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Handbook of Religion and the Authority of Science

Edited by

James R. Lewis and Olav Hammer



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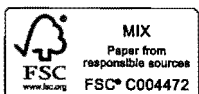
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INTRODUCTION

OLAV HAMMER AND JAMES R. LEWIS

The Problem

How can we know that a particular statement is correct? The traditional account held by philosophers since the days of Plato suggests that knowledge consists of justified true belief.¹ My knowing that it rained yesterday entails that I hold the belief that this was indeed the case, that it really did rain, and that I have some reliable means of connecting my belief with the facts (for instance that I was soaked after being caught outdoors, and that I have a trustworthy memory of the event).

How does such knowledge of empirical facts arise? Some propositions are trivial to verify. For instance, the ISBN number of the publication that you are reading at this moment can readily be found on the book cover. Many other propositions are empirically verifiable in principle, although it may require considerable skill and years of professional training to verify them. Scientists have good reason to accept as fact the proposition that light travels through a vacuum at a speed of 299 792 458 meters per second. Verifying the speed of light is, of course, no simple matter. In this instance, 'justified true belief' for most of us means something rather different than it does in the simpler cases. Here, justification, our feeling that we know this to be the case, is the result of relying on statements provided to us by trustworthy experts. Our acceptance of these experts in turn relies on a whole set of background factors: their status is considered sufficiently guaranteed; e.g., by their educational background and by their having submitted their results to intersubjective scrutiny.

Religious propositions share some of the characteristics of such hard-to-verify empirical statements. Few people have much personal experience that might validate religious truth claims. Most of what

¹ For a discussion with an overview of the problems with the classic account and of dissenting opinions, see the *Stanford Encyclopedia of Philosophy* at plato.stanford.edu/entries/knowledge-analysis/

religious people say that they know comes from experts whose claims they value and accept. The problem of justifying belief in the statements of these religious experts is compounded by the diversity of opinions. Whereas one would be hard pressed to find anybody seriously arguing for a different value for the speed of light, disagreement is rampant when it comes to the domain of religion. Some religions postulate the existence of a single deity; others propose that there is a multiplicity of gods. Some traditions affirm that the universe we live in and every creature that inhabits it owes its origin to the creative activity of the god or gods at some given point in time, while others state that the world has existed eternally and accept the emergence of the various species through evolution over vast epochs. Adherents of all of these worldviews and practices affirm that they are confident that their own religious predilections are not merely based on their personal opinions or preferences, but are in fact true. How does this air of certainty come about?

Warrants

Religious claims are generally supported by explicit or implicit arguments, and most crucially by a warrant that ultimately backs up the argument. Such warrants can be classified into a small number of types. In some instances, the warrant can be the unquestioned authority of a canonical text. When Sayyid Qutb, the father of Islamist ideology, in chapter 5 of his book *Milestones* argues that the only acceptable way to rule a society is by following the will of God as manifested in the Prophet's *sunna*, the clinching warrant is the text of the Qur'an. Qutb quotes Sura 12 verse 40 ("The command belongs to God alone. He commands you not to worship anyone except Him. This is the right way of life.") and Sura 4 verse 80 ("Whoever obeys the Prophet obeys God") to support his statement. Since the Qur'an is taken axiomatically as the literal word of God, these quotes are by definition valid representations of absolute truth and no further discussion or argumentation is needed.

In other instances, the warrant consists of the words and deeds of unimpeachable individuals. Max Weber's concept of charismatic authority clearly falls under this rubric: "'Charismatic authority', hence, shall refer to a rule over men, [...] to which the governed submit because of their belief in the extraordinary quality of the specific

person".² Religious figures as diverse as magical sorcerers,³ tribal shamans and the Mormon prophet Joseph Smith⁴ are singled out by Weber as holders of this ability to lead and convince others. The axiomatic warrant is that truly extraordinary individuals speak with extraordinary authority.

A different way of relying on the absolute authority of particular individuals can be found in the Islamic tradition. The authoritative praxis of the prophet Muhammad has come down to subsequent generations of Muslims via the hadith literature, collections of texts documenting the words and actions of the prophet in specific situations. The normative status of the prophet Muhammad himself is beyond discussion, but the Muslim community already at an early stage acknowledged that hadith reports about him could be forged. How does one distinguish spurious hadith from authentic ones? The solution was to engage in a specific form of textual criticism that examined the chains of narrators who transmitted the information about the prophet from Muhammad's own time and place to the final compiler of hadiths. A key criterion in assessing these chains was the moral probity of the transmitters. The unquestioned assumption was that individuals generally known for their piety and integrity would not lie about what they had heard.

