types of theory:

(i) A *primary theory* as one’s commonsense, everyday encounter with the world, a kind of encounter which is constant across all cultures and historical periods. Elements encountered in primary theory include a foreground of physical objects, related by “push-pull” causal interactions in space and time. Essentially, the physical objects and causal interactions of primary theory are *brute facts*.

(ii) A *secondary theory* as abstract and conceptual, providing what Horton calls a “vastly enlarged causal vision,” and transcending the limited, “push-pull” causality of primary theory. Elements in secondary theory include the personal entities of religion and the impersonal entities of science, but they remain hidden, unobserved.

The crux of the neo-Tyloorean compatibility system is that this interest—to postulate hidden, unobserved entities to explain everyday experience—is shared by religious thought and modern science. Attempts to explain and predict everyday experience involve attempts to place simplicity, order, and regularity over one’s encounters with the world; the unobserved entities of secondary theory help to accomplish these goals. In religious thought, personal

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386. Ibid., 228.
387. Ibid., 229.
388. Ibid., 230.
entities postulated include gods, spirits, and ancestors. In modern science, impersonal entities postulated include atoms, molecules, electrical currents, and light waves. Horton goes on, the entities of secondary theory, whether personal or impersonal, depend on analogies from primary theory: models of gods and spirits are analogous to real life human interactions with other humans; likewise models of atoms, electrical currents, and light waves are analogous to observed phenomena such as traveling objects, water currents, and water waves.389

As outlined, the neo-Tyloorean compatibility system contends that, since both religious thought and modern science postulate hidden, unobserved entities to explain everyday experience, science and religion are compatible. This conclusion presumes that human encounters with the world are constant across cultures, that the human mind is uniform across space and time. Personally, I resonate well with the neo-Tyloorean compatibility system—the conceptual equating of gods, atoms, spirits, and waves, is emotionally appealing. I think you would get a lot of religiously minded scientists or scientifically minded religious people jumping onto this compatibility system. There is, however, a slight academic problem: according to our previous work in Chapter 4, science and religion are incommensurable at the substantive level—in terms of intentionality, science and religion cannot be compared. What Horton’s work does not consider is how the mythopoeic thought of religion amounts to an unconscious desire to know the world and how that mode of thought cannot be compared, for better or for worse, with the explicit, conscious desire to know the world employed in science.

We have, then, an example of a “compatibility system” which is perhaps not really a compatibility system after all—at least not in academic terms. I do wish, however, to retain

the terminologyneo-Tyloreal “compatibility system” because, as mentioned, what this chapter is providing are assessments of compatibility systems in “science and religion” literature. As these are assessments, each “compatibility system” presented is evaluated for potential commensurability, incommensurability; then, if deemed commensurable, potential compatibility or incompatibility at the methodological level. As such, it will not always be clear from the start how a potential compatibility system will fare vis-à-vis the preceding options. So, in summary, for personal use, the neo-Tyloreal compatibility system provides an emotionally attractive comparison of science and religion: a proposed substantive similarity between the unobserved entities of Horton’s secondary theory applied in science and religion may permit science and religion to be rendered compatible for personal use. On the other hand, on academic grounds (the context of this thesis), we find the neo-Tyloreal compatibility system to be in fact a system where the tenets applied actually show science and religion to be incommensurable. For this reason, we conclude that, in this system, science and religion cannot be rendered compatible or incompatible.

So far life is good: Via the post-Kuhnian compatibility system we have assessed that science and religion can be rendered compatible. Via the neo-Tyloreal compatibility system we have also assessed that science and religion cannot be rendered compatible or incompatible. As paradoxical as this may sound, I wish to make the point that individuals pursuing different potential compatibility systems will reach difference conclusions about compatibility or incompatibility. This ambiguity is not such a bad thing—as least not for practical outcomes of compatibility system design as pursued (potentially) by all of theists, atheists, agnostics, and igtheists. That being said, far greater ructions prevail: In Islam and
Science: Religious Orthodoxy and the Battle for Rationality (1991), Pervez Hoodbhoy brings to our attention how it may seem odd—even bizarre—that, although Islam was a considerably advanced civilization between the ninth and thirteenth centuries, a scientific revolution in modern Islam has not occurred.\textsuperscript{390} Hoodbhoy’s thesis considers Islamic attitudes toward testing beliefs, concepts of education and research in Islamic universities, and the theological character of Islam when the worldly and other-worldly are combined. To respond to the question of modern Islam’s failure to produce a scientific revolution, Hoodbhoy appeals to Friedrich Nietzsche’s contention that rationality is a psychological phenomenon:\textsuperscript{391} according to Nietzsche, human beings possess a psychological will to ascertain causes for states of affairs in the world—a “will to power.”\textsuperscript{392} In addition to Nietzsche, various theories of mind in modern psychology and psychoanalysis agree that human beings will go to great lengths to make sense of the unpredictable behaviour of the physical world, aiming to provide some psychological control over chaos, to allow some conscious change to occur. Psychological explanations for religious activity specifically are based on generalizations (though useful ones), such that religion is well suited to the lives of human beings: human minds readily desire explanations, human societies prefer order, and human beings seek comfort. As odd as it may sound, in psychoanalysis, religious ritual practices are described by Freud as neurotic compulsions:\textsuperscript{393} human civilization suppresses sexual impulses, so religious practices (neuroses), with their promise of a blissful afterlife, provide an escape hatch from an

\textsuperscript{390} Hoodbhoy, Islam and Science, 118.

\textsuperscript{391} Ibid., 119-120.

\textsuperscript{392} Ibid., 120.

\textsuperscript{393} Hewitt, Freud on Religion, 19.
unbearable, suppressed reality (which ironically helps civilization accomplish further its goal of suppression). At any rate, the point to be made is that whether it is a theory of rationality, a religion, a psychological “will to power,” or a “theory of mind,” all of these human endeavours serve to make sense of an unpredictable and often frightening reality; to reduce the tension existing between brute nature and the constraints of civilization.

Returning to Hoodbhoy’s assessment of Islamic attitudes toward testing beliefs vis-à-vis modern science and Nietzsche’s “will to power,” an extensive comparison of modern science and Islam is presented by Hoodbhoy, leading to his proposal of a science and religion incompatibility system. I call it the “will to power” incompatibility system. As a “will to power,” rationality is a search for causal connections, a causal theory of knowledge. We might wonder, though, what maintains our curiosity about explaining states of affairs in the world? For even though we might possess a psychological predisposition toward explaining the world, what prevents us from turning simply to agentic explanations? (Some, in fact, do turn to agentic explanations and in effect reject natural explanations.) The search for causal connections requires essentially unlimited mental “space” for continued and unsuppressed belief testing as well as opportunities for new causes to be ascertained in the future (perhaps some former causes also ruled out). Not surprisingly, goes Hoodbhoy’s argument, the inclusion of a medieval-type interventionist deity fills up mental “space,” discouraging the elucidation of causal connections. As Hoodbhoy candidly puts it, “If divine intervention is complete, then curiosity, imagination, and ambition become superfluous.”

According to Hoodbhoy, at times when Islamic society was producing intellectual work, e.g., medieval

394. Hoodbhoy, Islam and Science, 120.
science in the thirteenth century, fatalism did not dominate Islamic society. Also, conflicting tension between schools of thought promoting free will and those teaching predestination tended to favour free will—as seems to be the case in liberal Christian communities today. Eventually, however, fatalism was promoted; beliefs about connections between causes and effects repudiated—severe detriments to conscious employment of the attitude of mind termed one’s “will to power.”

Moreover, Hoodbhoy suggests that during the pinnacle of Islamic intellectual life, when the Caliphs sent their emissaries “. . . far and wide to seek manuscripts on matters of learning and [medieval] science, the basic motive was altruistic rather than materialistic.” Any materialistic outcomes of testing beliefs, to support utilitarian, technological advances only, were not connected with the altruistic search for knowledge for the sake of knowledge alone. From Hoodbhoy we learn how a crucial difference between traditional education and modern education is that in modern education knowledge claims serve the purpose of problem solving—questions are freely asked and assessed. The contrast is that in so-called “traditional” education knowledge claims are thought to be received through divine revelation—the questioning of claims is not welcomed, for indeed there is no reason to search for knowledge if knowledge is already provided. Regarding modern Islam, Hoodbhoy draws on a rather

395. In Old Arts and New Theology: The Beginnings of Theology as an Academic Discipline, Gillian Rosemary Evans (1980, 104) explains how in twelfth-century Europe the subject of academic theology opened up new discussion about differences between (i) the activity of faith proper—a desire to know God, and (ii) the activity of studying in a neutral fashion the substantive contents of faith—objects of belief to be known about God. Interestingly, medieval Islamic science may play into this also: Evans (1980, 56) points out that various scholars, in particular Étienne Gilson, have suggested that medieval Islamic science helped generally to clarify differences between domains of knowledge that were natural and domains of knowledge pertaining to religious philosophy.

396. Hoodbhoy, Islam and Science, 120.

397. Ibid., 120.

398. Ibid., 121.
revealing quotation from M. A. Kazi, a science advisor to Pakistan during the Zia regime: at a seminar on the “Islamization of knowledge” at International Islamic University (Islamabad, 1982), Kazi remarked, “In Islam there is no science for the sake of science and there is no knowledge for the sake of knowledge [emphasis added].” The “will to power” incompatibility system provides a comparison of science and religion on methodological grounds, considering how beliefs are tested in the problem solving modes of modern education while in contrast the fatalism of an interventionist deity may suppress one’s will to test beliefs. In this comparison, per the case illustration of Islam in relation to a psychological “will to power,” science and some forms of religiosity can be rendered incompatible.

In *Buddhism and Science: A Guide for the Perplexed* (2008), Donald Lopez explains how the term *Buddhism* has enjoyed a long kinship with the term *science*. Lopez’s work is to uncover what the source(s) of this apparent kinship may be. Late nineteenth-century attempts to legitimate Buddhism included the contextual placing of a demythologized Buddhism *vis-à-vis* Christianity, albeit a Christianity that remained mythologized. The point being that such a legitimation strategy is possible only when one belief system is demythologized while the other remains mythologized: I call this approach the demythologized compatibility system. However, mythologized elements of Buddhism also remain, for some, important aspects of Buddhist tradition. About the general tension surrounding the post-Enlightenment (and Presocratic) project of demythologization, Lopez

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402. Ibid., 125.
astutely notes, “Yet once the process of demythologizing begins, once the process of deciding between the essential and the inessential is under way, it is often difficult to know where to stop.”  

403 (This point, as it concerns any religion, is revisited in Part III.)

At the same time, those advocating a compatibility thesis between science and Buddhism have presented their project in various (and rather startling) forms, such that contents of Buddhist faith are not contradicted by scientific theories or that the historical Buddha anticipated current discoveries in modern science.  

404 In designing such a compatibility system, it would seem the intention of compatibility system enthusiasts is that scientific and religious knowledges coalesce if not at the substantive level then on methodological grounds. However, in a straightforward manner, the demythologized compatibility system does not seem to achieve either of those: In applying the preceding strategy—to keep one religion mythologized (e.g., Christianity) and the other demythologized (e.g., Buddhism)—in effect the argument being made is that Buddhism (now demythologized) is a “science” while Christianity remains mythopoeic. We have, of course, already seen that comparisons of science and religion in terms of intentionality are incommensurable, so classifying the demythologized compatibility system as a comparison of science and religion at the substantive level is not possible.

In a general sense, it is possible to present an evolutionary model of social institutions where a community of believers (call them believers for lack of a better word) move gradually from states of superstition (e.g., animism, pantheism, or panentheism) toward a more organized albeit primitive religion (e.g., totemism), then increasingly (over time) toward the

403. Lopez, Buddhism and Science, 72.
404. Ibid., 2.
The demythologized compatibility system brings to mind some interesting and often controversial questions: Reflecting on provisional and essential parameters as they relate to religious mythologies, and the building of a demythologized compatibility system, when we demythologize a religion, removing metaphysical claims, do we still possess the “religion”? Moreover, do we still need to design a compatibility system? So, if one demythologizes Buddhist cosmology or, say, the New Testament gospels, does one still require a compatibility system? This leaves us with yet again another pointed question: how did the need to design compatibility systems first arise? At this stage, these are open-ended, unanswered questions—they will be useful between now and the end of the thesis. Table 1 summarizes the conclusions.

of the four compatibility system assessments in this chapter. Recall that these conclusions are internal to the proponents of each compatibility system presented: readers may not agree with all conclusions (I don’t agree with them all), but nevertheless table 1 points out the range of possible conclusions reached by assessing compatibility systems in “science and religion” literature.

Table 1: Summary of Conclusions of “Compatibility System” Assessments

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><em>Post-Kuhnian</em></td>
<td>Yes</td>
<td>n/a</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><em>Neo-Tyloorean</em></td>
<td>No</td>
<td>Yes</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>“Will to Power” (Incompatibility)</td>
<td>Yes</td>
<td>n/a</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><em>Demythologized</em></td>
<td>Yes</td>
<td>n/a</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
6. Philosophical Models in Scientific Life

At the core of modern scientific theorizing is a willingness to adopt a *disengaged* perspective. As Charles Taylor succinctly puts it, “We are not trying to understand things merely as they impinge on us, or are relevant to the purposes we are pursuing, but rather grasp them as they are, outside the immediate perspective of our goals and desires and activities.” In this chapter, we assess those epistemic factors involved in developing a disengaged theory of rationality, in particular the implications of *consistently* testing knowledge claims and belief claims. The concept *disengaged*—or *neutral, dispassionate, unbiased*, etc.—plays a complicated role in constructing a “religious epistemology” *vis-à-vis* modern science. The realist intents of both scientific and religious practitioners—whether they are traditional realists or critical realists—highlight what are thought to be the “disengaged,” “neutral”

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407. As outlined in Chapter 1, this thesis includes the argument that, if a philosopher or theologian is successful in designing a compatibility system between science and religion, the compatibility system will be based on a theory of rationality which *consistently* tests knowledge claims and belief claims. Hence the requirement here to discuss implications of consistently testing knowledge claims and belief claims within a *disengaged* theory of rationality.
aims of science and religion in grasping physical reality as reality is. In addition, I suggest the utilitarian goals of instrumentalism (i.e., instrumentalism applied to our conceptions of objects of belief) require a “disengaged” perspective: Although instrumentalist science and religion may seem epistemically lackadaisical (e.g., per Bartley’s critique of instrumentalism, instrumentalists seem to casually discard beliefs after beliefs no longer “fit” some a priori interests), instrumentalism does require that objects of belief are in some sense grasped as they are: instrumentally, objects of belief are not grasped substantively, but

408. In this sentence, the terms disengaged and neutral in the phrase “...‘disengaged,’ ‘neutral’ aims of science and religion...” are placed in scare quotes to point out that, in this usage, concepts disengaged and neutral may be seen to be tendentious: My point here is that, for many human beings, both scientific and religious exercises possess realist intents—both science and religion are thought to provide information about physical reality (the world) independent of personal human preference about how physical reality ought to be. In the case of modern science, realist intents of science suggest the purpose of many scientific exercises is to elucidate tested information indicating the nature, structure, constitution, etc., of physical reality—information obtained via experiments, equations, and/or statistical models. In the case of religious life, realist intents of religion suggest the purpose of many religious exercises is to receive supernatural information indicating a physical-world-transcending reality—information obtained via faith, revelation, and/or personal experience. In both cases, realist intents point out that whatever information is thought to be obtained from either science or religion, purported information describes states of affairs existing independent of personal human preference, not influenced by human attitudes or behaviours. While realist intents of science and religion describe ideal situations for either the scientific or religious practitioner—where methodological aims are in fact disengaged and neutral—one cannot help but bring to science one’s own background beliefs about the perceptual event itself: as Haack (2007a, 126) puts it, “...background beliefs that determine what experiential evidence they [scientists] take to be relevant to the claim in question.” Similarly, one cannot help but bring to religious life one’s own faith-imbued perceptions of physical reality: so, arguments held by faith convince no one unless one already believes arguments based on faith. With these points in mind, realist intents of science and religion are not disengaged or neutral per se: epistemic factors such as background beliefs in scientific practice or faith-imbued perceptions in religious life cause scientific and religious practitioners to possess beliefs, goals, and desires, which are established prior to one’s participation in a particular scientific or religious exercise. So, while maintaining complete epistemic neutrality may be difficult, science and religion at least attempt to operate as realist modes of thought: making claims and testing beliefs about states of affairs in the world requires that, so far as is possible, one functions in a disengaged, neutral fashion; at the very least, as a realist, one acknowledges this kind of methodological neutrality to be one’s ideal method.

409. It is important to note that, as a type of pragmatism, instrumentalism applied to our conceptions of objects of belief is very different from other versions of pragmatism, such as Haack’s pragmatism: in Haack’s pragmatism, realist intents are maintained (Haack’s philosophy of science is not instrumentalist); rather, Haack’s pragmatism is situated within the tradition of Charles Sanders Peirce’s pragmatism.

can be grasped statistically, or phenomenologically,\textsuperscript{411} providing models for states of affairs in the world. So, while instrumentalism does not include substantive-based, realist intents, instrumentalist science and religion at least acknowledge there is an independent, physical world to study—that the goal of instrumentalism is to model (just not substantively describe) this physical world.\textsuperscript{412} At any rate, a “religious epistemology” contextualized in a modern, Western university depends on the framework and nuances of a modestly naturalistic epistemology,\textsuperscript{413} such as the epistemic framework which undergirds Susan Haack’s innocent realism. Firstly, though, some background on William Bartley’s project, pancretical rationalism, to provide some orientation to Bartley’s work and the epistemic generalities

\textsuperscript{411} Also mentioned in Chapter 1, in the instrumentalist text \textit{How the Laws of Physics Lie}, Cartwright (2002, 1) identifies the philosophical distinction between \textit{phenomenological} and \textit{substantive/theoretical} statements as the distinction between the \textit{observable} and the \textit{unobservable}, respectively. About scientific theories conceived as instrumentalist models of physical reality, Cartwright (2002, 17) goes on, “The fundamental laws of the theory are true of the objects in the model [constructed model to fit observed phenomenon into a theory], and they are used to derive a specific account of how these objects behave. But the objects of the model have only \textit{‘the form or appearance of things’ and, in a very strong sense, not their ‘substance or proper qualities’} [emphasis added].” Like simulacra, objects of belief modeled instrumentally, perhaps allow us to grasp the observable forms of objects, but not their unobservable substances—phenomenological descriptions of objects as objects exist (or might exist) in physical reality, but not substantive/theoretical descriptions of objects (Cartwright 2002, 4).

\textsuperscript{412} Note, however, that neither Popper nor Bartley would agree with a defence of statistical models for objects of belief per the instrumentalism presented here: Bartley (1984, 91) reminds us that, for Popper, all scientific theories (or laws) have zero probability of providing accurate descriptions of states of affairs in the world. This principle relates to Popper’s falsifiability criterion whereby scientific theories cannot be demonstrated to be true (although they can reach high degrees of certitude); theories can be demonstrated to be false only. So, \textit{vis-à-vis} Popper, physical objects in scientific theories—types of objects of belief—cannot be modeled as statistical representations of physical reality, because all scientific theories have zero probability of providing accurate descriptions of the world. However, while I accept this to be an important Popperian principle, it does not (necessarily) prevent us from acknowledging potential benefits of instrumentalism applied in the practical aspects of scientific and faith-imbeded religious lives: Within instrumentalist versions of science and religion, although \textit{(à la Popper)} we cannot model objects of belief statistically, we can model objects of belief \textit{phenomenologically}—an option which fits the epistemic framework I propose and utilize in this thesis. For example, recall the information presented in figure 1 on page 14—phenomenological appearances for physical and/or metaphysical objects and those methodological options (for either science or religion) thought to allow “access” to substantive realities thought to exist “behind” phenomenal appearances.

\textsuperscript{413} Scientific exercises and the cognitive values of a scientific epistemology provide an intellectual benchmark for testing many beliefs in modern, Western universities. A “religious epistemology” contextualized in a modern, Western university, then, depends on the framework and nuances of a modestly naturalistic epistemology: A modestly naturalistic epistemology—as a model for a “religious epistemology”—presumes the two substantive assumptions which undergird this thesis: namely, (i) that phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world, and (ii) that religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds.
underlying any theory of rationality. This analysis is followed by a discussion about Haack’s foundherentism and Haack’s assessments of epistemic frameworks linking basic and derived beliefs.

Epistemological assumptions are built into the reasoning processes of scientific practice. At the same time, tested beliefs from scientific theories influence epistemology’s role in science. This two-way dialogue, between the activities of epistemology and science, helps to point out the role of experience in testing beliefs.\textsuperscript{414} The ability of natural human experience to serve as a platform through which beliefs are tested is an epistemological question—as are questions about the quality and reliability of the scientific method. On the other hand, scientific information obtained from disciplines such as psychology or cognitive science helps to point out the limitations of human intellect. In this fashion, then, information from science might influence epistemology’s role in science; pointing out, for example, that human experience is not brute nature, but nature modified by our background beliefs, the apparatus and instruments we use to “collect” and test experience, and one’s particular educational background that persuades one to interpret experience in any one particular way.

While the development of background beliefs, apparatus, and education, are remarkable human achievements—indeed, they are what make scientific practice possible—these achievements are designed, constructed, and utilized by humans, thus, they are fallible and imperfect. As epistemology is also a human invention, any theory of rationality (an aspect of epistemology) is also fallible and imperfect. However, like the other human achievements mentioned in this paragraph, if an appropriate theory of rationality could be developed—

\textsuperscript{414} Haack, \textit{Evidence and Inquiry}, 144.
this thesis, a theory of rationality which seeks to incorporate the aims of both knowledge claims and belief claims—the theory of rationality\textsuperscript{415} would be a very remarkable achievement indeed.

In \textit{The Retreat to Commitment} (introduced previously), William Bartley would like to develop a theory of rationality allowing us to move beyond the theoretical limitations of criticism. Bartley argues that even traditional criticism is limited—e.g., criticism expressed in the common maxim \textit{you must be critical} (heard throughout the entire history of Western philosophy) is limited. Traditional modes of rationality, which equate epistemic \textit{justification} and \textit{criticism}, are epistemically limited. In a theory of rationality, a retreat to an ultimate commitment is required in the attempt to avoid an infinite regress. For religious devotees and/or scientific practitioners, the \textit{tu quoque} (“you too!”) is invoked to protect one’s choice of commitment from competing choices. Bartley’s project, then, is an attempt to develop a theory of rationality epistemically immune from the \textit{tu quoque}: Bartley would like to develop a method whereby it becomes irrational to invoke the \textit{tu quoque}, making one’s “retreat to commitment” a non-arbitrary decision. Bartley’s motivation for attempting such a project is that Bartley is frustrated by what he calls the religious devotee’s “rational” excuse for irrational commitment:\textsuperscript{416} i.e., per the post-Kuhnian compatibility system, religious devotees apply the \textit{tu quoque}; however, can we defeat the \textit{tu quoque}, Bartley asks, allowing ourselves

\textsuperscript{415}. Indeed, about the fallible and imperfect nature of epistemology (and other academic inventions), note that a “theory of rationality” is not a “tested scientific theory of rationality,” but a “theory of rationality”—an aspect of epistemology—which functions in a two-dialogue between the activities of epistemology-influenced, tested science and science-influenced epistemology (or science-influenced analytic philosophy). As mentioned, epistemological assumptions are built into the reasoning processes of scientific practice while tested beliefs from scientific theories also influence epistemology’s role in science. Contextualizing epistemology in this fashion places me within the framework of Haack’s \textit{modestly naturalistic epistemology}—an epistemic position which lies between “traditional apriorism” and those more radical forms of naturalism which repudiate epistemology altogether (Haack 2009, 169).

\textsuperscript{416}. Bartley, \textit{The Retreat to Commitment}, 72.
to be actually rational—to experience a non-arbitrariness in our choice of commitment?

Granted, proponents of the post-Kuhnian compatibility system might argue that, in applying the *tu quoque*, scientific practitioners also employ a “rational” excuse for irrational commitment. Although Bartley initiates his project by pointing out his frustration with what is thought to be the religious devotee’s “rational” excuse for irrational commitment, a similar frustration might be experienced regarding what is thought to be the scientific practitioner’s “rational” excuse for irrational commitment. In summary, then, for either religious devotees or scientific practitioners, Bartley’s project asks two important questions:

(i) Can we design a theory of rationality which is non-arbitrary in its choice of commitment?

(ii) As a corollary to one’s choice of commitment, can we can design a theory of rationality which is non-arbitrary in its adherence to a particular set of epistemic principles, standards, and assumptions?

In traditional theories of rationality, Bartley argues an implicit assumption was always made that epistemic *justification* is equated with *criticism*—that to have one we must have the other. Prior to Bartley’s work with Popper (mid-twentieth century), it seems the notion that justification be separated from criticism had not been given very much attention in contemporary analytic philosophy. When unpacking Bartley’s thesis of *pancritical rationalism*—also called *comprehensively critical rationalism*—it is important to clarify that *justification* is not *criticism*, but rather these concepts are distinct. Bartley explains, “. . . We may urge the philosophical *criticism* of standards as the main task of the philosopher. *Nothing gets justified;*
Moreover, Bartley views this shift from justification to criticism as “. . . a genuine innovation in philosophy whose importance cannot be overemphasized.”

That being said, Bartley devotes considerable space in his argument toward pointing out how this might be so; Bartley senses that for other philosophers a genuine shift away from justification and toward criticism might not be obvious. The following paragraphs serve to unpack the nuances of Bartley’s thesis, emphasizing how criticism and justification can be decoupled—how beliefs can be criticized, but, in Bartley’s view, need not be justified. In Chapter 9, this aspect of Bartley’s thought will serve as Bartley’s contribution to my proposal of a “religious epistemology” contextualized in a modestly naturalistic epistemology and a modern, Western university.

_Criticism_, particularly in the wider spectra of the philosophies of science and religion, requires further analysis: In twentieth-century philosophy of science, the concept of _criticism_

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417. Bartley, _The Retreat to Commitment_, 112.

418. Ibid., 113.

419. At this stage, I will point out why in this thesis I continually place the phrase _religious epistemology_ in scare quotes as “religious epistemology.” I do this for two reasons, alluded to in various sections of this thesis: 

(i) In the context of a modern, Western university, the problem of constructing a “religious epistemology” exists, because any theory of rationality which allows intellectual space for the presence of belief claims at the same time begins to sacrifice the cognitive values characteristic of a scientific epistemology. As cognitive values are lost, the question arises of whether we still in fact possess an “epistemology”? Thus, I place _religious epistemology_ in scare quotes to point out this tendentious nature of “religious epistemology” in a modern university—the question remains whether a “religious epistemology” is an epistemology? In the same way, the question would remain whether, for example, “spiritualist epistemology,” “psychical epistemology,” or “alchemic epistemology” are epistemologies? Of course, all of these epistemologies are epistemologies for proponents of the specific modes of thought in question. However, as these epistemologies possibly lack the cognitive values characteristic of a scientific epistemology—and since those cognitive values set a benchmark for testing many beliefs in modern, Western universities—the inherent epistemic standards of non-scientific epistemologies (whatever they may be) are different from the epistemic standards of a scientific epistemology. 

(ii) If belief claims are removed from a “religious epistemology,” but consequently the cognitive values of science are preserved, the question arises of whether we have missed the point of what a religious epistemology was supposed to accomplish in the first place? Thus, I also place _religious epistemology_ in scare quotes to point out this epistemic quandary: although the “cognitive values” of a “religious epistemology” may deviate from the cognitive values of a scientific epistemology, the social and emotional importance of a “religious epistemology” in the modern scientific cosmos (as testimonies of religious devotees inform us) is a question still worthy of consideration.
is essentially Popperian. As considered in detail already, beliefs about states of affairs in the world are subject to ruthless, critical tests. As the hallmark of Popper’s thought, critical tests are continued even after beliefs have reached high degrees of certitude—even after tested beliefs (knowledge claims) have not failed many previous tests.  

However, in philosophy of religion, meanings and uses of the concept of criticism seem less clear—religious beliefs are seemingly not open to criticism; they are non-tested beliefs (belief claims). In this regard, Bartley points out that, whatever cognitive values do comprise the backbone of a belief (religious) community’s epistemology, those values are not really essential to the continued existence of the community. Should, say, a religious community’s “religious epistemology”—e.g., a “Christian epistemology”—break down, the religious community’s identity would probably not suffer too much.  

A faith-imbued, religious epistemology, then, seems not really

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420. As *H. sapiens sapiens*, we are fallible and imperfect creatures: hence, in accepting the limitations of our own cognitive capacities, we acknowledge the Popperian imperative that we continue to test our beliefs even after our beliefs have reached high degrees of certitude—even after our beliefs have not failed many previous tests.

essential to maintaining the religious community’s collective identity. On the contrary, such a scenario for a scientific community would likely be disastrous: epistemic standards,

422. I suggest here that a religious epistemological framework is not really essential to maintaining a religious community’s collective identity. On the contrary, what does seem essential are arguments based on faith: religious arguments held by faith convince no one unless one already believes arguments based on faith. To that end, different faith traditions, all employing the *tu quoque*, utilize different types of faith-based arguments. In comparing and contrasting different faith-based arguments from different faith traditions—each tradition with its own particular physical-world-transcending reality—the *tu quoque* becomes required: All world-transcending realities—concerning (as they do) cosmogonies, cosmologies, modes of salvation, and eschatologies—present themselves as *final, fixed, and substantive* world-transcending realities. In addition, I suggest this notion of *final, fixed, and substantive* world-transcending realities includes the world-transcending realities made possible by post-Enlightenment readings of religious texts: post-Enlightenment readings of religious texts remain *final, fixed, and substantive* in the sense that they do include *a priori*, non-falsifiable assumptions about ontological realities for CPS-agents and trans-empirical worlds. The intriguing aspect, then, of post-Enlightenment readings of religious texts, is that, while they appear to maintain these *a priori*, non-falsifiable assumptions (about ontological realities for CPS-agents and trans-empirical worlds), they also attempt to employ *falsifiable belief testing* characteristic of modern science. If they did not recognize such belief testing they would not permit falsifiable beliefs about such realities as the origin and constitution of physical reality, the origin of human life, the biological rootedness of sexual orientation, or human neurobiology, *into* their particular religious worldviews. *Variants* of this peculiar realization—that *a priori*, non-falsifiable assumptions are seemingly coalesced with falsifiable belief testing—include: (a) Wiebe’s thesis of the *irony of theology* (Wiebe 1991, 12), (b) Drees’ thesis of *constitutive reductionism* and conceptual and explanatory *non-reductionism* (Drees 1998, 14-16), and (c), to be considered in Chapter 7, van Huyssteen’s thesis of *transversal rationality* (van Huyssteen 2006, 9-12). In the preceding sentence, I say *variants*, because the *various assumptions* employed by Wiebe, Drees, and van Huyssteen, all possess *different initial plausibilities*, although, curiously, all writers share the aim to unpack the nature of theology as a mode of thought *in relation to modern scientific thought*. (i) Wiebe’s assumptions recognize the critical method of the sciences as setting an epistemic benchmark for testing beliefs, leading to Wiebe’s suggestion that theology is neither a religious activity nor a scientific one, but, in a faith-based manner, “faith-imbued theology” attempts to function both religiously and scientifically. This contrasts with Wiebe’s “academic theology,” which functions scientifically only, and thus is *ironic* as it suggests theology can be inimical to faith-based aspirations. (ii) Drees’ assumptions, to a point, recognize the critical method of the sciences as setting a benchmark for testing beliefs (Drees is an ontological naturalist); however, in a faith-based manner, Drees allows the possibility that objects of belief be identified/located in trans-empirical worlds, rendering Drees’ method a method which attempts the inclusion of both falsifiable and non-falsifiable assumptions. Lastly, (iii) van Huyssteen’s assumptions (sketched in Chapter 7) recognize that theology cannot just employ reasoning strategies different from other academic disciplines; however, van Huyssteen’s method includes the suggestion that, as “problem solving” is common to all of religion, theology, and science, overlapping and shared points of contact exist between these disciplines—in a seemingly faith-based manner, one “transverses” from the tenets of one mode of thought (e.g., mythopoetic) to the tenets of another (e.g., scientific). If these philosophers of “science and religion” are any guides to understanding some of the motivations appearing in the epistemological frameworks of various belief communities (academic or faith-imbued communities), then it is a point worth making that “religious epistemologies” depend, *a priori*, on arguments based on faith: moreover, as mentioned, religious arguments held by faith convince no one unless one already believes arguments based on faith. A religious community’s collective identity, then, is primarily a *faith-imbued identity*—whether in post-Enlightenment or postsecular contexts, or not.
cognitive values particular to a scientific epistemology,\textsuperscript{423} and critical testing, are all essential to the day-to-day operation of any scientific project.

Bartley’s non-justificationary pancritical rationalism is different from typical critical rationalism where notions of both criticism and justification are included. Rather, pancritical rationalism eschews the supposed requirement that we commit ourselves to an unjustifiable first principle of foundationalism—where notions of justification and criticism were both required. Instead, we subject all of our knowledge claims and belief claims to ruthless, critical tests. Rather than speaking of the epistemic justification of scientific beliefs (which was my title for Section 2.2) we shift our attention toward the epistemic criticism of scientific beliefs (and/or the epistemic criticism of religious beliefs\textsuperscript{424}). (Note also that, in Chapter 2, my analysis was centred already on the suggestion that Popper’s ruthless, critical tests be applied to scientific beliefs—so, previously, although I applied the common notion of justification in my discussion, I was in fact already thinking along the lines of unlimited criticism vis-à-vis Popper and Bartley.) Pancritical rationalism is also different from what Bartley terms panrationalism\textsuperscript{425}—a relativistic framework where there are thought to be many “true” ways

\begin{itemize}
  \item \textit{we are fallible and imperfect creatures;}
  \item \textit{we possess the perceptual awareness and cognitive capacities necessary for us to collect and test natural experience from brute nature;}
  \item \textit{since we are fallible and imperfect, our interpretations of brute nature are overlaid by our own assumptions and theories. Finally,}
  \item \textit{most important as a cognitive value particular to a scientific epistemology, the notion that, to pursue and accomplish intersubjectively available learning, “. . . we need opportunities to work out inconsistencies and mistakes as we uncover them. This leads us, ultimately, to deeper and more mature understandings of the world” (Woodward 2014, 57).}
\end{itemize}

\textsuperscript{423} For example, cognitive values particular to a scientific epistemology include recognitions such as (i) we are fallible and imperfect creatures; (ii) that we do possess the perceptual awareness and cognitive capacities necessary for us to collect and test natural experience from brute nature; (iii) that, since we are fallible and imperfect, our interpretations of brute nature are overlaid by our own assumptions and theories. Finally, (iv) most important as a cognitive value particular to a scientific epistemology, the notion that, to pursue and accomplish intersubjectively available learning, “. . . we need opportunities to work out inconsistencies and mistakes as we uncover them. This leads us, ultimately, to deeper and more mature understandings of the world” (Woodward 2014, 57).

\textsuperscript{424} Here I place religious beliefs in brackets, because the notion that epistemic criticism be applied to religious beliefs is perhaps redundant, given especially that, as mentioned already, non-tested religious beliefs are generated from arguments based on faith: non-tested religious arguments held by faith convince no one unless one already believes arguments based on faith. Epistemic criticism applied to arguments based on faith is not really a critical endeavour—the faith position undergirding faith-based arguments seems to take epistemic precedence, trumping any epistemic criticism.

\textsuperscript{425} Bartley, The Retreat to Commitment, 85.
to know and interpret the physical world. Nevertheless, when the design of a theory of rationality—seeking to incorporate the aims of both knowledge claims and belief claims—is attempted, suggestions that panrationalism be applied inevitably begin to appear. Indeed, panrationalism is often the motivation for employing the *tu quoque* in either scientific or religious lives. Concerning a relativistic framework, where the *tu quoque* has free rein, Bartley puts well the implications of panrationalism when he describes the “glass house” of the “panrationalist,” also referred to as the subjective relativist:

There is a particularly modern irony in the idea of a glass house inhabited by a subjective relativist. Only one kind of glass is suitable for such a building: that ingenious modern one-way window-mirror glass which one sometimes finds fitted in zoo cages, especially in monkey houses. The world can look in at the subjectivist and watch his antics; but when the subjectivist looks outward, he sees only his own face in the mirrors that imprison him. . . . Since his world is his mirror image, he is free to create his world. Moreover, if everyone has to be a subjectivist, there is a sort of consolation: *nobody can look in from the outside* [emphasis added]. Everyone is alone, inside his own mirror cage, staring at his own face. No wonder the existentialists are bored.426

As alluded to previously in Section 1.2, per Bartley’s pancritical rationalism, neither an unjustifiable first principle of foundationalism nor an epistemological tribe in a relativistic framework provide an intellectual escape hatch for me. Or at least that is my intention—my ideal epistemic situation, including the notion that pancritical rationalism be extended to criticize the philosophy of criticism itself.427

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427. Pancritical rationalism is logically more basic than other theories of rationality such as panrationalism and critical rationalism; however, a potential argument against pancritical rationalism might be that pancritical rationalism still employs an assumption toward a commitment—the assumption that we be critical even of the philosophy of criticism itself. (The *tu quoque* reappears!) The radical, critical openness of pancritical rationalism, however, is tied to the Popperian notion of *learning from experience*: I think few would deny that *learning from experience* is an important Western cultural value. (Note also that *experience* in this sense, as in all other areas of this thesis, is *phenomenal, natural* human experience.)
That the philosophy of criticism be open to criticism leads me to argue that, in pancritical rationalism, Bartley rightly applies the Popperian principle of *learning from experience* to distinguish a healthy, evolving “knowledge and belief system” from a stagnant ideology. Non-evolving ideologies dismiss new knowledge claims generated from testing beliefs. To that end, any “knowledge and belief system”—be it a religion, philosophy, or scientific paradigm—is born with a set of presuppositions and a method to adjudicate beliefs, but each “knowledge and belief system” evolves differently: it survives, dies, or becomes an ideology. The epistemic criterion, then, for determining whether a “knowledge and belief system” will allow itself to survive, die, or become an ideology, is Bartley’s thesis, described most succinctly as *criticizability*. To that end, as Wiebe observes, science has been the only institution to consciously allow *learning from experience* to be its primary goal—an attitude of mind where one is “. . . not under an obligation to protect the belief(s) in question.”428 As outlined, religious exercises utilize their own causality, drawing on the actions of CPS-agents. This faith-imbued nature of religious exercises, where non-tested beliefs are placed “epistemically” superior to tested beliefs, means scientific theories (although subject to criticism) are routinely dismissed as counter-productive to mainstream religious life. Be that as it may, such epistemic tension points out why religious exercises appear to be non-rational, hence the problem (generally) of constructing a “religious epistemology”—the problem of designing a “religious epistemology” which adheres to (i) faith-based goals in sociocultural institutions and (ii) the apparent aim of theology to provide a rational justification for non-tested religious beliefs.