In yet other instances the power to function as warrant for truth claims lies in subjective validation by the individual adherent of the religious tradition. Many contemporary forms of religion insist that nothing needs to be accepted uncritically. By meditating according to the prescribed methods, by personally trying the method of spiritual healing proposed or by experiencing the divinatory practices for oneself, one will arrive at the conclusion that the proffered religious claims are true. Doubting one's own first-hand experiences, in this perspective, would be a futile and bizarre exercise.

Finally, institutional backing is frequently invoked as warrant. Weber's traditional and legal forms of authority fall under this heading. In the former, the accumulated historical weight of the religious

² Weber, Max (1948) *From Max Weber: Essays in Sociology*. Edited, with an Introduction by H. H. Gerth and C. Wright Mills. London: Routledge, 295f.; Emphasis in the original.

³ *From Max Weber*, 296.

⁴ *From Max Weber*, 246.

community legitimates claims; in the second, core social institutions back up the doctrines and practices of the religious group.

The Authority of Science

Few if any institutions in modern society have a rhetorical strength matching that of the sciences. It is, however, an institution whose support for religious claims is far from self-evident, and not all religious traditions attempt to draw legitimacy from science. Indeed, a standard argument in sceptical and atheist literature, from 19th century classics such as John William Draper's *History of the Conflict Between Religion and Science* (1874) to widely read contemporary atheist literature by Richard Dawkins (*The God Delusion*) and others, is that science supersedes religion because the latter is based on unfounded assertions.

Such conflicts between the claims of the science and those of religious traditions can basically be handled in three different ways. Perhaps most uncommonly, science can be branded as an ungodly institution purveying crude antireligious propaganda. The founder of the International Society for Krishna Consciousness (ISKCON), Swami Bhaktivedanta Prabhupada, was thus fond of calling scientists cheaters, scoundrels and rascals, and denounced science as nonsense.⁵ Secondly, and much more commonly, it can be claimed that science and religion are in fact two different domains. Science, it is suggested, answers questions about how the world functions, whereas religion addresses issue such as how we should live. They are, in the words of Steven Jay Gould, non-overlapping magisteria.⁶ Thirdly, and most importantly for the present purposes, it is often claimed that there is in reality no conflict at all between science and religion. Science, it is argued, in fact corroborates the claims of religion.

Given the rhetorical strength of science in contemporary society, an appeal to a concord between science and religion would seem an attractive way to provide a warrant for religious claims. This is in fact what we observe in a vast array of religious traditions. Christians,

⁵ See, for instance, his book *Life Comes from Life*, which is replete with such attacks on the sciences, and especially biology. See also <http://www.bbt.info/usingwordsrascalsfools>.

⁶ Stephen Jay Gould (2002). *Rocks of Ages: Science and Religion in the Fullness of Life*. New York: Ballantine Books.

Muslims, Buddhists, Hindus, adherents of dozens of new religious movements, esoteric and New Age currents all affirm that science is in fact in agreement with their own world views. Their scriptures are scientific documents, their practices in agreement with the latest advances in neurology or particle physics, and their cosmologies resonant with the most up-to-date discoveries in the natural sciences.

How is this possible? How can science, seen by Richard Dawkins and other arch-sceptics as the ultimate weapon against the putative illusions of religion, for others be the preferred legitimator of religious propositions? The answer, we suggest, lies in the specific understanding of science that underlies its use as warrant.

Science as Legitimator of Religion

Philosophically, the issue of how to demarcate science from 'everything else' appears intractable. In practice, however, the scientific community acts as if this philosophical problem were a minor issue. The line of demarcation between science and 'pseudo-science' may be hard to define with any precision, but there is widespread agreement on particular instances. Intelligent design theory, astrology and faith healing are (almost) universally rejected, whereas genetics, astronomy and biomedicine are universally accepted as scientific disciplines.

Similarly, in the philosophy of science the nature of the link between observational data and explanatory theories remains essentially contested. Nevertheless, scientists within particular disciplines accept a nucleus of generally accepted explanatory claims, and affirm that these claims are connected into larger systems, theories accepted by nearly all. Geneticists rejecting Darwinian evolution, or astronomers sceptical of Einstein's theory of relativity, are few and far between. Most research involves investigating contentious issues at the periphery of this generally accepted core. The results of this research are subjected to an institutionalized peer review process, and are evaluated according to widely shared standards.

Religions function rather differently. They consist of mythological and ritual elements that display a much more modest degree of internal coherence, and very few key claims are accepted by all members of a given religious tradition, or remain stable over time. Old doctrines are replaced by new ones, existing rituals die out in favour of ritual innovations, and organizational structures are transformed, a process

that takes place more by historical contingency than, e.g., by any widely shared process of verification. For instance, in various branches of the Christian tradition, few issues subsist over time, while very many others become contested—or are rejected: Is Scripture inerrant? Is Hell a physical location? Are there really demons? Is Satan a powerful and evil being? Are there witches? Are rituals of exorcism a vital element of Christian ritual life? Should heretics be compelled by force to convert? Must good Christians reject Darwin's theory of natural selection? Should only men be accepted as members of the clergy? Is homosexuality an abomination in the eyes of God? In the past (sometimes the not-too-distant past), these questions would be answered in the affirmative by most people who identified themselves as Christians. Today, the responses to some of these issues become identity markers that distinguish different denominations, e.g., "conservative" from "liberal". Each group has selected or rejected a particular cluster of elements from the total repertoire.