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As mentioned earlier in this chapter, Bartley’s project asks two questions:

(i) Can we design a theory of rationality which is non-arbitrary in its choice of commitment?

(ii) As a corollary to one’s choice of commitment, can we can design a theory of rationality which is non-arbitrary in its adherence to a particular set of epistemic principles, standards, and assumptions?

With Bartley’s pancritical rationalism now unpacked, the following two questions—extensions of the preceding two questions, respectively—arise:

(a) Can we apply the rational integrity of a scientific epistemology to religious exercises, and, in this way, develop a suitable model to construct a “religious epistemology”?

(b) Per Bartley’s thesis, is the rational integrity of a scientific epistemology—where learning from experience is the motivating factor—immune from the tu quoque?

About the question of applying the rational integrity of a scientific epistemology to religious exercises (to attempt immunity from the tu quoque), it does seem that Bartley does not consider the possibility that a fiduciary component is at play in testing beliefs, the possibility that all theories of rationality presuppose some commitment.\(^{429}\) That being said, the purpose of Bartley’s project is to attempt to avoid the need for a commitment—his emphasis is rather toward learning from experience. Moreover, employing the tu quoque is the very attitude which counteracts a critical mind: As Bartley puts it, “One gains the right to be

irrational at the expense of losing the right to criticize [emphasis added]. One gains immunity from criticism for one’s own commitment by making any criticism of commitments impossible."  

Thus, even if Bartley’s pancritical rationalism is construed as just another type of commitment, the epistemic principles and standards inherent to the commitment to pancritical rationalism are such that, in pancritical rationalism, nothing but new learning occurs—beliefs are proposed, tested, and then accepted or discarded. Moreover, in the commitment to pancritical rationalism, criticisms of other commitments—indeed, any other commitments, including the commitment to pancritical rationalism—remain acceptable. For example, in religious studies—in particular, the scientific study of religion—questioning the assumptions that religion is a socially isolated phenomenon and that religion as sui generis brackets not only the metaphysical reality of religion but also the scholar from critical scrutiny, Russell McCutcheon suggests, “. . . Not only the phenomenon one studies (e.g., religion, religious experiences, myths, rituals) but the phenomenon of the study itself (e.g., the science of religion, Religionswissenschaft, even scholars of religion as humans authorized to make certain judgements) could, to whatever degree, be said to be the result of one’s scale, point of view, theory, or method.”  

While my purpose here is not to critique the method of the scientific study of religion (as McCutcheon implies might be done), it would also be academically naive of me to fail to accept that even the assumptions I employ in this thesis are

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open to criticism via pancritical rationalism.\(^{433}\) As a pancritical rationalist, I remain aware of the requirement that I function as a self-critical rationalist. Self-critical awareness cannot sway me from maintaining my own assumptions (nor should it sway other scholars from maintaining their assumptions), but self-critical awareness at least keeps me open to new alternatives—in essence, open to *learning from experience*. Furthermore, Bartley’s criticizability thesis suggests that, in being critical of beliefs, critical of criticism itself, and being self-critical, a kind of *consistency* permeates one’s learning and testing of beliefs—necessary ingredients to elucidate “knowledge and belief systems” which critically *survive* (or perhaps simply die) from ones that become stagnant ideologies.

Returning to our central task to articulate the precise role of *experience* in testing beliefs\(^ {434}\) (recall that, for Popper, philosophy of science amounts to a “theory of experience”\(^ {435}\)), Susan Haack, in an unexpected turn, takes Popper to task over his very notion of *experience*: Haack renders Popper a closet skeptic—for Haack, Popper seems not interested in the concept of justified, true belief; Popper seems to deny we have knowledge of the physical world.\(^ {436}\) While similar to Popper, for Haack, a scientific theory is true *just in case*\(^ {437}\) states of affairs in the world really are *as* the theory describes those states of affairs to be (so, *true* is not so much substantively, *absolutely true*, but *true* implies an accurate description of

\(^{433}\) Recall that the two assumptions I make in this thesis are: (i) Phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world. (ii) Religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds.

\(^{434}\) As I hope is already clear, articulating the precise role of *experience* in testing beliefs is tied directly to our future, upcoming task of designing a “religious epistemology” in a modestly naturalistic epistemology.

\(^{435}\) Popper, *The Logic of Scientific Discovery*, 35.

\(^{436}\) Haack, *Evidence and Inquiry*, 143.

\(^{437}\) Haack, *Defending Science—Within Reason*, 25.
states of affairs), Haack is frustrated by Popper’s notion that natural human experience cannot support the acceptance of basic statements (observations). Somewhat reluctantly, Haack accepts that, for Popper, “. . . science is, *though only in a negative sense* [emphasis added], rational.” In terms of falsification (the “negative sense” in the preceding quotation), then, Haack is even more alarmed when she finds that Popperian science is not even, negatively, under the control of experience: For Popper, experience cannot support the acceptance or rejection of basic statements. Rather, for Popper, the acceptance or rejection of basic statements (observations) is a matter of convention among scientific practitioners.

As explained, Haack’s critique of Popper amounts to Popper’s claim that basic statements—i.e., observations, particular physical events, etc.—cannot be justified by experience; *experience can motivate* a decision to accept or reject a basic statement, but experience itself cannot justify the acceptance or rejection of a basic statement. (Note that we have returned to applying the concept of *justification* in discussion, which is necessary as Haack applies this concept. Given, however, our previous analysis of critical rationalism and Bartley’s pancritical rationalism, the term *justification* could be replaced with the term *criticism*. Finally, justification applied foundationally is covered in my analysis of Haack’s basic and derived beliefs at the end of this chapter.) Moreover, Haack also takes Popper to task over what she sees to be his denigration of the psychological role in the epistemic justification (criticism) of scientific beliefs. Henceforth, Haack argues persuasively for an experientialist

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439. Ibid., 146.

440. Ibid., 145.
epistemology—an antidote to Popper’s anti-psychologist philosophy of science,\textsuperscript{441} which exists because Popper separates what he sees to be (i) subjective, psychological human experience and (ii) the objective, logical justification of human beliefs.

Central to any experientialist epistemology are intersubjectively observed experiences of phenomenal reality, used for testing beliefs.\textsuperscript{442} To begin with, observations are not propositions, but are physical events.\textsuperscript{443} While beliefs can be expressed in propositional form as knowledge claims or belief claims, observations themselves are events. About observations—which undergird an experientialist epistemology—Haack explains, “What is observable depends not only on our perceptual capacities, but also on our ingenuity in devising instruments to extend and improve our powers of detection; the [ontological] boundary of the observable, in other words, like the boundary of the ‘purely theoretical,’ constantly shifts with advances in instruments of observation.”\textsuperscript{444} Haack’s unpacking, then, of the epistemic factors which contribute to our ability to “observe” the physical world—and, I would add, the phenomenal physical world—highlight some of her motivations in presenting a modestly

\textsuperscript{441} Haack, Evidence and Inquiry, 148.

\textsuperscript{442} Indeed, this point represents the first of the two substantive assumptions which I make in this thesis, namely, that \textit{phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world.}

\textsuperscript{443} Haack, Defending Science—Within Reason, 128.

\textsuperscript{444} Ibid., 129.
naturalistic epistemology. As outlined, scientific information obtained from disciplines such as psychology or cognitive science helps to point out the limitations of human intellect. Information from science influences epistemology’s role in science; pointing out, for example, that human experience is not brute nature, but nature modified by our background beliefs, the apparatus and instruments we use to “collect” and test experience, fluctuating advances in instrumentation, and one’s educational background that persuades one to interpret experience in a particular way. These variables are designed, constructed, and utilized by humans, thus, they are fallible and imperfect. As epistemology is also a human invention, any theory of rationality (an aspect of epistemology) is also fallible and imperfect. At the same time, the ability of natural human experience to serve as a platform through which beliefs are tested is an epistemological question—as are questions about the quality and reliability of the scientific method. Therefore, epistemology itself must not be annexed by science.

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448. Ibid., 169.

449. Ibid., 169.

450. Ibid., 169.
current chapter, Haack’s particular epistemology, foundherentism, is useful in highlighting (a) the role of experience per justification applied foundationally as well as (b) mutual support among beliefs per justification applied in a coherentist sense. In sketching varieties of empirical foundationalism, which elucidate varieties of basic beliefs, Haack distinguishes between experientialist, extrinsic, and intrinsic versions: Notions of experientialist foundationalism—most relevant to my “religious epistemology” presented in Chapter 9—aver that basic beliefs are justified by the subject’s own experience, sensory or introspective. In another fashion, in extrinsic foundationalism, basic beliefs are justified by a “. . . causal or law-like connection between the subject’s having the belief and the state of affairs that makes it true [or makes it testable]. . . .” Lastly, intrinsic foundationalism contends that basic beliefs are self-justified by their own substantive content. In any case, in the leap from belief content (e.g., physical events) to propositional claim, we are concerned primarily with the epistemic relationship between the substantive content of the belief and how one’s propositional claim depends on that content. Moreover, after we express our basic beliefs in propositional form, derived beliefs can be built from basic beliefs. Analysis of this relationship, between the experiential content of beliefs and how propositional claims depend on content, moves the argument forward in Chapter 7 to the use of epistemology in religious life—to the possibility of a “religious epistemology” in contemporary religious life.

452. Ibid., 52-53.
453. Ibid., 52.
454. Ibid., 53.
455. Ibid., 53.
7. Philosophical Models in Religious Life

Per the testimonies of religious devotees, the human mind continues to defer to the actions of CPS-agents. Mythopoeic and agentic modes of thought continue to permeate the “religious epistemic” standards of modern religious institutions. Mikael Stenmark and J. Wentzel van Huyssteen have both considered theories of “religious rationality” with persistence. My analysis cannot ignore Stenmark’s and van Huyssteen’s treatments of the topic. Central to this chapter, then, are assessments of Stenmark’s and van Huyssteen’s projects vis-à-vis their attempts to epistemically contextualize religious modes of thought in relation to modern scientific thought. In a nutshell, both writers may be thought to represent the postmodernist challenge to modern science: Stenmark articulates a postmodernist rationality, which, similar to the *tu quoque*, permits religious modes of thought to possess their own theories of rationality independent of the rationality of science. Van Huyssteen takes postmodernism as a departure point, then shifting his focus toward a distinctive postfoundationalist rationality, which includes his critique of Haack’s foundherentism. In this chapter I also assess the cogency of van Huyssteen’s critique of Haack, pointing out where van Huyssteen unfairly points the finger at what he calls Haack’s “narrowly individualist and highly idealized” rational agent. As mentioned, while both Stenmark’s and van Huyssteen’s theories of rationality are connected generally with the postmodernist challenge to science, their projects at the same time, then, represent the postmodernist challenge to the scientific study of religion. Wiebe characterizes the postmodernist challenge to the scientific study of religion as one

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where the aims of sociology are disputed: without “an epistemologically grounded account of society,” as he puts it, a science of society and consequently a scientific study of religion remain impossible. Interestingly, then, Stenmark’s and van Huyssteen’s projects challenge both the epistemology of science as a benchmark in testing beliefs and the notion of a science of society—which includes the scientific study of religion. Stenmark’s and van Huyssteen’s challenges to these proposals cast their projects—like all “science and religion” projects—into murky and bumpy waters.

I begin with a summary of Stenmark’s project, including a comparison of Stenmark’s project vis-à-vis the earlier work of Bartley. In *Rationality in Science, Religion, and Everyday Life* (1995), Stenmark demarcates between: (i) theoretical rationality, (ii) practical rationality, and (iii) axiological rationality. He suggests that theories of rationality are specific to various domains of human knowledges and beliefs. Thus, for Stenmark, there is a model of rationality specific to scientific inquiry; a different model of rationality in religious life. Also, in Stenmark’s project, different models of rationality ask different questions, including: (i) *what should we believe?* (theoretical rationality), (ii) *what should we do?* (practical rationality), and (iii) *what should we value?* (axiological rationality). Stenmark’s motivation for his project—where he presents different models of rationality in different domains of life—is different from Bartley’s motivation for his project. Bartley would like to develop a single

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model of rationality, a common epistemic benchmark (immune from the *tu quoque*) for all knowledge claims and belief claims. With this in mind, Stenmark would likely find Bartley’s project shortsighted in terms of what Stenmark sees to be the “real life,” faith-imbued component at play in one’s perception of the physical world. Stenmark contends, “... Most conceptions of rationality proposed by philosophers have been far too idealized or utopian to apply in an interesting way to actual human agents like you and me. In fact, if taken literally, they imply that human beings are usually irrational in what they do.”\(^\text{461}\) Indeed, when considering the state of current models of rationality in modern, Western universities, where a scientific epistemology occupies a “distinguished” role in testing beliefs, Stenmark is unimpressed. Neglecting the distinction between *knowledge* and the “*claim to knowledge,*” Stenmark embraces the *tu quoque:* so goes his argument, since rationality is about how real people live—their real interests\(^\text{462}\)—rationality cannot exclude faith-based aspirations. Stenmark’s theory of rationality, then, is faith-imbued in the sense that *a priori* it expects non-tested beliefs to be valued—not just valued aesthetically or socially, but valued *epistemically.*

Moreover, in his *How to Relate Science and Religion* (2004), Stenmark rejects unwavering support for evidentialism: Stenmark argues that judgement-based evidentialism—which he sees amounting to an attitude of mind whereby beliefs are “intellectually guilty until proven innocent”—cannot be applied in *all* aspects of one’s practical, religious life.\(^\text{463}\) In contrast to judgement-based evidentialism, Stenmark proposes his presumptionism model of


\(^{462}\) Ibid., 5.

\(^{463}\) Stenmark, *How to Relate Science and Religion,* 89.
rationality:⁴⁶⁴ in this model, belief-forming processes and belief claims are taken as justified—“intellectually innocent until proven guilty”—until such a time as good reasons not to accept one’s belief-forming processes and/or beliefs claims are presented.⁴⁶⁵ In addition, Stenmark makes a case that possessing “good reasons” to accept or reject belief-forming processes and/or belief claims involves more practical factors than possessing tested evidence only. Stenmark cites additional factors, such as one being consciously aware of one’s evidence, one assessing the quality of one’s evidence, and one comparing one’s evidence to the evidence of alternative beliefs.⁴⁶⁶ Stenmark’s concern with judgement-based evidentialism is perhaps understandable—particularly in light of his a priori faith-imbued project which epistemically values non-tested beliefs—however, evidentialism is only one aspect of a theory of rationality. To treat the scientific method as a method governed primarily by evidentialism is to limit one’s understanding of the scope and purpose of the scientific method. As I have argued in detail, in its wider scope, the scientific method includes inherent capacities to allow intellectual growth, permit new learning, and (if required) modification of existing beliefs. These goals are possible because of evidentialism (which makes testing beliefs possible), but the motivation to apply the scientific method in one’s life need not be evidentialism only (or at all), but rather an attitude of mind that is open to the possibility of new learning—to the possibility of a more mature understanding of the physical world.

Shifting our attention to van Huyssteen’s postfoundationalist project, known as transversal rationality, van Huyssteen’s work appears useful as he considers epistemic nuances

⁴⁶⁴ Stenmark, How to Relate Science and Religion, 90.
⁴⁶⁵ Ibid., 90.
⁴⁶⁶ Ibid., 91.
of scientific and religious exercises: Like Stenmark, van Huyssteen notes that rationality informs “. . . everyday goal-directed actions.”\textsuperscript{467} Van Huyssteen considers the boundaries between academic disciplines; as he puts it, “. . . within the transversal spaces between disciplines.”\textsuperscript{468} In his \textit{Alone in the World? : Human Uniqueness in Science and Theology} (2006), van Huyssteen outlines how a method centred on such transversal spaces might be useful: “In the kind of multileveled, integrative interdisciplinary conversation that I will argue for, terms like ‘transversality’ and ‘contextuality’ will take center stage, and will have the value of identifying shared concerns and points of agreement, and maybe more importantly, of exposing areas of disagreement and putting into perspective specific divisive issues that need to be discussed.”\textsuperscript{469} Van Huyssteen is to be commended for considering diverse epistemic considerations in his attempt to design a theory of rationality based on overlapping and shared points of contact—“points” whereby we transverse from one academic discipline (e.g., theology) to another (e.g., chemistry). As he suggests, the activity of “problem solving,” common to all of religion, theology, and science, is one possibility for actualizing this transversal crossing in practical life.

Though admirable, finding collaborative spaces between academic disciplines is difficult—put simply, various academic disciplines establish their own substantive assumptions and methods. Taking postmodernism as a departure point, then, van Huyssteen’s theory of rationality is characterized \textit{postfoundationalist}. Similar to Haack’s foundherentism, in a postfoundationalist model, van Huyssteen argues, neither overarching metanarratives nor

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\item[468.] van Huyssteen, \textit{Alone in the World?}, 9.
\item[469.] Ibid., 9.
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contextually based modes of rationality are desired. Thus, between these two contrasting positions, van Huyssteen seeks a middle ground in a postfoundationalist model. Again, like foundherentism, van Huyssteen’s postfoundationalist rationality depends on a theory of human experience. Yet this is where van Huyssteen’s position becomes ambiguous: For one, van Huyssteen disapproves of theology, as he puts it, formulating “. . . its [theology’s] own idea of reason independent of philosophy or the rationality of other reasoning strategies.” Yet, in addition, van Huyssteen would like to see theology remain “. . . tied to specific communities of faith [albeit] without being trapped by these communities.” One of van Huyssteen’s solutions to this epistemic conundrum is centred on the tenets of evolutionary epistemology: consideration of the biological rootedness of rationality, a discipline which van Huyssteen argues has been neglected by contemporary theology.