Science and religion would thus appear to be radically different institutions, and the most common way to make science function as a legitimating warrant is to reinterpret science. Rather than being understood as a firmly interconnected core, and a generally accepted set of review procedures and of corroborating or disconfirming methods, science is approached as a religion-like cluster of elements that can be adopted or rejected on a piecemeal basis as needed. These individual elements can be specific instances of scientific research that confirm particular religious claims; the use of technical devices, scientific terms, or mathematical calculations; references to scientific theories, the deployment of stylistic features commonly found in scientific texts; or the identification of what particular groups or authors perceive as significant analogies. Other scientific research, data and theories may not corroborate religious claims, and are therefore tacitly left out of the discussion, or are explicitly rejected. Science thus becomes split into two parts: unacceptable and potentially disconfirming science, versus acceptable and potentially confirming science. As succinctly put in a 19th century theosophical text, the *Mahatma Letters*, 'Modern science is our best ally. Yet it is generally that same science which is made the enemy to break our heads with'.

This piecemeal approach to science comes across most clearly in two attempts to link religious claims with physics, separated by nearly a century. Helena Blavatsky, co-founder and chief ideologue of theosophy, argued that there was an eternal spiritual teaching that had

been preserved with various degrees of fidelity in the world's religious traditions, in particular the primary religions of India, Hinduism and Buddhism. The validity of this eternal truth was, in Blavatsky's own time, the last decades of the 19th century, being confirmed by the natural sciences in general, and physics in particular. Her two-volume work *The Secret Doctrine*, first published in 1888, devotes considerable space to the links between this suggested primeval wisdom tradition and the latest advances in physics. Much more recently, Fritjof Capra achieved bestseller status by claiming (in *The Tao of Physics*, first published in 1975), that there was a core of mysticism shared by the major religions of the East, and that this mystical truth was in Capra's own lifetime being confirmed by the latest advances in physics. The instructive point of comparing Blavatsky's and Capra's versions of the argument is that physics in the 1880s was a very different science than in the 1970s. Blavatsky refers approvingly to theoreticians of electromagnetism and atomic theory; Capra's interest lies with particle physics and quantum mechanics. The authorities and theories are invoked for the same rhetorical purpose by both writers, but hold opinions that differ radically and are difficult to reconcile.

Survey of Contents

When we began exploring the idea of compiling an anthology on how religions appeal to the authority of science, we were not sure we would find enough scholars working on this specific theme to create a collection of any reasonable size. Then, after we succeeded in bringing together enough initial contributors, reviewers for the first publisher we approached failed to understand the thrust of our project. (One reviewer even misperceived the proposed volume as focused on the theme of the conflict between religion and science.)

When we finally brought the project to Brill, our acquisitions editor not only immediately understood the importance of *Religion and the Authority of Science*, but she also encouraged us to invite more contributors. When we did so, we were pleasantly surprised to discover numerous researchers—including some of the top scholars in the field—who were either already researching this theme or who were interested in writing something on this intriguing topic. Subsequently, we decided to expand this project into a larger-than-usual anthology that would seek to incorporate a wide range of different approaches. As a consequence of this way of proceeding, chapters in the present collection

examine the theme of the appeal to the authority of science among an extremely wide variety of different religions and movements, indicating the global appeal of this-legitimation strategy.

The contributions we received resisted categorization into neat thematic sections, so we chose to organize the volume primarily according to religious traditions (though some readers may object to our classifications of specific groups under certain headings). The exceptions to this approach are the initial theoretical section and the concluding section.

The chapters that follow illustrate some of the many ways in which selected aspects of modern science are made into the ally of religion. Sacred texts are reinterpreted as scientific documents, rituals carried out by members of the tradition are understood as scientific methods yielding proven results, and religious doctrines are declared to be analogous to scientific theories. They also show how less palatable elements of science are defused and rejected. Darwinian evolution is demoted to a mere hypothesis (and a presumably false one at that), mainstream science is denounced as a ideological straightjacket unable to accept the fact that mind reigns over matter, and the majority of scientists are understood to be blinkered by their materialistic bias. Using science as a warrant for religion, then, only works when science is subsumed under a religious strategy. Only a sacralised science can confirm a scientific religion.