In keeping with his transversal rationality, van Huyssteen remarks, “. . . evolutionary epistemology will set the interdisciplinary stage, so to speak; create the necessary transversal space for a dialogue between theology and the sciences on human uniqueness. . . .” Tenets of evolutionary epistemology include the scientific realization that cognitive capacities are determined by the mechanisms of biological evolution: evolutionary epistemology renders a theory of human evolution a *theory of knowledge*; knowledge is thought to be *produced* via evolution. Concerning these implications of evolutionary epistemology, van Huyssteen

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471. Ibid., 12.
472. Ibid., 75.
473. Ibid., 75.
474. Ibid., 76.
475. Ibid., 76.
maintains that, from the viewpoint of evolutionary epistemology, the notion that human beings possess a subjective, mental state while physical reality remains independent and objective, becomes untenable. Rather, in evolutionary epistemology, van Huyssteen avers, knowledge becomes “. . . an interactive relationship [emphasis added] between an embodied knower and something that is known. . . .”476 In simple terms, this amounts to a relationship between the knower’s evolutionary-based instinct and a “second rationality,” the external, symbolic products of the knower’s learning and memory.477

As the approach seems to go, epistemic tension experienced between universal reasoning strategies and contextually based rationalities is suddenly eluded by the interactive relationship proposed by evolutionary epistemology—the relationship between an embodied knower and an object of knowledge. This hypothetical realism—such that our human minds are produced via biological evolution—shifts focus away from the kind of mind humans possess toward the type of physical world that would be necessary to produce a human mind:478 a hypothesized physical world (hypothetical realism) per our a priori awareness that we do possess human minds. Finally, in attempting to make a case for the initial plausibility of the assumption that religious belief is natural,479 van Huyssteen makes a faith-imbued “jump,” wondering if the hypothetical realism of evolutionary epistemology corresponds with the realist belief claims of religious devotees.480 While van Huyssteen’s application of evolutionary epistemology assists him in temporarily solving the problem of universal and

476. van Huyssteen, Alone in the World?, 77.
477. Ibid., 81.
478. Ibid., 101.
479. Ibid., 102.
480. Ibid., 102.
contextually based rationalities, van Huyssteen’s faith-imbued “jump,” to identify the hypothetical realism of evolutionary epistemology with the realist claims of religion, locates him back in a contextually based rationality. Or, if you like, back in a universal rationality centred on the assumption that hypothetical realism is equated with mythopoeic, religious “realism.” In making this faith-imbued move, van Huyssteen renders his transversal rationality a “thin” rationality: epistemic motivations are no longer clear—no reasons are stated for holding particular beliefs. In contrast, notions of a so-called “thick” rationality involve the intentional stating of motivations for holding the beliefs you hold: a “thick” rationality might encompass multiple domains of human knowledges and beliefs (e.g., empirical and mythopoeic domains), but nevertheless epistemic motivations are stated and made clear.

As a corollary to my suggestion that transversal rationality is a “thin” rationality, another concern with transversal rationality is that, in van Huyssteen’s project, we are left unsure as to what exactly the term theology refers to. Moreover, in attempting to clarify how transversal rationality provides “depth” to a more useful understanding of rationality in a postmodernist context, van Huyssteen suggests that transversal reasoning replaces universal reasoning. In making this theoretical move, in effect, as van Huyssteen puts it, “. . . postmodernism is used against itself. . . .”

Be that as it may, with transversal rationality now occupying the place of a universal reasoning strategy (ironically transversal rationality now becomes a universal reasoning strategy itself), it seems we no longer have need to consider the question: how does theology test beliefs about states of affairs in the world? Moreover, this

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481. Van Huyssteen’s application of evolutionary epistemology assists him in temporarily solving the problem of universal and contextually based rationalities by shifting the problem over to the implications of evolutionary epistemology for human knowledge: the proposal of an interactive relationship between an embodied knower and an object of knowledge re-contextualizes the problem in biological, evolutionary terms.

482. van Huyssteen, Alone in the World?, 23.
question is suddenly placed at the periphery of our “epistemic priority” (my phrase in scare quotes). Transversal rationality is not so much a typical theory of rationality built around theoretical notions of logic, consistency, and testing beliefs, but rather a rationality directed by the unpredicted, fluctuating experiences of religious (and scientific) lives. There is no question, then, that van Huyssteen’s project, like Stenmark’s, is, _a priori_, faith-imbued. Likewise, _theology_, for van Huyssteen, seems a faith-imbued activity, although that is all one can really tell about van Huyssteen’s particular conception of _theology_ as a mode of thought.483

In van Huyssteen’s critique of Haack’s foundherentism, van Huyssteen locates Haack’s foundherentism within the general aims of postfoundationalist theories of rationality.484 Both van Huyssteen’s and Haack’s rationalities depend on a theory of experience—interpreted experience at that—rendering both projects examples of experientialist epistemologies. Concerning foundherentism, van Huyssteen notes that epistemic fallibilism—a central aspect of all postfoundationalist models—is rightly highlighted in foundherentism.485 On the other hand, van Huyssteen finds suspicious Haack’s tendency toward scientifically construed experience only,486 leading to van Huyssteen’s suggestion that Haack presents us with an idealized rational agent who excludes _religious experience_ from epistemology, even implying

483. Note also that van Huyssteen more often cites the academic subject he is addressing as “science and _theology_.” This may be personal preference; however, most other authors in the field, including Stenmark, describe the same topic, generally, as “science and religion.” Given that van Huyssteen contrasts _theology_ with _science_ in the phrase “science and theology,” further supports my observation that theology, for van Huyssteen, is a faith-imbued, religious activity. Theological thought, for van Huyssteen, seems analogous to mythopoeic religious thought.

484. van Huyssteen, _The Shaping of Rationality_, 223.

485. Ibid., 226.

486. Ibid., 226.
that Haack’s project might be scientistic. About this apparently narrowed scope of the use of personal experience in one’s experientialist epistemology, van Huyssteen contends, “. . . Haack’s rational agent emerges as narrowly individualist and highly idealized.” 

For example, van Huyssteen questions why existential feelings and attitudes are not permitted in the experiential component of Haack’s foundherentism? Indeed, van Huyssteen goes on, Haack permits introspective experience (generally), so why not existentially oriented religious experience?

While it is the case that introspective experience is permitted in Haack’s epistemology (basic beliefs are justified by the subject’s own experience, sensory or introspective), van Huyssteen misses the point of what Haack’s epistemology, foundherentism, aims to accomplish. (These aims are articulated further in Haack’s innocent realism.) For example, when van Huyssteen questions how interpreted empirical, introspective, and memory-based experiences, can all be distinguished from other interpreted personal experiences, e.g., interpreted religious experience, van Huyssteen trades on a doubleness in his use of the concept of interpreted: Recall that Haack’s philosophy of interpretation, so to speak, places her in a two-way dialogue between the activities of epistemology and science. Reflecting on the role of experience in testing beliefs, questions about the quality and reliability of the scientific method are epistemological questions. Yet scientific information (from psychology or cognitive science) influences epistemology’s role in science, pointing out that human

488. Ibid., 227.
489. Ibid., 227-228.
490. Haack, Evidence and Inquiry, 52.
experience is not brute nature, but nature modified by our background beliefs, the apparatus and instruments we use to “collect” and test experience, and one’s particular educational background that persuades one to interpret experience in any one particular way. Interpretation, for Haack, is interpretation within the epistemic stance of her modestly naturalistic epistemology, indicating a modest departure from traditional apriorism while also stopping short of repudiating epistemology altogether. In contrast, interpretation, for van Huyssteen, seems a far more open-ended and ambiguous concept: indeed, interpretation for van Huyssteen is an intensely personal and existential affair—as would have to be the case if religious experiences were permitted in the source material for an experientialist epistemology. Thus, when van Huyssteen sees existential feelings and attitudes “arbitrarily” removed from Haack’s notion of introspective experience, and thus critiques this, van Huyssteen in effect critiques a project which is not really Haack’s project.

Granted, perhaps the reason van Huyssteen provides the critique of foundherentism that he provides is to point out how Haack’s project might be expanded to permit religious experience. To permit religious experience, however, would place Haack in an entirely different epistemic stance from what has been referred to as her modestly naturalistic epistemology. Religious experience is entirely a priori; even if introspective and interpreted, introspective and interpreted religious experience is not intersubjectively introspective and interpreted experience. Haack’s conception of introspective experience, while personal, remains open to intersubjective scrutiny: To illustrate this, consider the following remark from Haack about the character of testimonial evidence: “Consider two people both of whom

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491. van Huyssteen, The Shaping of Rationality, 229.

492. Religious experience is centred on non-tested beliefs, which cannot be intersubjectively tested.
believe that the accused is innocent, one because he saw her himself, a hundred miles away, at the time of the crime, the other because he thinks she has an honest face. The former is more justified than the latter. No doubt the former is more justified than the latter because of the intersubjective realization that to have physically observed the accused (a hundred miles away, at the time of the crime) is a greater warrant for the person’s innocence than thinking the accused has an honest face. (Granted, the person claiming to have observed the accused could be lying or be mistaken, but the point is that, intersubjectively, we establish that observed experiences of phenomenal reality possess greater warrant than subjective opinions possess.) Finally, Haack’s modest departure from traditional apriorism represents her recognition that humans are fallible and imperfect creatures, thus, some intersubjective scrutiny is required to test beliefs. In dialogue with her modest departure from traditional apriorism, Haack’s stopping short of repudiating epistemology altogether is also her recognition that, since our background beliefs, apparatus and instruments, and educational background are fallible, we require epistemology to assess the quality and reliability of the scientific method. About her experientialist epistemology, which (unlike Popper’s epistemology) includes a knowing subject, Haack explains, “With the knowing subject occupying a central place, epistemology is seen to depend, in part, on presuppositions about human cognitive capacities and limitations [emphasis added]. In other words, the first step has been taken toward a modest kind of meta-epistemological naturalism.” In summary, the notion that humans are fallible and imperfect contributes to (i) Haack’s modest departure from traditional apriorism and (ii) Haack’s stopping short of repudiating epistemology altogether.


494. Ibid., 164.
In conclusion, van Huyssteen’s suspicion, that Haack’s epistemology tends toward scientifically construed experience only, is misguided: Indeed, Haack is an ontological naturalist, yet Haack’s epistemic stance also recognizes our fallible and imperfect nature—rightly acknowledging, then, the importance of intersubjective testing. While advocating for the inclusion of *a priori* religious experience in the source material of an experientialist epistemology, van Huyssteen provides no suggestions as to how such experience would be epistemically measured. Assessing experience is especially crucial given the plethora of shared states of affairs in the physical world described by conflicting claims from both science and religion: e.g., claims about the constitution of physical reality, the origin of human life, the naturalness or unnaturalness of non-heterosexual attraction, free will, or the future course of one’s life, etc. In any case, it would be an intellectually inconsistent endeavour to permit non-tested, *a priori* religious experience into the source material for an experientialist epistemology, contextualized in a modern, Western university. It would also be an intellectually irresponsible endeavour to refrain from intersubjectively testing the observed experiences of phenomenal reality which are permitted.

Here ends Part II.

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Part III. Scientific Study of Religious Activity and a “Religious Epistemology”

But the village was very peaceful and quiet, and the light mists were solemnly rising, as if to show me the world, and I had been so innocent and little there, and all beyond was so unknown and great, that in a moment with a strong heave and sob I broke into tears.

—Pip, *Great Expectations* by Charles Dickens (p. 147)

8. The Scientific Study of Religious Activity


Without wanting to sound too melodramatic, for me, Pip’s “village” in the preceding epigraph (*Great Expectations*) was my adolescent experience with religion . . . the “unknown and great,” which Pip alludes to, is modern science. Moreover, the complicated emotions I felt—in navigating my transition from holding religious stories to be descriptions of physical reality to accepting instead that scientific theories are descriptions of reality—were not far off from Pip’s “strong heave” breaking into tears. What Pip learns, though, in *Great Expectations*, is

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496. I describe the emotional distress of my transition from a predominately religious mindset toward a mostly scientific one as metaphorically like the ill feeling one would experience if one drank an entire bottle of scotch in one night and then was violently ill in the morning. In the end, however, the transition was worth it . . . more worth it than I can describe: the intellectual and emotional liberation I finally experienced was a kind of “religious” transition itself (as paradoxical as that may sound). What I also found was this transition was not always a conscious decision on my part. Rather, finding myself naturally immersed in circumstances of new learning meant that undergoing this transition was just natural: i.e., in light of new learning, it wouldn’t have made any logical sense not to go through it. Others may question my transition—wondering, for instance, why it was not possible for me to coalesce scientific and religious mindsets in a faith-based manner? However, for me that option never felt intellectually sound. I retain what might be called an *emotional* religious element in my life—an appreciation for some of the emotionally charged elements from my adolescent religious experience—however, my substantive *Weltanschauung* is centred on tested beliefs.

497. For those unfamiliar with the novel *Great Expectations* (Charles Dickens), the main character, Pip, receives an inheritance from an unknown benefactor, allowing him to move from his childhood home in the marshes in Kent to a “gentleman’s” life in London. In making this transition, Pip, in effect, forgets his family and friends at home—the people who really loved him. Upon discovering that his inheritance was actually the savings of a convict who worked and became rich, Pip finds himself feeling socially and intellectually “dirty”—the “gentleman’s” life wasn’t all he thought it was. Through a series of tumultuous events, Pip returns to his home in the marshes, learning it is the ties to his place of origin which ultimately ground him in life. At the same time, however, if he hadn’t made the move to London, he wouldn’t have “grown up” and become his own person—something he also had to do.

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that, despite the new, unexpected changes one might experience, for better or for worse one is wise to remember one’s origins—no matter how starkly those origins might contrast with new beginnings. With this in mind, the balance of my argument continues to be a delicate one. Entering the third and final part of this thesis, I find it meaningful to take a short pause and reflect in the next two paragraphs on the pathways which led me to this juncture as well as my intentions for remaining chapters.

Although I cannot report on the background experiences of others in navigating their own “science and religion” journeys, I suspect that everyone who reflects on the topic (including possibly those reading this manuscript) will have a story to tell. I hope that, in being honest about parts of my own background, although specific to me, they might encourage others to recognize the great emotional weight attached to “science and religion” experiences for many people. Firstly, my own run-ins with the social reality of religious life were sometimes conventional and other times quite bizarre. In fairly conventional terms: (i) As a kid and teenager, I wondered a lot about God, (ii) as a teenager I made a declaration of faith in the Presbyterian Church, (iii) in my early 20s was confirmed in the Anglican Church, and (iv) in university, studied theology (among other subjects). Secondly, more “neurotic” (emotionally painful) experiences with religiosity for me included: (i) My four-year hiatus as an undergraduate engineering chemistry student where (looking back) I existed in a kind of intellectual albeit psychologically warped headspace: yes, scientific theories were to be taken “seriously,” but then there was that voice in my head—“be careful, ‘God’ is watching”—which permeated my thoughts; (ii) my somewhat humorous experience when, while working as a summer camp counsellor in Switzerland, I got into trouble for driving
Roman Catholic kids to an Anglican church (unknown at the time was that a Muslim student from Turkey had also boarded the van for church); and (iii) my progression through what will likely remain the most sketchy (and probably most illegal) job interview I will ever attend where as a 24-year-old I was asked by a Canadian church denomination if I had ever had any romantic relationships? (This particular social institution wanted to know my genetic sexual orientation: yes, in real life, I happen to be gay.)

So, while I cannot speak for the socially oriented religious experiences of others, for what it’s worth, the experiences in the preceding paragraph are my experiences with the social reality of religious life . . . I am not embarrassed to share them. If anything, I am consciously proud of them: they provided me with first-hand experience of what is the sheer absurdity, unapologetic tenderness, and (sometimes) excruciatingly painful yet by some accounts life-altering aura of the social reality we call “religion” in the modern, Western world. I should also mention that during university I worked as an interim high school chaplain and interim church minister—those were positive experiences for me and I cherish those memories. The point, however, to be taken away from all of this is that I was not led to write this thesis via a

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498. The fact that it was an “Anglican” church was irrelevant to me; it just happened to be the only English-speaking church available in Ticino. (In the end, an arrangement was made whereby the Roman Catholic kids could attend church with me after securing their parents’ permission; the Protestant kids also attended under their own steam.)

499. In this peculiar job interview, the frustration I felt was rather painful, although I soon realized it was an “artificial” frustration, created (unwittingly) by the social institution to serve the institution’s own need (à la Berger) to maintain its plausibility structure and continue to promote its own definition of reality. Ironically, the experience mentioned was also necessary to my career development—I had to realize the job I was applying for was not the right job for me. To clarify my intention in mentioning this experience, other people in the world suffer psychologically or physically in ways I will never know—what happened to me here is trivial and insignificant. My intention, though, is to help to point out to others who might go through a similar experience or a different experience but with similar emotional weight that ultimately what matters in life is being honest about oneself—to yourself and to others. Following the trend of theologians who reflect on death, when I die someday, I want to look back and know that I was honest, that I told the truth. For what it’s worth, on this score, see: Brad Blanton, Radical Honesty: How to Transform Your Life By Telling the Truth (Stanley: Sparrowhawk Publications, 2003).

500. I mention these experiences to point out, as the author, the nature of my particular pastoral training.
straightforward, predictable, or by any means “easy” intellectual path. That being said, it would also be a shame for me to forget those pivotal experiences which shaped my perspective on the social reality of religious life especially vis-à-vis modern science: All human experiences just happen . . . for the most part I did not choose the experiences which happened to me, but they still happened. And they impacted (in huge ways) my perception of religiosity—especially, too, because they occurred in my early 20s just as I was starting to get exposed to aspects of the world previously unknown to me, including the overall journey of intellectual growth which accompanies higher education. (Other scholars concerned generally with the relationship between science and religion, including William James,501 are reported to have undergone various bouts of depression, anxiety, or inner turmoil, as they attempted to reconcile their adolescent religious beliefs with a growing awareness of modern science.) However, what my seminal experiences in engineering chemistry, religious life, and philosophical theology, provided me with was an impetus to study the philosophy of “science and religion”—to consider seriously the project of compatibility system design while also becoming acutely aware of the limitations of such an endeavour. The remaining chapters of this thesis, then, will address the following question: what are the limitations of compatibility system design and, most importantly, do those limitations affect the integrity of the compatibility system project?

501. About William James’ early experiences with attempting to reconcile science and religion, Cathy Gutierrez (2011, 600) explains, “Science was still expected to uphold the claims of religion, and when William James was considering his educational options both he and his father assumed a complicity between the two endeavours. As William experimented with a number of vocations ranging from art to medicine, he found himself torn between the purely materialistic explanations he wished to reject and the lure of religion for which he could find little empirical evidence. The seriousness that he applied to this quandary resulted in existential despair and a depression that lasted two years.”
In discussing the character of philosophical problems, Karl Popper does not hesitate to point out that “we are not students of some subject matter but students of problems. And problems may cut right across the borders of any subject matter or discipline.”

Thus far, my analysis of the problem of constructing a “religious epistemology” in the modern scientific cosmos has cut across the borders of epistemology (primarily), sociology of religion, academic theology, and some anthropology: including compatibility system design, CPS-agents rendered institutional facts, my igmythicist approach to myths, and contributory elements from Haack’s innocent realism and Bartley’s pancritical rationalism. Adding to this eclectic mix, in the discipline of cognitive science of religion, religiosity is understood as embedded in the cultural construct of religion: e.g., social institutions allow forms of metaphysical meaning-making (e.g., mythical projection toward an afterlife) to be imprinted over the quotidian capacities of a natural cognitive system. Scientific testing in the area of “experimental theology” provides an empirical basis for the claims of cognitive science of religion. While this work is still quite novel—and, as we shall see, is really an attempt to explain religious activity—cognitive science of religion helps to point out some of the experimental work pursued in the scientific study of religion. Furthermore, epistemic assessments of cognitive science of religion (my focus) involve analyses of the types of explanations made for religious activity, evaluating whether these “explanations” are epistemically adequate, or not. In other matters, cognitive science of religion (i) seeks to


503. “Eclectic,” given the variety of novel approaches I attempt to utilize, but, of course, methodologically unified in the sense that my approaches and the projects of my central philosophers—Popper, Bartley, and Haack—share common themes: (a) they utilize a hypothetico-deductive method, (b) they avoid scientistic tendencies, and (c) for my use, they provide methodological approaches well suited to discussing the epistemic possibility of a “religious epistemology” contextualized in a modern, Western university.

balance religious commitments with scientific investigation (while acknowledging the epistemic values of those enterprises are often contrary to one another), and (ii) considers what the outcomes of experimental theology might imply for the apologetic aims of religious communities; or what experimental theology might imply for compatibility system design.

In a cognitive fashion, religiosity exists, is developed, and is transmitted between individuals without the aid of any social institution—without any consensus on the truth of belief claims. Applying the meaning of animism—“giving a soul”—as its inspiration,505 cognitive science of religion observes that human beings seem compelled to attribute goal-oriented intentionality toward inanimate objects. As the argument goes, rooted in our evolutionary past, the desire for humans to identify the presence of intentional agents in the natural world includes survival benefits. In terms of human beings’ ordinary cognitive capacity, then, this is the crux of the hypersensitive agency detection device, the HADD: With predators (e.g., panthers) nearby, an evolutionary-based, cognitive device in the mind helps detect the presence of predators. So long as effects of false-positives are not too damaging to the human psyche (perhaps false-positives result in overly cautious humans only), a maturationally natural desire to detect predators includes survival benefits. As Robert McCauley observes, “. . . The creature that is inattentive to the movement in the periphery, the shadow passing overhead, or the rustling in the leaves (let alone the sound in the basement) is less prepared to protect itself from predators, competitors, and foes.”506 Thus the evolutionary-based HADD ensures the prevention of fatalities that would result from false-negatives. Justin Barrett explains additional elements of the HADD as follows:

506. Ibid., 82.
To summarize, when HADD [hypersensitive agency detection device] perceives an object violating the intuitive assumptions for the movement of ordinary physical objects (such as moving on non-inertial paths, changing direction inexplicably, or launching itself from a standstill) and the object *seems to be moving in a goal-directed manner* [emphasis added], HADD detects agency. Gathering information from other mental tools, HADD searches for any known agents that might account for the self-propelled movement. Finding none, HADD assumes that the object itself is an agent. Until information arrives to say otherwise, HADD registers a nonreflective belief [an automatic, unconscious belief] that the object is an agent, triggering ToM [Theory of Mind tool] to describe the object’s activity in terms of beliefs, desires, and other mental states.507

In religiosity, CPS-agents (e.g., gods) are thought to possess beliefs, desires, and mental states. As outlined in the preceding quotation, the HADD detects apparent “agents” with beliefs, desires, and mental states: in a faith-based manner, then, for some, the HADD is thought to detect goal-oriented CPS-agents, thereby “explaining” religious activity and impacting the cogency of belief about God.

In terms of resources from cognitive science of religion impacting the cogency of belief about God, in *Religion Explained: The Evolutionary Origins of Religious Thought* (2001), Pascal Boyer is careful to distance his work from any apologetic agendas: Boyer explains that, despite scientifically tested cognitive theories about religion, questions such as *is religion in our genes?* or *is religion innate?* remain meaningless questions.508 What cognitive theories about religion do (potentially) explain is the natural cognitive capacity to *acquire* religious thoughts—a conclusion reached independent of any faith position *per se*. In contrast, Barrett, in his *Why Would Anyone Believe in God?* (2004), attempts to coalesce a substantive faith position with the conclusions of cognitive science of religion. In the following paragraphs, I attempt to show that Boyer and Barrett differ in their methodological


approaches about whether resources from cognitive science of religion contribute to the
cogency of belief about God.

With the apparent aim to equate the HADD (from Barrett’s own phrase hypersensitive
agency detection device) with a proposed cognitive device which detects “God,” Barrett, it
seems, faithfully “twists” his argument: Barrett presents a thesis that, with an awareness of the
existence of the HADD, humans really have no choice but to acknowledge the naturalness of
belief about God.\textsuperscript{509} Moreover, Barrett’s work includes an apologetic focus: in a faith-imbued
manner, Barrett argues that, since cognitive science of religion suggests belief about God is
natural, atheists will have a difficult time in life maintaining their atheism.\textsuperscript{510} However, as I
see it, Barrett’s argument begs the question, outlined as follows:

(i) \textit{Barrett’s premise}: in one’s everyday cognitive capacity, the \textit{HADD} is inborn—a
cognitive device one receives for free.

(ii) \textit{Barrett’s conclusion}: through faith-based, apologetic “tweaking,” Barrett concludes
the HADD detects God, that belief about God is natural—i.e., in a faith-imbued
manner, Barrett concludes the HADD is a cognitive device to detect God.

(iii) \textit{Barrett’s premise repeated}: in one’s everyday cognitive capacity, a \textit{cognitive device
to detect God} is inborn—a cognitive device one receives for free.

As shown in the preceding outline, in (iii) \textit{premise repeated}, the referent \textit{cognitive device to
detect God} replaces the referent \textit{HADD} from (i) \textit{premise}. Other than this change, (i) \textit{premise}
and (iii) \textit{premise repeated} are the same, while (ii) \textit{conclusion} remains a faith-imbued

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\end{enumerate}

\textsuperscript{509} Barrett, \textit{Why Would Anyone Believe in God?}, 108.

\textsuperscript{510} Ibid., 108-109.
Barrett’s account of cognitive science of religion impacting the cogency of belief about God is not scientifically persuasive. Like the epistemically centred projects of other faith-imbued “science and religion” scholars (including Drees, Stenmark, and van Huyssteen), Barrett’s “science and religion” project, centred on cognitive science of religion, attempts to combine an *a priori*, non-falsifiable assumption (i.e., that the CPS-agent, “God,” is an ontological reality) with falsifiable belief testing in modern science. The intriguing aspect, then, of Barrett’s project, is that, while Barrett maintains religious motivations in the form of a non-falsifiable assumption, Barrett’s project also requires falsifiable beliefs: if Barrett did not allow falsifiable beliefs from cognitive science of religion to influence the substantive content of his project—for example, acknowledgement of the neurophysiological rootedness of cognitive science—Barrett’s project would not *appear* nearly as persuasive as it does. In this sense, Barrett’s project functions as a legitimation strategy similar to those legitimation strategies presented in Chapter 2: by aligning his work *vis-à-vis* falsifiable belief testing, Barrett attempts to “justify” his apologetic motivations relative to the “distinguished” (albeit, per Haack, not “privileged”) epistemology and method of science. Secondly, Barrett’s project is an example of a faith-imbued compatibility system: science and religion—analyzed via the lens of cognitive science of religion—are seemingly combined at the substantive level. Be that as it may (and acknowledging that for faith-imbued observers this would be an emotionally attractive compatibility system), Barrett’s conclusion, that, with an awareness of the existence of the HADD, belief about God is natural, is not a tested conclusion. Nor does Barrett’s conclusion elucidate a tested causal connection between the scientific theory of the HADD and the cogency of belief about God.
In contrast to Barrett’s approach, Boyer’s methodological approach toward resources from cognitive science of religion is more modest: Boyer assesses conclusions from experimental theology, formulating tested conjectures about how cognitive science of religion might explain a natural cognitive capacity to acquire religious thoughts. (Similar to the notion that humans possess a capacity to catch a seasonal cold—they possess the vulnerabilities of a respiratory system—Boyer presents a thesis that humans possess a cognitive capacity to acquire “religion.”) Boyer’s work, however, stops short of making a faith-imbued “jump” toward relating this natural cognitive capacity to the cogency of belief about God. Despite the differing methodological approaches of Barrett and Boyer, I suggest that, so long as one remains aware of how the approaches are different, both Barrett’s and Boyer’s projects in experimental theology make a useful contribution to my design of a “religious epistemology.”

While my proposal of a “religious epistemology” in Chapter 9 will not specifically utilize content from experimental theology (my project is centred on epistemology and compatibility system design rather than cognitive science of religion), conclusions from experimental theology support my claim in this thesis that the human mind continues to defer to the actions of CPS-agents: to that end, mythopoeic and agentic modes of thought continue to permeate the “religious epistemic” standards of modern religious institutions. This particular claim is important to my mythicist conception of myths, whereby, in a mythopoeic fashion, myths are neither mere delusions nor reflections of an ontological reality for the gods, but myths are the application of meaning-enclaves (human values) enclosed in the world of natural human experience. For my purposes, then, experimental theology helps to point out:

(i) The neurophysiological, cognitive basis of the human mind in deferring to the purported actions of CPS-agents.

(ii) My proposal that, as this deferring of the human mind is a tested neurophysiological reality, our conception of myths is rightly shifted from myths as either mere delusions or reflections of an ontological reality for the gods, toward our practical use of this neurophysiological reality—toward our formulating of a “religious epistemic” framework whereby one participates in symbolically oriented projects of world-construction and meaning-making.

Boyer describes the cultural trappings of religiosity—including religious concepts, myths, and values—in terms of meme theory (“copy-me” programs) and meme-transmission.\textsuperscript{512} About this, Boyer notes, “Religious ontologies . . . surprise people by describing things and events they could not possibly encounter in actual experience.”\textsuperscript{513} Counter-ontological (counterintuitive) representations of a superhuman agent include an ontological category (e.g., \textit{person}, \textit{animal}, \textit{tool}, \textit{natural object}, etc.) and a violation of that category within a catalogue of possible supernatural templates.\textsuperscript{514} For cognitive reasons pertaining to outcomes from our evolutionary heritage, the human mind is predisposed to be prepared to acquire counter-ontological variations of certain mental concepts. Variations of these mental concepts seem to coalesce well with the nature of religious thought. In Boyer’s and Barrett’s experimental theology, controlled experiments are performed whereby concepts which correspond to supernatural templates are tested for their ease of memory recall

\textsuperscript{512} Boyer, \textit{Religion Explained}, 35.

\textsuperscript{513} Ibid., 55.

\textsuperscript{514} Ibid., 78.
compared to other concepts which do not correspond to supernatural templates.\textsuperscript{515} As Boyer explains, “. . . Barrett and I designed fairly coherent stories in which we inserted various new violations of ontological expectations as well as episodes that were compatible with [default] ontological expectations. The difference in recall between the two kinds of information would give us an idea of the advantage of violations in individual memory.”\textsuperscript{516}

Boyer outlines how long-term memory recall suggests that ontological violations are better preserved in one’s individual memory than other concepts which do not include violations.\textsuperscript{517} Moreover, violations of ontological expectations are better recalled than what Boyer terms “mere oddities.”\textsuperscript{518} For example, in experiments performed, Boyer explains that violation of the ontological category of \textit{person}, per the statement “a man who walked through a wall,”\textsuperscript{519} was recalled better than \textit{no} violation of the ontological category of \textit{person}, but violation of default expectations only,\textsuperscript{520} per the statement “a man with six fingers”\textsuperscript{521} (a mere oddity only). About these experiments, Boyer concludes, “The memory effects—we find better recall for ontological violations than for oddities or for standard associations—seem to explain \textit{the anthropological observation that oddities are not found at the core of supernatural concepts, and ontological violations are} [emphasis added].”\textsuperscript{522} To that end, as alluded to in

\begin{itemize}
\item \textsuperscript{515} Boyer, \textit{Religion Explained}, 79.
\item \textsuperscript{516} Ibid., 79.
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\item \textsuperscript{521} Ibid., 80.
\item \textsuperscript{522} Ibid., 81.
\end{itemize}
Chapter 2, relying on and testifying to the activity of CPS-agents in one’s life does not require that one have a “religion” or a “God,” as examples from various cultures illustrate. Examples include: (i) beliefs about aliens, ghosts, spirits, or witches; (ii) beliefs about dead human ancestors to which animals are sacrificed;\(^{523}\) (iii) from Boyer’s fieldwork in Cameroon, the belief that invisible dead people are a menace to non-dead people;\(^{524}\) (iv) also from Boyer’s fieldwork, the belief among the Fang people that the power of witches (belief of witches is another belief) always trumps anti-witchcraft power;\(^{525}\) and (v), in some human groups, beliefs about initiation rituals whereby adolescents must undergo complex rituals (as though rituals were kinds of “CPS-agents” themselves) in order to acquire the “secret” knowledge of adulthood.\(^{526}\)

In summary, about relying on and testifying to the activity of CPS-agents in one’s life, Boyer notes, “One group’s unimportant religious concepts can become another’s religion, and vice versa.”\(^{527}\) In addition, Boyer points out how explicit, “theologically correct”\(^{528}\) conceptions of God as a non-standard, superhuman agent are “stored,” if you will, in verbal, propositional form: e.g., the explicit statement “God is omnipresent.” These explicit concepts contrast with implicit, “theologically incorrect” conceptions of God as a more standard, anthropomorphic agent, “housed” in one’s intuitive psychology.\(^{529}\) However, Boyer is careful


\(^{524}\) Ibid., 90.

\(^{525}\) Ibid., 20.

\(^{526}\) Ibid., 243.

\(^{527}\) Ibid., 91.

\(^{528}\) In experimental theology, the concepts of theological correctness and explicit, “theologically correct” conceptions of God were formulated by Justin L. Barrett (Boyer 2001, 88).

\(^{529}\) Boyer, *Religion Explained*, 89.
to point out that “... you do not need to have theologians around in order to think in [so-called] ‘theologically correct’ ways.” For example, Boyer maintains that in societies with no explicit theological frameworks, even possibly in non-literate societies, explicit, “theologically correct” conceptions of non-standard, superhuman agents still exist: e.g., the explicit statement “spirits are invisible.” In those societies, concepts are easily acquired via tacit, intuitive expectations about the physical world, possibly leading to formulations of other beliefs such that invisible spirits are like human beings, because spirits are thought to have minds that work like human minds.

8.2. Natural and Unnatural Cognitive Systems

In other aspects of cognitive science of religion, in his *Why Religion Is Natural and Science Is Not* (2011), Robert McCauley provides an additional methodological perspective toward the intellectual landscape of “science and religion”—a cognitive, comparative analysis grounded in the cognitive naturalness of religiosity and cognitive unnaturalness of scientific thought. McCauley’s thesis is that religious exercises—in the popular sense of the concept *religion*, which, for McCauley, is the spontaneous transmission of *religiosity* between individuals—are derived from a maturationally natural cognitive system. (The production of technology, too, is thought to be cognitively natural.) In contrast, scientific exercises are grounded in an unnatural cognitive system, characterized by deliberate reflection and critical thought. Moreover, McCauley’s thesis supports the realization that theological exercises are not religious *per se*, but are exercises of investigation and inquiry which *attempt* to be “science.”

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531. Ibid., 89.
532. Ibid., 89.
McCauley distinguishes between (i) practiced naturalness and (ii) maturationally natural cognition. Practiced naturalness is based on human experience in a particular domain of knowledge—e.g., observed experience which leads one to obtain expert knowledge in a particular field. Maturationally natural cognition, or *maturational naturalness*, is not based on human experience, but rather is derived from innate and intuitive understanding—e.g., perennial techniques of chewing and walking—knowledge one receives “for free.” Maturational naturalness requires small amounts of effort only to be understood (without reflection), despite the fact that information involved might be complex. In addition, techniques of maturational naturalness are easily grasped: with minimal effort, they are spontaneously transferred between individuals. McCauley summarizes this unexpected realization as follows: “Their maturationally natural systems equip human minds to readily generate, retain, deploy, and transmit religious representations. *By contrast, the prominence of those maturationally natural systems is mostly an obstacle to the invention and the investigation of alternative causal conceptions* [emphasis added]. Broadly speaking, this is why science is so hard to learn and why it is so hard to do.” Moreover, McCauley goes on, “The deepest source of science’s cognitive unnaturalness is the ever-growing disparity between our maturationally natural perceptions and intuitions about things and the very different picture of the world that science discloses.” Modern scientific thought, then, being outsourced from an unnatural cognitive system, leads to counterintuitive representations of

534. Ibid., 82.
535. Ibid., 106.
physical reality. Theology, too, being systematic and polemical, is less easily transmitted between individuals than maturationally natural “agentic thinking” is transmitted.

Counterintuitive representations of physical reality are not inaccurate descriptions of reality, but they are not as easily formulated, understood, or transmitted between human beings as are agentic representations of reality found in religiosity and permeating modern religious institutions and ritual systems. McCauley’s perspective on these fronts is that the continued existence of science, then, may be fragile: McCauley points out the vulnerability of science relative to other powerful political and social institutions, suggesting science is a sociologically fragile enterprise—science is an exercise misunderstood by the public to be an activity about “truths-to-be-memorized.” On this score, I agree with McCauley—the notion that science is actually composed of beliefs subject to ruthless, critical tests (and possible modification or even complete refutation) seems not well understood by the public. However, to be honest, I find it difficult to appreciate McCauley’s position that the continued existence of science, then, is fragile: does not the realization that science (unlike religion) allows for improvement and modification of beliefs—and how this makes learning possible—mean

536. E. Thomas Lawson and Robert McCauley, in their Bringing Ritual to Mind: Psychological Foundations of Cultural Forms, discuss a theory of religious ritual form. As a theory of actions, a theory of religious ritual form, Lawson and McCauley argue, can be used in the scientific study of religion to define or conceptualize the category “religion.” Being careful not to conceptualize religion in such a way that the framework is so broad that any human action might count as religion (e.g., people participating in communal cheering at a sports game could be construed by some to be “religion”), Lawson and McCauley (2002, 9) defend their theory of actions by demonstrating how a theory of actions relates actions specifically to the actions of CPS-agents. The components of religious rituals include a CPS-agent, an act (usually via an instrument, e.g., water), and a patient (the person receiving the action of the ritual). Interactions between CPS-agent and patient (and sometimes via an intermediary) are thought to bring about ontological changes in the physical world which are either temporary or permanent. In the context of religious institutions, religious rituals are thought to possess an insider criterion—religious rituals are open to religious initiates only (for instance, baptism, circumcision, circling the Ka’bah, etc.). Whereas religious actions (generally) are described by an outsider criterion—religious actions are open to anyone (e.g., anyone—including the non-religious—can claim to have a mystical experience).


538. Ibid., 281.
science is an activity with much potential for future existence? My new, igmythicist approach to myth (presented initially in Chapter 4; to be unpacked further) provides a response to this question—a solution to the ever-growing problem that science and academic versions of theology, vis-à-vis a quotidian religiosity, are sociologically fragile. This new, igmythicist approach is articulated further in the following chapter—Designing a “Religious Epistemology.”
9. Designing a “Religious Epistemology”

There’s still the river! . . .


9.1. What Type of Rationality?

In the rather obscure, yet brilliant, film *The Night of the Hunter* (Laughton 1955), the adolescent character, John Harper, helps himself and his younger sister, Pearl, escape in a rowboat down a river after a fraudulent preacher (Robert Mitchum) murders their mother (Shelley Winters) all the while convincing the gullible townspeople he is a prophet. This unusual plot is rich with religious themes, including allusions to escaping from bondage (in this case, the biblical image of a river is apropos), being (unwittingly) cared for, and, in the end, embracing the qualities of a pure heart. Moreover, this theologically oriented *Bildungsroman* is especially intriguing if one considers that, while John and Pearl experience a coming of age which includes religious dimensions, the townspeople acclimatize themselves to the religious teachings of the preacher: he reassures them—no doubt his presence (on the “surface” at least) matches their impression of what a religious life ought to be. At the end of the film, the townspeople undergo a kind of existential crisis: they discover the preacher’s fraudulent nature, and, having fallen for him, their perceptions of themselves and their own lives are acutely questioned. On the other hand, the characters, John and Pearl, having undergone a crisis of their own, find unconventional solace within a group of misplaced children and adolescents, mentored by an older woman, Miss Cooper, who fills the role of

539. The screenplay for *The Night of the Hunter* was written by American author James Agee.

540. See the biblical narrative in Exodus 2.
advocate and guide; unashamedly, she describes herself as a strong (mustard seed) tree with branches for many birds. All in all, it’s a highly interesting film, because it highlights the psychological interplay of innocence, fear, and endurance—facing whatever obstacles life throws your way and evolving to become a more mature, a more human, person because of those obstacles.

Intellectual and emotional dilemmas centred on the question of “science and religion” are, for many, academic and personal obstacles: the obstacle is (i) for some, an epistemic complication in Western, intellectual achievement; (ii) for others, an emotional red herring in the struggle for faith. Whatever the contexts for various individuals, these academic and personal obstacles seem to materialize themselves as fairly intense psychological dilemmas: epistemic complications in intellectual life or emotional distractions in one’s struggle for faith might cause one to question one’s assumptions, background experiences, future goals, and, perhaps most importantly, one’s sociocultural identity. As Peter Berger brilliantly puts it, “The difficulty of keeping a world going expresses itself psychologically in the difficulty of keeping this world subjectively plausible.” As considered in great detail in this thesis, both scientific and religious exercises aim to describe shared states of affairs in one, physical world: the activities of science and religion (for either scientific or religious practitioners) are included in Berger’s suggestion that social enterprises possess the task of maintaining the world’s subjective plausibility. Moreover, social worlds are heavily structured by conversations between individuals and significant others. As examples of significant others, Berger cites

541. See the biblical narrative in Mark 4:30-32.
parents, teachers, and peers, and, following Berger’s lead, we could extend *significant others* to include scientists, theologians, professors, and writers. Consider what happens, though, when a significant other dies, moves away, or how the subjective plausibility of a social world is affected when, say, an individual makes a conscious decision to reject a significant other? In the contexts of scientific and faith-imbued lives specifically, what happens when, for example, (i) new scientific theories are tested, suggesting life did not all at once come into being as religion claims it did or that, at death, brain activity most surely ceases forever; or (ii) when a mostly non-religious person, whose friends have all died, finds it difficult to locate any meaning in life and becomes severely depressed; or (iii) when a person who grew up in a religious community realizes he or she is not heterosexual and is told to keep that information secret? In short, from Berger’s terminology, “. . . the world begins to totter, to lose its subjective plausibility.” And, given any of the preceding examples (and there are many, many others), to pretend that the world has not begun to totter, that the world has not started to lose its subjective plausibility, would be a kind of denial of the human condition and/or a fairly intense psychological dilemma.

In terms of the epistemic interfaces of science and religion, and our academic and social location in the new, disenchanted cosmos of science, perhaps what is most unsettling (for some) is that our acclimatized expectations of what a religious life ought to be are suddenly questioned. Like the townspeople in the *The Night of the Hunter*, who acclimatize

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544. In these examples—from possible scenarios in scientific and faith-imbued lives specifically—“significant others” are the human enterprises of science and religion themselves, which exist in relationship with individuals: how subjective individuals perceive, utilize, and assess the epistemic and/or social merits of these enterprises.

themselves to the religious teachings of the fraudulent preacher, although they have definite expectations of what religion is, they also prevent themselves from recognizing and evaluating new, radically different modes of thought when they arise, leading eventually to psychological distress about the “plausibility” of their own plausibility structures. (Although the example from The Night of the Hunter is an extreme, fictional example, centred on a fraudulent preacher who is a murderer and a brother and sister who escape down a river, the existential implications I describe here—portrayed brilliantly in the film—are applicable to the intense psychological dilemmas of science and religion.\(^{546}\))

Thus, in light of the new scientific cosmos, formulating new perceptions of what a religious life is or isn’t becomes necessary—in a sense, “theologizing” (i.e., meaning-making) in this new cosmos which is represented epistemically by a modestly naturalistic epistemology. That “there’s still the river . . .”\(^{547}\) implies that there’s still work to do; that it’s still premature to give up on attempting to re-contextualize (re-place) myth and non-tested, religious beliefs in a modern, Western university. (Unpacked further in this chapter, the re-contextualizing of myth occurs in an epistemic stance like Haack’s modestly naturalistic epistemology.) Moreover, that “there’s still the river . . .” implies that I haven’t given up yet;

\(^{546}\) Moreover, the notion of psychological “escaping” has its place in personal “science and religion” dilemmas. From examples already mentioned: (i) New scientific theories which suggest life did not all at once come into being as religion claims it did or that, at death, brain activity most surely ceases forever, might psychologically cause one to want to “escape” the non-tested, mythopoeic worldview of religion. Or, (ii) concerning a mostly non-religious person, whose friends have all died and who finds it difficult to locate any meaning in life and becomes severely depressed, that person might discover that he or she wants to “escape” the purely materialistically oriented life he or she previously sought. Or, (iii) concerning a person who grew up in a religious community and realizes he or she is not heterosexual and is told to keep that information secret, that person might find that he or she wants to (for psychological reasons, as fast as is possible) “escape” the psychological confines of a final, fixed, and substantive religious life—or at least re-interpret religious life vis-à-vis the substantive, tested beliefs of modern science.

\(^{547}\) As is hopefully apparent, I have chosen the image of a river, because of the powerful symbolism of rivers in religious narratives: e.g., themes of escaping from bondage, crossing over to new beginnings, finding refuge, etc.
that I’m not bogged down by former innocence and fear, but I’m pushed forward by new, intellectual stamina. Metaphorically, one’s travelling down a river to escape past oppression, or one’s crossing over a river to start a new life, are symbols of one’s new beginning; of one’s fresh start: Throughout this thesis, I’ve often referred to the assumption that religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds. When assessing the initial plausibility of that assumption in Section 1.2, I pointed out how that assumption itself did not include the faith-imbed tenet that superhuman agents, about which religious people express beliefs, are metaphysical realities. However, what that assumption did include was the sociological observation that, given a population of people (speaking generally), some of those people, when asked about their religious commitments, will provide testimonies about superhuman agents and/or testimonies about trans-empirical worlds. In that way, superhuman agents and trans-empirical worlds, about which religious people testify, are cultural postulations—belief claims arising from within the cultural construct of religion and,

548. To be honest, the potential fear of the existential implications of either science or religion in one’s life, and/or the naive innocence that either enterprise might bring. Put simply, this refers to facing up to the emotional and psychological frustration that comes with attempting to balance (i) the cognitive values characteristic of a scientific epistemology with (ii) the peculiar nature of non-tested belief claims included in a “religious epistemology.” As outlined in this thesis, any theory of rationality which allows intellectual space for the presence of belief claims at the same time begins to sacrifice the cognitive values characteristic of a scientific epistemology. As cognitive values are lost, the question arises of whether we still possess an “epistemology”? Alternatively, if we remove belief claims from our “religious epistemology,” but consequently preserve the cognitive values of science, have we missed the point of what a religious epistemology was supposed to accomplish? The epistemic issues raised by these questions can be emotionally and psychologically daunting, especially as one undergoes a process of intellectual maturation; as one begins to rationally question the “plausibility” of one’s own plausibility structures. As a kind of psychological escape hatch, it might seem far easier to believe that science and religion will just “take care” of themselves—the naive innocence of either science or religion. So, a willingness to honestly and openly approach the question of “science and religion” does require some intellectual stamina.

549. And . . . for what it’s worth . . . in the mythopoeic story of the Garden of Eden, the gods—elohim—bestow human beings with faculties of intellect and reason when the gods create human beings in their image. (See the biblical narrative in Gen. 1:26-27.)

550. Indeed, this is the second of the two substantive assumptions which I make in this thesis.
physiologically, from the predilections of a maturationally natural cognitive system. My sense that “there’s still the river . . .”—that there’s still work to do; that I haven’t given up yet—is, in effect, my own particular human testimony. As an igmythicist, my testimony is not falsifiable—I cannot test (from intersubjectively observed experiences of phenomenal reality) whether my conjecture reaches a high degree of certitude or whether my conjecture is false. And while it is very possible that my desire to keep on trying, so to speak, is a testimony arising from my own particular sociocultural and intellectual background, as well as even physiologically from the predilections of my maturationally natural cognitive system, this particular testimony is my practical expression of what it means to “theologize” in a modern university.

It might be surprising, then, to some, that I suddenly introduce the term theologizing into my scientific study of religion, which (explained in Chapter 1) seeks to explain using tested scientific theories rather than theologize by way of CPS-agents. As an igmythicist, my use of the term “theologizing”—re-contextualizing myth in a modestly naturalistic

551. See the description and outline of a maturationally natural cognitive system—per McCauley’s thesis of the naturalness of popular religion and the unnaturalness of modern science—in Section 8.2.

552. My igmythicist approach to conceptualize myth in the modern scientific cosmos was presented in Section 4.2.

553. That is, keep on trying to attempt to re-contextualize (re-place) myth and non-tested, religious beliefs in a modern, Western university; in a modestly naturalistic epistemology. The great difficulty of this task exists, because any theory of rationality which allows intellectual space for the presence of belief claims at the same time begins to sacrifice the cognitive values characteristic of a scientific epistemology. As cognitive values are lost, the question arises of whether we still possess an “epistemology”? Alternatively, if we remove belief claims from our “religious epistemology,” but consequently preserve the cognitive values of science, have we missed the point of what a religious epistemology was supposed to accomplish? Balancing these eclectic epistemic and social factors plays heavily into one’s attempt to re-contextualize myth and non-tested, religious beliefs in a modern, Western university.

554. Possibly arising physiologically from the predilections of a maturationally natural cognitive system, because if my testimony—to keep on trying to re-contextualize myth and non-tested, religious beliefs in a modern, Western university—is in fact an emotional and psychological remnant of my adolescent religious background and those theological career interests I pursued in my early 20s, then my testimony is still, in some sense, “faith-imbued” with the actions of CPS-agents, arising from the predilections of my maturationally natural cognitive system.
epistemology—is assessed in the remainder of this thesis. Note that I do place the terms *theologizing* and *theologize* in scare quotes to point out how their usages in my context are not typical theistic, faith-imbued usages whereby CPS-agents are invoked to know and interpret the world. Moreover, as Wiebe notes, the final chapters of many books and doctoral theses in the scientific study of religion seem to undergo what he terms the *last chapter syndrome*: in the scientific study of religion, for nearly the entire duration of one’s analysis, ontological realities for CPS-agents were bracketed, but then, suddenly, in one’s final chapter, CPS-agents (“gods”) appear as explanatory forces. Falling victim to the last chapter syndrome is not my intention either. Per Berger’s methodological atheism, ontological realities for CPS-agents remain bracketed in this last chapter, which means this chapter remains my contribution to a genuine scientific study of religion. Despite my insistence that CPS-agents remain bracketed, what are not bracketed (nor have they been throughout the thesis) are *subjective, human testimonies*, including my own, outlined in the preceding paragraph. Nevertheless, in bracketing ontological realities for CPS-agents, I do realize that, for some, what I have done is, in effect, “pulled the plug” on the entire tradition of faith-imbued theology, both past and present. *However*, as outlined in Section 1.2, in my analysis, what I also bracketed was the ontological status of the external world: Similar to the methodological atheism adopted in the

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556. Of course, although testimonies, including my own, are not bracketed, *non-tested* testimonies themselves cannot serve as explanatory forces in one’s academic work. Per the first of the two substantive assumptions which I make in this thesis—*phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world*—only those beliefs which are tested via intersubjectively observed experiences of phenomenal reality are permitted as possible explanatory forces. Nevertheless, subjective testimonies can help to point out one’s emotional and psychological motivations in pursuing a particular academic question or problem; or the personal, background experiences one brings to a particular question or problem.
academic study of religion, the particular philosophy of science I advocated for was a "methodological atheism" about the truth of scientific statements (as with religious statements)—a "methodological atheism" about the ability of scientific statements to correspond in a foolproof manner with the truth of the external world. It would not be inaccurate, then, to classify my philosophy of science (generally) as a philosophy of science which brackets the ontological status of the external world. So, all in all, while bracketing ontological realities for CPS-agents, I have also tried to distance myself, as far as is possible, from an absolutist conception of science whereby the truth of the external world is affirmed to correspond with the statements of science; where the statements of science are thought to be infallible. Thus, in my analysis, intersubjectively observed experiences of phenomenal reality make the testing of beliefs possible; however, objects of tested beliefs are not assumed to be necessarily equated, substantively, with the truth of the external world.

About the personal, psychological dilemmas of “science and religion,” while I suppose there remains the possibility that one merely states one is “not interested in science and religion,” or that one believes “science and religion will ‘take care’ of themselves” (possible responses whether one originates from a predominately religious or mostly scientific

557. As mentioned, the assumptions underlying my philosophy of science are similar to the assumptions employed in Nancy Cartwright’s instrumentalism: Cartwright (2002, 17) remarks, “The fundamental laws of the theory are true of the objects in the model [constructed model to fit observed phenomenon into a theory], and they are used to derive a specific account of how these objects behave. But the objects of the model have only ‘the form or appearance of things’ and, in a very strong sense, not their ‘substance or proper qualities’ [emphasis added].”

558. Substantive realities of objects of tested beliefs—realities thought to exist “behind” appearances—contrast with observable, phenomenal realities of objects of tested beliefs.
mindset), it seems most individuals adopt one of the following more explicit responses or a variant of one of the following:

(i) Reject the modern scientific enterprise.

(ii) Attempt to make religion “fit” science.

(iii) Attempt to make science “fit” religion.

(iv) Place science and religion in separate “compartments.”

(v) Reject the non-tested beliefs of religious life.

I note that variants of the preceding responses are quite possible, because, as discussed, various brands of religiosity are compared and contrasted with modern science. As McCauley candidly notes in the following two summary questions: “The pressing questions are: (1) Who gets to say whose religiosity is or is not true or whose version of Islam (or any other religion) is the right one? and (2) On what rationally convincing basis do they get to say it?”

Ironically, the epistemic implications of McCauley’s summary questions are unexpected byproducts of the post-Kuhnian compatibility system: While science is argued to be no more rational than religion, at the same time, this application of the *tu quoque* renders particular belief communities (religions) themselves irrational. Bartley rightly noted how employing the *tu quoque* is the very attitude of mind which counteracts the critical mindset of the pancritical rationalist. In a modern university, while the *tu quoque* might render one’s particular belief community temporarily immune from criticism, this temporary immunity means the criticism of other belief communities by other religions becomes impossible.

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559. These five possible responses to the question of “science and religion” (inspired by Smart) were considered initially in Chapter 4.


post-Kuhnian compatibility system enthusiasts, then, not only is science no more rational than religion, but now (though post-Kuhnian compatibility system enthusiasts were not anticipating this) every religion is seen to be no more rational than any other religion. In addition, this realization points out how the post-Kuhnian compatibility system (like the demythologized compatibility system) attempted to rule *prima facie* in favour of one, particular belief community. However, as epistemically *neutral* reasons were never stated for committing to a particular religion or brand of religiosity through which the comparison of “science and religion” was made, particular religions cannot claim to be more rational than other religions. When analyzed in this fashion, Bartley’s caution—that application of the *tu quoque* leads to outright irrationalism per any commitment—is not some melodramatic, epistemic paranoia, but an honest acknowledgement that the *tu quoque* leads to an outright postmodernism in the modern university. This emphasizes further how arguments held by faith, which inevitably crop up in the post-Kuhnian compatibility system per one’s choice of religion, convince no one unless one believes arguments based on particular brands of faith.

To that end, as examples, consider (a) a mythologized variant of Christianity which makes belief claims about metaphysical objects or (b) a demythologized variant of Christianity regarding the Christian worldview more as an ethical system or a way of life. Indeed, depending on which brands of Christian religiosity are compared and contrasted with science, the natures of any of the preceding five responses to “science and religion” (listed in the preceding paragraph) would be quite different: When applying a demythologized brand of Christianity, none of the preceding five responses really apply since a demythologized Christianity does not seem to require the building of a compatibility system (more to this
claim in the following section). On the other hand, in applying a brand of Christianity which makes belief claims about metaphysical objects, all of the preceding five responses are possible, leading some to (i) reject the modern scientific enterprise, (ii) attempt to make religion “fit” science or (iii) science “fit” religion, (iv) place science and religion in separate “compartments,” or (v) reject the non-tested beliefs of religious life. Moreover, as considered, various definitions and conceptualizations for the concepts God or myth, applied by theists, atheists, agnostics, or igtheists, render various types of comparisons and contrasts of “science and religion.” My comparison and contrast of “science and religiosity simpliciter” situates this thesis in the scientific study of religion per my two substantive assumptions (i) that phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world, and (ii) that religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds. The type of comparison and contrast of “science and religion” I defend, then, is linked directly to the type of rationality I propose, involving (a) an ontology grounded in Haack’s innocent realism as well as (b) an epistemic stance suitable for a modern university like Haack’s modestly naturalistic epistemology. My application of Haack’s arguments are then supported by Bartley’s criticizability thesis, suggesting that, in being critical of beliefs, critical of criticism itself, and being self-critical, a kind of consistency permeates one’s learning and testing of beliefs. As mentioned, these are necessary ingredients to elucidate “knowledge and belief systems” which critically survive (or perhaps simply die) from ones that become stagnant ideologies.

562. For example, (i) God as substantive reality or institutional fact, or (ii) myths as substantive descriptions of physical reality or symbolic, human-inspired representations of physical reality.
As outlined, the crux of Haack’s modestly naturalistic epistemology is that naturalism contrasts with apriorism.\textsuperscript{563} science contributes to epistemology, but epistemology is not subordinate to science. In a scientific study of religion, where various conceptions of the relationship between epistemology and science are possible,\textsuperscript{564} Haack’s philosophical model—a modest departure from traditional apriorism, while also stopping short of replacing epistemology with science—supports my thesis that, while CPS-agents remain bracketed, human testimonies—types of “epistemologies”—help to point out emotional and psychological motivations at play in a scientific study of religion: i.e., subjective motivations at play in pursuing academic questions about “science and religion,” myth, and religious life in the modern university. Thus, subjective, human testimonies are not replaced by science, yet scientific theories—in this case, theories from cognitive science of religion—influence the role of human testimonies in a scientific study of religion: pointing out, for example, that human testimonies are sociocultural byproducts of physiological processes such as the HADD and a maturationally natural cognitive system.

Similar, then, to the \textit{science-influenced epistemology} of Haack’s modestly naturalistic epistemology, in dialogue with her \textit{epistemology-influenced science}, I propose an ongoing dialogue between \textit{science-influenced human testimony} and \textit{human-testimony-influenced science} (more to this in the following section). That being said, Haack, herself, might be surprised by my application of her projects in this fashion toward the scientific study of

\textsuperscript{563} Haack, \textit{Defending Science—Within Reason}, 307.

\textsuperscript{564} As mentioned, other possibilities to conceptualize the relationship between epistemology and science include: (i) radical, “revolutionary” naturalism which denies the value of epistemological questions altogether (Haack 2009, 169); or (ii) forms of scientistic naturalism which preserve the notion of an “epistemology,” but turn epistemological questions over to science to resolve completely (Haack 2009, 169).
religion. Haack, whose work does not centrally address theological-type or religious-type matters, comments that “... it is incomprehensible why anyone would seriously engage in theological inquiry if he didn’t think the deity is knowable to some extent by creatures with powers such as ours.”

By a similar token, Haack suggests it would be incomprehensible for a person to engage in scientific inquiry unless he or she thought the physical world was in fact knowable.

Haack’s realist intents, undergirding her philosophy of science centred on everyday investigation and inquiry, are demonstrated clearly in her realist insistence that scientific inquiry presupposes a knowable physical world; likewise, per my reading of Haack, that theological inquiry presupposes God is an ontological reality. Haack’s perception of theological inquiry (no doubt) is that theology is a faith-imbued exercise: per mainstream theology, then, Haack makes a fair observation that (faith-imbued) theologians presume a CPS-agent-based, religious ontology, thereby presuming God is knowable in the framework of such an ontology. Haack’s perception of theology, however (although no oversight of her own), is limited to these mainstream, faith-imbued, and what I call non-academic, versions of theology. In contrast, an alternative, constructive version of theology is possible, including a new “science and religion” discourse, outlined in the following paragraphs:

Via Paul Kurtz’s igtheism and my supporting thesis of igmythicism, conceptions of God as institutional fact and myths as symbolic, human-inspired representations of physical reality, creatively call to mind a new, alternative, and refreshing conception of theology in the

565. I think Haack might be interested, but quite possibly surprised.

566. Haack, Defending Science—Within Reason, 139-140.

567. Ibid., 139.

modern university—the formulation of a constructive theology in settings of unpredicted, fluctuating, experiential, and tested learning in the scientific cosmos of the twenty-first century. Igmythicism—an extension of the tenets of Kurtz’s igtheism—“opens the mind,” so to speak, to the possibility of a new “science and religion” discourse, centred on a new conception of myth: As in igtheism, the prefix ig, from ig-mythicism, indicates the word ignorant, although ignorant does not imply a negative attitude per se toward myth. Rather the “ignorance” of igmythicism (like the “ignorance” of igtheism directed at theism) refers to the realization that the statement myths provide descriptions of physical reality is a nonsensical statement. Yet, in a creative, practical move, igmythicism provides an opportunity to clarify—that is, eliminate—the “ignorance” of myth by suggesting a new, alternative conception of myth vis-à-vis the “distinguished” epistemology of tested knowledge claims; a new conception of myths as symbolic, human-inspired representations of physical reality. Moreover, this new conception of myths supports an alternative, constructive theology—one centred on symbolically oriented, human-inspired projects of meaning-making—in the modern, Western university.

The first principles of Haack’s innocent realism also lend themselves well to a new “science and religion” discourse. As discussed, innocent realism permits the a priori assumption that “something” exists independent of you or me, but this form of realism appears “innocent” in the sense that the “something” which exists is about the phenomenal world as perceived and constructed by us: how we—as fallible and imperfect, yet rational and sophisticated creatures—know, interpret, and construct the world to be. Thus, from innocent realism, we get “the best of both worlds”: (a) we are not forced to sacrifice the cognitive
values in our scientific epistemology—our explanations for human experiences are derived from observed experiences of phenomenal reality only, and (b) we are left still with intellectual space to identify our human experiences in the meaning-structures of sociocultural institutions, including religions. In the style of Habermas’ postmetaphysical thinking, statements of subjective, human testimonies—like moral, artistic, and emotional statements—need not be reducible to natural, causal interactions only. Per the three-fold characterization to realize, identify, and explain objects of belief, human testimonies—types of belief claims—might be explained (or be explained in the future) using tested beliefs (scientific theories) about states of affairs in the world. Yet religious-type, human testimonies are identified—indeed, contextualized; made sense of—in religious-based, sociocultural institutions. In summary, the contribution of innocent realism to my assessment of the compatibility of the scientific study of religion and a “religious epistemology” is that subjective, human testimonies do have a place in a scientific study of religion: human testimonies play a role in the scientific study of religion by presenting a human-inspired, sociocultural framework (like human-inspired myths) used to identify emotional and psychological contexts whereby one is motivated to design a “religious epistemology” in a modern university; or to attempt compatibility system design.

My project, then, outlined using the parameters I have stipulated, is different from yet similar to all of Wiebe’s, Drees’, Stenmark’s, and van Huyssteen’s methodologies (which are also all different from one another). For completeness, I highlight these differences and similarities as follows:
(i) Wiebe’s assumptions recognize the critical method of the sciences as setting an epistemic benchmark for testing beliefs, leading to Wiebe’s suggestion that theology is neither a religious activity nor a scientific one, but, in a faith-based manner, “faith-imbued theology” attempts to function both religiously and scientifically. This contrasts with Wiebe’s foundationalist “academic theology,” which functions scientifically only, and thus is ironic as it suggests theology can be inimical to faith-based aspirations. While my project is certainly grounded in Wiebe’s arguments concerning the nature of theology as a mode of thought in relation to modern science, my project considers how academic theology might be extended, à la postmetaphysical thinking, toward some practical, “real life” applications via my igmythicist approach to myth. Like Wiebe, I bracket ontological realities for CPS-agents. However, unlike Wiebe, I consider in greater detail, following trends from innocent realism, the role of human testimony in academic theology to provide a human-inspired framework to identify emotional and psychological motivations at play in one’s academic work.

(ii) Drees’ assumptions, to a point, recognize the critical method of the sciences as setting a benchmark for testing beliefs (Drees is an ontological naturalist); however, in a faith-based manner, Drees allows the possibility that objects of belief be identified/located in trans-empirical worlds, rendering Drees’ method a method which attempts the inclusion of both falsifiable and non-falsifiable assumptions. Like Drees, I function as an ontological naturalist. However, unlike Drees, my project is oriented such that, à la innocent realism, objects of human belief are
identified in sociocultural institutions only; not in the non-falsifiable realities of trans-empirical worlds.

(iii) Stenmark’s assumptions allow a model of rationality specific to scientific inquiry and a different model of rationality in religious life. As argued in this thesis, neglecting the Popperian distinction between *knowledge* and the “*claim to knowledge*,” Stenmark embraces the *tu quoque*: so goes his postmodernist argument, since rationality is about how real people live, rationality cannot exclude faith-based aspirations. Stenmark’s theory of rationality, then, is faith-imbued in the sense that *a priori* it expects non-tested beliefs to be valued epistemically. Like Stenmark, I accept that rationality (generally) is about how real people live. However, unlike Stenmark, à la panchinal rationalism, I view the principles of a theory of rationality as centred on a *disengaged* worldview—in being critical of beliefs, critical of criticism itself, *and* being self-critical, some consistency is allowed to permeate one’s testing of beliefs.

(iv) Van Huyssteen’s assumptions recognize that theology cannot just employ reasoning strategies different from other academic disciplines; however, van Huyssteen’s postfoundationalist model includes the suggestion that, as “problem solving” is common to all of religion, theology, and science, overlapping and shared points of contact exist between these disciplines—in a seemingly faith-based manner, one “transverses” from the tenets of one mode of thought (e.g., mythopoeic) to the tenets of another (e.g., scientific). Like van Huyssteen, I argue theology cannot just employ reasoning strategies different from other academic disciplines. However,
unlike van Huyssteen, à la innocent realism, I view the activity of problem solving in a modern university as undergirded by tested beliefs in a naturalistic ontology. At the same time, motivations toward problem solving are supported by notions of postmetaphysical thinking, permitting statements not reducible to causal interactions only to “inhabit” levels of socially constructed realities of their own.

If the preceding four summaries point out anything (and I do hope they point out something), it is that scientific models for religious knowledge (the title of this thesis) are complicated, eclectic, and often confusing models. I take up some of these complications in the following section.

9.2. Initial Complications for a “Religious Epistemology”?

It is my sense some objections may arise at this stage or have arisen throughout the preceding analysis. Even if not so, these hypothetical objections—as well as my replies to them—help to situate the concluding aspects of this thesis vis-à-vis my preceding analysis. In my context, what does “theologizing” mean—indeed, in my context, does this concept have meaning? For example, Ninian Smart, if he were living, might question (or be concerned about) aspects of my thesis. As Smart put it, “If we assume, more generally, that there is no Ultimate, no Beyond, then we assume that religion is false. Religion, then, is a finger that points, but at nothing. There is no moon for it to point to.” Furthermore, others might be concerned that, in appealing to Haack’s innocent realism and modestly naturalistic epistemology, I have attempted to make religion “fit” a naturalistic ontology; that in doing so I have disregarded

569. Not that I think Smart (for example) would outright part company with my project, but, if he were living, Smart might question (be concerned about) some aspects of my project. In my replies to possible objections in this section, I take up these hypothetical matters.

570. Smart, Worldviews: Crosscultural Explorations of Human Beliefs, 135.
what is, for many, the personal, existential integrity of faith-based aspirations. I shall now reply to these possible objections: my replies serve to “bring full circle” the philosophical design of a “religious epistemology,” alluded to throughout this thesis. Until the end, we are concerned with the possible compatibility of a “religious epistemology” and the scientific study of religion. In addition, analyses of possible objections, and my replies to them, capture potential benefits and limitations (from various perspectives) for the proposed “religious epistemology.”

**Possible Objection #1**

- In my context, what does “theologizing” mean—indeed, in my context, does this concept have meaning?

**Reply #1**

This thesis includes an extension of the postmetaphysical project—a realization that potential compatibility systems are attempts to actualize some of the aims of a postsecular society. At the same time, in a disengaged theory of rationality, a scientific explanation reveals a cause for how a state of affairs in the world occurred. When applying scientific models to religious knowledge, then, epistemic care must be taken to ensure (i) that natural causality is not mixed with CPS-agentic causality, with supernormal aims, or with purported “higher” level truths, (ii) that experiential source material is tested, and (iii) that intersubjective scrutiny is maintained. Otherwise, no epistemic considerations are ever made about those shared states of affairs in the physical world which are the epistemic territory of both science and religion: e.g., claims about the constitution of physical reality, the origin of human life, the naturalness
or unnaturalness of non-heterosexual attraction, free will, or the future course of one’s life, etc.

Notions of experientialist foundationalism aver that basic beliefs are justified by the subject’s own experience, sensory or introspective: *subjective, human testimonies*—types of introspective experience, because testimonies require examination of one’s own emotional and psychological constitution—are relevant to “theologizing” in the scientific study of religion: Firstly, while natural causality is strictly maintained, emotional and psychological motivations are required to contextualize and make sense of academic questions pursued. This particular application of human testimonies is, at first, wholly *a priori*: we possess no tested beliefs suggesting that human testimonies *should* play a role in testing other beliefs. Popper, too, was adamant that justification and criticism of beliefs is a logical matter only, occurring apart from the emotional or psychological genesis of a belief. So, while Popper acknowledges the possibility that subjective, human factors might influence the formulation of a proposed belief, he emphasizes how those factors play no role in testing the belief; nor are there tested beliefs suggesting that subjective, human factors have a role to play in the process of testing in general.

Secondly, similar to Haack’s modest departure from epistemology as wholly *a priori*, my application of human testimonies to contextualize and make sense of academic questions pursued, includes a modest departure from human testimonies as wholly *a priori*: My

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571. “Modest departures” from human experiences or academic disciplines classified as forms of *traditional apriorism* include modest departures from *a priori* disciplines such as epistemology or theology, or, in the case here, a modest departure from *a priori* subjective, human testimonies. As outlined, *modest departures* refer to the fact that the sciences of cognition influence our perception and application of *a priori* human experiences and/or academic disciplines: while we refrain from repudiating categories of “human experiences” or “academic disciplines” altogether, I argue we implement two-way dialogues between *human experiences and science* and/or *academic disciplines and science*. Similarly, in postmetaphysical thinking, two-way dialogues between science and those moral, religious, artistic, or emotional statements not reducible to natural, causal interactions only.
application of subjective, human testimonies, then, is not such that the sciences of cognition cannot provide options for how human testimonies are realized, identified, or explained. (Per our three-fold characterization, inspired by innocent realism, to realize, identify, and explain an object of belief, testimonies themselves are objects of beliefs: testimonies are intellectually assented to by the beliefs that testimonies provide accurate descriptions of physical reality.) Rather, scientific theories from cognitive science of religion provide opportunities for us to make informed, conscious efforts (a) to explain, in this case, to explain religious testimonies centred on the actions of CPS-agents, and (b) to point out how testimonies are realized physiologically and/or psychologically by our evolved species, *H. sapiens sapiens*. From here, cognitive science of religion also helps suggest how testimonies about objects of belief might be identified in sociocultural institutions. The point about sociocultural institutions is that, as cognitive science of religion explains CPS-agent-based testimonies via the HADD and points out how CPS-agent-based testimonies are realized physiologically via a maturationally natural cognitive system, options to identify objects of belief in trans-empirical worlds become less plausible. However, in light of the possibility of natural explanation via the HADD and an awareness of physiological realization via a maturationally natural cognitive system, identification of objects of belief in sociocultural institutions is a plausible alternative.

In terms of “theologizing,” then, I present a new, alternative conception of twenty-first-century theology: a *constructive theology* centred on (i) objects of belief realized physiologically via a maturationally natural cognitive system, (ii) objects of belief identified

572. That, via the HADD and a maturationally natural cognitive system, it becomes less plausible to identify objects of belief in purported trans-empirical worlds, refers to the fact that, in a naturalistic ontology, one’s substantive assumptions already do not include assumptions that trans-empirical worlds are ontological realities. Moreover, when employing scientific theories such as the HADD and a maturationally natural cognitive system in one’s framework, it would be intellectually inconsistent to suddenly include trans-empirical worlds in a pre-established framework centred already on intersubjectively observed experiences of phenomenal reality only.
located) in sociocultural institutions, including religions, and (iii) objects of belief (i.e., CPS-agents) that we attempt to explain via the HADD.\footnote{Here I say attempt to explain via the HADD, because, while the HADD does explain one’s proclivity toward detecting apparent agents in the natural world, the HADD does not demonstrate an explicit causal connection between what the HADD apparently “detects” and the specific cultural construct of “God.” Nevertheless, the scientific theory of the HADD does explain proclivity toward detecting agency, in general, in the natural world.} My framework is entirely natural: trans-empirical worlds are never directly included; CPS-agents never invoked. Yet, at the same time, à la postmetaphysical thinking, my framework is not dismissive of a priori subjective, human testimonies altogether—just as Haack’s modestly naturalistic epistemology is not dismissive of a priori epistemology altogether, but situates a science-influenced epistemology vis-à-vis the complex, eclectic web of all other human knowledges and beliefs. Similarly, I propose a new, alternative notion of science-influenced human testimonies—a new, constructive theology—vis-à-vis the complex, eclectic web of all other human knowledges and beliefs.

About the meaning-making which occurs in this new, alternative conception of twenty-first-century, constructive “theologizing,” Smart’s separation of brute facts from human products directed us to the influence that myths continue to have on perceptions and mental states of human beings who live in the modern world (as testimonies of religious devotees informed us). As discussed in Chapter 4, if the physical world is not subjectivized, myths must be entirely human creations (projected onto a neutral world) whose origins must be either mere delusions or, alternatively, reflections of what is an ontological reality for the gods. From these two contrasting positions, I proposed what I called the igmythicist approach to myth, centred on myths newly conceived as symbolic, human-inspired representations of physical reality. As Smart also pointed out, the myth-maker picks out contingent features of the universe and then arranges those features in a particular symbolic fashion.\footnote{Smart, The Science of Religion and the Sociology of Knowledge, 79.} Thus, what is
most important is the role myths play—i.e., mythopoesis—in formulating a symbolic reality for the religious observer. That being said, Smart’s concern with my project (if he were living) might be that my proposal of meaning-making in the twenty-first-century scientific cosmos does not require a metaphysical “ultimate,” a metaphysical “beyond”—in short, does not depend on the assumption that purported trans-empirical worlds are ontological realities. For Smart, this might amount to the inappropriate presupposition that religion is “false” (although Smart does not assume religion is necessarily “true,” either).575

Smart’s hypothetical concern with my project would be centred on the presupposition that prima facie religion requires a metaphysical reality to which religion corresponds. With this presupposition included, no doubt my project cannot be seen to “point” to a metaphysical “ultimate.” In response to this possible objection, in terms of my arguments about CPS-agents rendered institutional facts and compatibility systems rendering the “symbol” element of a myth as social rather than substantive, it is my contention that there are no particularly, rationally compelling motives to uphold the prima facie assumption that religion requires a metaphysical reality to which religion corresponds.576 (Nor do I see any compelling reasons to make the prima facie assumption that statements of science must correspond in a foolproof manner with the truth of the external world.) With CPS-agents rendered institutional facts, and in light of subjective, human testimonies about superhuman agents (which continue to permeate modern societies), the so-called “ultimate,” to which religion corresponds, is related


576. Indeed, it could be argued that this presupposition—that prima facie religion requires a metaphysical reality to which religion corresponds—is what has caused much of the “science and religion” debate over the past 150 years in particular. Forgoing this prima facie assumption (which does not possess a very high initial plausibility anyway) does not necessarily dismiss faith-based, religious motivations, but re-casts the “science and religion” problem in a new, alternative perspective—a constructive theology in the modern scientific cosmos—as presented in this thesis.
to the collective and social recognition of the existence of CPS-agents in the natural world. Again, as argued in Chapter 4, the existence of CPS-agents is reported in a collective fashion: from testimonies of religious devotees, we find a collective recognition of the existence of CPS-agents. Likewise, Berger and his colleagues were drawn to study the phenomenon of religion as a human enterprise, one that originates from the products of collective human activity and human consciousness. Finally, what is so useful about current scientific theories of the HADD and a maturationally natural cognitive system, is these theories help explain how there is a collective and social recognition of the existence of CPS-agents in the natural world. Finally, per innocent realism, these (possible) scientific explanations need not erase all meaning from natural human experiences and testimonies, but innocent realism allows for a philosophical framework which consequently identifies and locates human experiences and testimonies in sociocultural, religious institutions.

This leads me to argue that the inclusion of so-called religious experience in a “religious epistemology” amounts to the initiation of human life experiences and testimonies —i.e., the human condition\(^{577}\) itself, realized by H. sapiens sapiens—into a sociocultural framework whereby human testimonies are experienced via symbolic meanings of institutions.\(^{578}\) Furthermore, as discussed, symbols express the “ultimate” by implying their own lack of ultimacy: the most important aspect of symbols is the ultimate reality to which they point.\(^{579}\) In addition, symbols allow societies to move beyond typical space-time

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577. In applying the phrase human condition in this context, I am thinking along the lines of this phrase’s typical usage to point out human reflection about human phases of life, including birth, childhood, adolescence, adulthood, death, etc., and human reflection about common emotional states, including hope, fear, love, etc.


perspectives,\textsuperscript{580} serving as cultural mediums through which the testimonies of religious devotees can be relayed to those not privy to experiences reported by religious devotees. The ultimate reality, then, to which symbols point, need not be some nonsensical, ineffable, inaccessible, non-observed, final, fixed, substantive, trans-empirical world. In conclusion, I argue the “ultimate reality,” to which symbols point, is the subjective, unpredicted, and fluctuating human condition itself—realized physiologically and/or psychologically, identified in sociocultural institutions, and explained using tested theories about states of affairs in the world. In addition, van Huyssteen rightly points out that “. . . [religious] traditions are, among other things, long-established testimonial chains. . . .”\textsuperscript{581} The role of testimonial experience is to subjectively uncover—that is, uncover in emotional and psychological terms—those human motivations at play in (a) pursuing various academic questions in the scientific study of religion or (b) pursuing a religious life inside or outside the modern university.

As examples, emotional and psychological motivations expressed metaphorically by the theme that “there’s still the river . . . ,” or socially bonded realities initiated into belief communities via reflection about such culturally conditioned, emotional concepts like that blest are the pure in heart\textsuperscript{582} “stuff” (at least, in this framework, that’s how I conceptualize it). Or, consider Peter Berger’s notion of “a rumor of angels,” from the title of his book A Rumor of Angels: Modern Society and the Rediscovery of the Supernatural, mentioned previously. In this instance, Berger seems to be directing us toward the possibility that subjective, human testimonies can point out emotional and psychological motivations through which questions


\textsuperscript{581} van Huyssteen, The Shaping of Rationality, 230.

\textsuperscript{582} See the biblical narrative in Matt. 5:8.
are asked; problems analyzed (whether one is aware of physiological or sociocultural sources of testimonies, or not). When considered in these fashions, knowledge claims provide an epistemic benchmark for testing beliefs—establishing, for instance, epistemic principles, standards, and assumptions through which beliefs are tested; however, the social, *postmetaphysical* realities of non-tested belief claims are not entirely dismissed: tested knowledge claims explain causal connections, while non-tested belief claims, like the symbol element of a myth in a compatibility system, take on *sociocultural* realities, rather than substantive ones. In summary, belief claims as socially bonded, emotional, and psychological meaning-structures located in belief communities which are, in turn, situated *in* a web of tested knowledge claims in the modern scientific cosmos.

**Possible Objection #2**

- Some might be concerned that, in appealing to Haack’s innocent realism and modestly naturalistic epistemology, I have attempted to make religion “fit” a naturalistic ontology; that in doing so I have disregarded what is, for many, the existential integrity of faith-based aspirations.

**Reply #2**

Via igmythicism, the re-contextualizing of *myth* occurs in an epistemic stance like Haack’s modestly naturalistic epistemology: *subjective, human testimonies*—themselves types of “epistemologies,” because human testimonies are thought to contribute to one’s beliefs about the external world and one’s interpretation of the world—are influenced by theories from the sciences of cognition. A two-way dialogue, then, between *science-influenced human testimony* and *human-testimony-influenced science*, renders *myth* a symbolic, representational concept,
compatible, on a practical level, with those cognitive values particular to a scientific epistemology: For example, cognitive values such as (i) we are fallible and imperfect creatures; (ii) that we do possess the perceptual awareness and cognitive capacities necessary for us to collect and test natural experience from brute nature; (iii) that, since we are fallible and imperfect, our interpretations of brute nature are overlaid by our own assumptions and theories. Finally, (iv) most important as a cognitive value particular to a scientific epistemology, the notion that, to pursue and accomplish intersubjectively available learning, “. . . we need opportunities to work out inconsistencies and mistakes as we uncover them. This leads us, ultimately, to deeper and more mature understandings of the world.” 583 Theology, like myth, need not be thought to test beliefs about states of affairs in the world: indeed, the role of my constructive, twenty-first-century theology is not to test beliefs about states of affairs in the world. Rather, the role of this constructive theology is to outline those socially bonded, emotional, and psychological motivations at play in pursuing academic questions or problems in the scientific study of religion. In conceptualizing religious thought and theological thought in a naturalistic ontology, my goal is not to make religion “fit” science. If that was my goal, I would likely continue to assume (i) that religious and theological exercises can elucidate causal claims, and (ii) that religiosity and theology provide accurate descriptions of states of affairs in the physical world—two tenets I openly reject, supported by arguments made in this thesis. As neither of the preceding tenets are my goals, my project, then, is not to make religion “fit” science, but to evaluate how religious life, theology, myth, etc., might play

new, alternative roles in the modern scientific cosmos—where the scientific method already provides tested beliefs and accurate descriptions about states of affairs in the world.

The limitations of modern compatibility system design, then—if there really are any limitations—exist only when religious life, theology, myth, etc., are conceptualized outside of the new, igmythicist approach I propose, as articulated in this chapter. If the epistemic nuances of the new approach can be appreciated, the existential integrity of faith-based aspirations is not lost, but is re-contextualized, that is, made logical sense of, in face of modern science—a goal alluded to throughout this thesis. When I mentioned previously that I rarely find honesty about epistemic matters in contemporary “science and religion” literature, I was referring to this point, now unpacked, that the integrity of the compatibility system project is not affected when religious life, theology, myth, etc., are conceptualized via the igmythicist approach. Modern science already provides accurate, tested beliefs about the physical world—that fact should not worry us—in short, that is what science does. At the same time, religiosity, human testimony, and subjective, introspective experience accomplish other goals—namely, natural phenomena behind these constructs are thought to initiate socially bonded, emotional, and psychological meaning-structures into belief communities in the modern scientific cosmos.

When epistemic distinctions, between scientific and religious exercises, are not acknowledged, or when both science and religion are thought to provide accurate descriptions of states of affairs in the world, it is no wonder all of these options to maintain an absolutist “conflict” thesis, a faith-imbued “non-conflict” thesis, or a “place science and religion in separate ‘compartments’” thesis, or reject science, or reject religion, etc., etc., arise. Once the distinction is made that modern science provides us with tested beliefs, while religious life,
theology, myth, etc., provide us with socially bonded meaning—emotional and psychological motivations for the work we accomplish; the academic questions we pursue—epistemic tension between science and religion disappears. Moreover, the need for legitimation strategies disappears; the need for traditional compatibility system design evaporates.

This leads me to say that I acknowledge that my approach, outlined in the preceding paragraphs, may seem, to some, too jaded or too disenchanting. Given those personal aspects from my own life I opened up about in Chapter 8, some may even be inclined to wonder if my own background—in particular, my negative experiences with some aspects of mainstream religious life—have prompted me to defend the particular thesis I propose. While that may be one motivating factor (and, if so, it does point out the relevance of one’s own emotional and psychological testimonies in pursuing an academic question), another, more liberating, motivation I possess in defending this thesis is that all of theists, atheists, agnostics, and igtheists might be drawn to aspects of the new, igmythicist approach and the constructive theology that follows. In that sense, my target audience for this manuscript exceeds the internal confines of any one particular knowledge or belief community, addressed rather to the *H. sapiens sapiens* species itself. Indeed, this was my focus previously in this section when, considering the role of a “religious epistemology” in the modern scientific cosmos, I connected human life experiences and testimonies with the unpredicted and fluctuating human condition itself. This was followed by my suggestion that subjective experiences are initiated into sociocultural frameworks whereby human testimonies are then experienced via the socially oriented, symbolic meaning-structures of institutions. In addition, I placed the phrase *religious epistemology* in scare quotes to continuously point out the epistemic quandary I was
attempting to solve: although “cognitive values” of a “religious epistemology” were seen to deviate from the cognitive values of a scientific epistemology, analyzing the social and emotional importance of a “religious epistemology” in the modern scientific cosmos was an academic question still worthy of consideration.

Concerning provisional and essential parameters as they relate to religious mythologies, the demythologizing of any religion, i.e., the removing of metaphysical claims, re-casts the category of “religion” in the modern world. With any religion demythologized, the highlighting of socially bonded meaning, a goal and outcome of religious life, helps to ease concerns that faith-based aspirations might have been eliminated. However, and I feel compelled to clarify this point further, that symbolically oriented, faith-based aspirations were not eliminated was possible only because of my strict demarcation between knowledge claims and belief claims in a modern scientific cosmos, which already provides accurate, tested beliefs about the world. Moreover, William Bartley’s thought, which contributes to my proposed “religious epistemology” in a modern university, emphasized the importance of consistency in testing beliefs: as learning from experience is intrinsic to modern science, in being critical of beliefs, critical of criticism itself, and being self-critical, some consistency permeates one’s testing of beliefs. Finally, in the formulation I propose, the notion of consistency helps to maintain a balance between (a) radically counterintuitive and (b) maturationally natural representations of the physical world: Counterintuitive representations of states of affairs in the world,\textsuperscript{584} presented via tested scientific theories, are at odds with those everyday, maturationally natural representations of the world, presented via modern

religions and other non-institutionalized forms of religiosity. Unlike counterintuitive representations of the world, CPS-agentic thinking permeates modern religious thought: For example, religious devotees’ innate motivations (realized or not) for desiring to construct a faith-imbued “religious epistemology”—an epistemology which maintains that CPS-agents are ontological realities—is a direct impediment to the formulation I propose here. Ironically, this impediment also possibly leads to the formulations of those hypothetical objections to my project addressed in this section.

From Robert McCauley’s thesis that science provides counterintuitive representations of the physical world, the view that the continued existence of science is fragile, is somewhat alarming: although science does allow for improvement and modification of beliefs (and although this does make learning possible), scientific thought, in competition so to speak with everyday, CPS-agentic thought, is at risk. While it is beyond the scope of this thesis to offer a detailed assessment of McCauley’s claim, I suggest that my igmythicist approach provides a solution to McCauley’s realized dilemma in the modern university: Acknowledging that human knowledge has a moral character—a “morality of knowledge,” to use Donald Wiebe’s phrase—the possibility to re-contextualize myth in the modern scientific cosmos includes the possibility to formulate a new, constructive, “twenty-first-century theology” in the modern university. In this new, constructive theology, to achieve an adequate morality of knowledge, tested beliefs from science are preserved as our critically oriented “claims to knowledge.” Yet, as discussed, the igmythicist approach includes a methodology whereby traditional, a priori religious concepts, e.g., myth, are no longer presumed to depend on any

one particular definition or conceptualization. Instead, the conceptualization of concepts like myth now exists in a two-way dialogue between subjective, human testimony and the sciences of cognition—*myth* re-interpreted and re-placed for application in a scientifically oriented, yet emotionally charged, twenty-first century.

A “religious epistemology” via igmythicism includes further benefits: Post-Kuhnian compatibility system enthusiasts had argued empirical experience in scientific practice is theory-laden and interpreted, but they neglected that *so is the apprehension of symbols* in other human enterprises:586 Bartley rightly points out that symbols, like other components of human experiences, are dependent on interpretational rules. Furthermore, for the igmythicist, where various conceptualizations of *myth* are possible, interpretational rules for symbols are now especially subjectivized no less than empirical experience in scientific practice might be subjectivized. In other matters, the igmythicist formulation (granted, though, in some university departments, the human mind might continue to defer to the actions of CPS-agents) also helps to avoid existential identity crises, described by Bartley as exchanging “I am confused,”587 for “I am a member of a confused tradition [community].”588 In a liberating manner, for the igmythicist, crises of identity no longer exist: Undergirded by substantive assumptions (i) that phenomenal reality provides a standard of observed experiences used for testing beliefs about states of affairs in the world, and (ii) that religious people’s testimonies inform us that religious people possess beliefs about superhuman agents and/or beliefs about trans-empirical worlds, the igmythicist enjoys some unique freedom to re-interpret religious

587. Ibid., 5.
588. Ibid., 5.
concepts as they are emotionally or psychologically relevant to academic questions pursued in the scientific study of religion. The liberation experienced by this kind of approach would indeed be refreshing: while the igmythicist accepts knowledge claims as an epistemic benchmark for testing beliefs, the igmythicist also acknowledges socially bonded, emotional, and psychological values located in belief communities in the modern scientific cosmos. For any theist, atheist, agnostic, or igtheist, this unique combination of tested knowledge claims and non-tested, yet socially bonded, belief claims has much potential for application in the “science and religion” debate in the modern university of the twenty-first century.

For some final, concluding remarks, so as to point out why humility is an important value in academic work, Susan Haack aptly remarks, “It can be hard, very hard, just to admit that you were wrong, that the investment of time, energy, and ego you have put into some question hasn’t paid off. It can be hard, too, just to admit that you don’t know; most of us like to have opinions, even on questions where we are in no position to know.” About the possibility that my conclusions are wrong—not a claim I support, but an accusation which is possible given some hypothetical objections to my work and given the emotionally delicate nature of my topic, i.e., “religion”—I offer the suggestion that what I propose is an alternative conception, a “facsimile,” of religious life vis-à-vis modern science. While, yes, it would be possible for another scholar to sift through my work and manipulate assumptions (e.g., assume instead that CPS-agents are ontological realities) or manipulate conclusions (e.g., conclude instead that religious experience is included in the source material for an experientialist epistemology), what the igmythicist approach provides is the possibility that, even if one does

not manipulate assumptions or conclusions to support faith-imbued aims, one still maintains the existential integrity of a religious life in the modern scientific cosmos. In this sense, values contained in religious life and pre-scientific myths survive as belief claims via a socially bonded, emotional, and psychological framework. At the same time, knowledge claims set an epistemic benchmark for testing beliefs.

About alternative, twenty-first-century approaches to “science and religion,” other writers express sentiments embracing the possibility of new methods: Questioning whether theological realism is analogous to scientific realism, Willem Drees notes, “God might be totally different from the way God is believed to be, and beliefs about God might be untestable, while none the less the hope expressed in the beliefs might not be vain.” For Drees, then, “an attitude of existential trust,” i.e., belief in (rather than non-tested beliefs expressed propositionally, i.e., belief that), becomes the order of the day. Also, as Mikael Stenmark puts it, “If science and religion are understood to be multidimensional, social practices then we must take into account that they change over time and look differently in different places.” So, although my project is different from Drees’ and Stenmark’s formulations (and different from projects of other writers considered), it seems other “science and religion” scholars are at least prepared for new, alternative approaches to the “science and religion” question. To that end, it’s three o’clock in the morning and I’m adding the final revisions to my manuscript. As the writer, I don’t want to belittle science; I don’t wish to poke fun at religion either. A part of my work concludes the scientific method is one’s ideal

591. Ibid., 146.
epistemology. Another part of my work concludes I wouldn’t understand a pure heart without some emotionally charged religiosity, too. In all honesty, then, what I’m really looking for is a belief in happy endings: I’ll find my river yet. I trust you’ll find yours, too.

This concludes the thesis.

(Summary of conclusions follows.)
10. Summary of Conclusions

Enough was said in the preceding chapters to make the point that knowledge claims set an epistemic benchmark for testing beliefs in the modern, Western university. Yet belief claims survive via (what I have referred to as) a socially bonded, emotional, and psychological framework. Thus, while intersubjectively observed experiences of phenomenal reality make testing beliefs possible, emotional and psychological motivations help to contextualize academic questions pursued in the university. Specifically, this thesis set out to argue (i) that a theory of rationality refers to a system of testing knowledge claims and belief claims about states of affairs in the world, and (ii) that if a philosopher or theologian is successful in designing a compatibility system between science and religion, the compatibility system will be based on a theory of rationality which consistently tests knowledge claims and belief claims. These aims were achieved in conclusions summarized as follows:

Epistemologies of tested beliefs (knowledge claims) in scientific practice and non-tested yet faith-imbued beliefs (belief claims) in religious life were compared and contrasted. Epistemic consistency was argued a necessary criterion whereby, in being critical of beliefs, critical of criticism itself, and being self-critical, some consistency permeates one’s learning and testing of beliefs. Along with the motivation to prevent the formulation of stagnant ideologies, pancritical ingredients to elucidate “knowledge and belief systems” which critically survive (or perhaps simply die) from ones that become stagnant ideologies, were analyzed. The consistency criterion, outlined here, supported my claim that a “religious epistemology” requires epistemic standards akin to those standards of a scientific epistemology—where learning from experience is one’s primary goal. Moreover, from the
standpoint of a morality of knowledge, the consistency criterion is necessary given that both
science and religion make claims about shared states of affairs in one, physical world. To that
end, if notions of (a) evolving, open-ended, and modified learning in the modern university,
and (b) the demarcation of knowledge claims from belief claims, are one’s goals, epistemic
*consistency* per a scientific epistemology is necessary.

A study of models of rationality in contemporary philosophy of science and religion
was completed with the purpose to assess possible compatibility systems in “science and
religion” literature. This study included my proposal that myths be re-contextualized in the
modern scientific cosmos via the igmythicist conception of myths: eliminating the
“ignorance” of traditional “myth,” the mind is creatively opened to the possibility that myths
are neither mere delusions nor reflections of an ontological reality for the gods, but myths are
the application of meaning-enclaves enclosed in the world of natural human experience—
myths re-formulated as *symbolic, human-inspired representations of physical reality*. While
the cognitive values of a scientific epistemology provide an epistemic benchmark for testing
many beliefs, the problem of constructing a “religious epistemology” in a modern university
was analyzed. This analysis was centred on the role of a two-way dialogue (akin to the model
of a modestly naturalistic epistemology) between *science-influenced human testimony* and
*human-testimony-influenced science*. Rendered in this light, any limitations of modern
compatibility system design were found to exist only when religious life, theology, myth, etc.,
are conceptualized outside of the new, igmythicist approach. Moreover, functioning as an
igmythicist allows for a unique and liberating approach to the “science and religion” question.
As mentioned, the igmythicist accepts knowledge claims as an epistemic benchmark for
testing beliefs, but also acknowledges the socially bonded, emotional, and psychological values located in belief communities in the modern scientific cosmos. Theists, atheists, agnostics, or igtheists might all benefit from this unique combination of tested knowledge claims and non-tested, yet socially bonded, belief claims in the university, preserving the methodological aims of modern science as well as embracing those socially oriented, symbolic aims of pre-scientific myths.

In terms of potential for a constructive, twenty-first-century theology à la igmythicism, possibilities for future study, then, would include an assessment of how the igmythicist approach can respond to the ever-growing fear in the modern university that the continued existence of science is sociologically fragile. As igmythicism involves a methodology whereby traditional, a priori religious concepts are no longer assumed to depend on any one particular definition or conceptualization (e.g., myths now rendered symbolic, human-inspired representations of physical reality), the following question arises: can igmythicism, in recasting popular religion and religiosity in entirely new, alternative, and neutral lights (transcending particular belief communities), support a project which seeks to generate awareness in theological studies about the proclivity of the human mind to defer to the actions of CPS-agents? Furthermore pointing out how such proclivity renders constructive theology, science, and pancritical thinking examples of counterintuitive exercises—but exercises which, per new and alternative conceptions of mythopoeic concepts via igmythicism, need not be so counterintuitive after all. In this sense, igmythicism is placed in a strategic position to expand and re-interpret the roles of religious values and symbolic, human-inspired concepts, while also preserving knowledge claims as an epistemic benchmark for testing beliefs. Moreover,
the potential attractiveness of igmythicism for theists, atheists, agnostics, or igtheists in the university is such that relevances for values and human-inspired concepts are maintained and embraced outside of particular belief communities. Religious values, a constructive theology, and myth are re-cast in new, refreshing, and useful lights—well suited to a new “science and religion” discourse located in a scientifically oriented, yet emotionally charged, twenty-first-century university.
11. Bibliography of Works Cited

11.1. Major Works


11.2. Minor Works