Theoretical

Academic analysts usually think of religion as legitimating other social institutions. However, one often finds apologists appealing to the authority of science as a strategy for supporting the truths of their particular tradition. In a social environment where diverse religious claims compete with each other, it is probably inevitable that different groups would seek alternate sources of legitimacy. Science is an attractive legitimator because of its high social status and because of the popular view of science as an objective arbiter of “truth.” In “How Religions Appeal to the Authority of Science,” James Lewis examines the notion of “legitimation strategies” derived from Max Weber’s discussion of the legitimation of authority, and then analyzes the specific ways in which religious groups appeal to the authority of science.

Kathinka Frøystad’s “From analogies to narrative entanglement: Invoking scientific authority in Indian New Age spirituality” examines

some of the ways in which science is invoked in the many New Age-inspired spiritual movements that have grown popular among the urban middle class in India since the mid 1990s. Most attention is devoted to the use of analogies associated with the sciences, references to research experiments, terminological loans and the use of academic titles, all of which are highly common in these movements. Besides exemplifying the salience of scientific rhetoric in urban middle-class spirituality in India, this chapter argues for the fruitfulness of going beyond the well-trying analytical frameworks of Weberian authority or Taussig-inspired mimesis when analyzing religious appeals to science.

Modern religious Satanism as a whole can be conceptualized within a satanic sub-milieu of the cultic milieu in terms of the broad types of rationalist and esoteric Satanism. This shines a light on a basic tension when legitimizing specific discourses and practices in modern religion, namely the respective appeal to scientific theories, models and terminology versus the appeal to esoteric knowledge, historiography, experiences and vocabulary. In “‘We Demand Bedrock Knowledge’: Modern Satanism between Secularized Esotericism and ‘Esotericized’ Secularism,” Jesper Aagaard Petersen suggests viewing the flows in the satanic milieu through processes of secularization, esoterization, and syncretization, thus highlighting both the “how”, “what” and “why” of Satanism, esotericism and science.

Buddhism and East Asian Traditions

David L. McMahan’s “Buddhism as the ‘Religion of Science’: From Colonial Ceylon to the Laboratories of Harvard” discusses how, from its earliest encounters with modernity, Buddhists and Buddhist sympathizers have represented Buddhism as uniquely compatible with modern science and even, in some cases, as a kind of science itself. For spiritually unmoored Victorians, this reformed Buddhism offered the hope of a religion that did not conflict with science. For Asian Buddhists who were colonized or under threat of colonization by the West, it offered a tool by which to assert their own cultural value and critique the colonists’ and missionaries’ assumption of intellectual and spiritual superiority. The second phase in the attempt to forge a relationship between Buddhism and science began in the mid-to-late twentieth century and continues vigorously at present. The most salient aspects of the recent discourse include (1) comparative studies that liken particular Buddhist philosophical concepts, such as emptiness, dependent

origination, and causality to contemporary theories about the physical world, especially quantum physics, and (2) neuroscientific studies of meditation that make use of new technologies of brain imaging.

Practitioners of Falun-Gong are generally perceived by the West as being unfairly persecuted by the great might of China. Yet those clinging to this view remain unaware of what ideologies lie behind this movement; of what makes *Falun Gong* tick. For example, they remain ignorant of the problematic discourse that exists between *Falun Gong* and the scientific community; ironic given that the movement is so heavily reliant on the science of telecommunications to spread its word. In “Falun Gong and Science: Origins, Pseudoscience and China’s Scientific Establishment,” Helen Farley scrutinizes the uneasy relationship between *Falun Gong* and science by examining the emergence of *Falun Gong* from the larger *qigong* movement in the 1990s. *Qigong* itself was a formulated tradition that appeared just before the founding of the People’s Republic of China (PRC). The relationship between *qigong* and science is considered, with the latter being both friend and foe to the movement at different times. The nature of this association has to some extent influenced the relationship between science and *Falun Gong*. The chapter concludes with an examination of the ideologies of *Falun Gong* in relation to the contemporary scientific worldview as expressed by its charismatic founder, Li Hongzhi.

God Light Association, known as GLA, is a Japanese new religion founded in Tokyo in 1970 by Takahashi Shinji and now led by his daughter Takahashi Keiko. GLA represents a religious expression of Japanese civilization in its confrontation with late modernity and globalization. In “Religion Metaphorical and Metonymical Science: Constructing Authority in a Japanese New Religion,” Christal Whelan analyzes how the religious group perceived and ultimately managed to absorb certain elements from the dominant Western historical narrative it was compelled to confront during post-war occupation and the geo-politics that followed. Crucial to this enterprise was GLA’s extensive use of metaphor and metonymy in evoking the authority of the educational establishment and the authority of science in order to legitimate its own claims to possess the ultimate truth.

In the beginning, Aum Shinrikyô followed the traditional pattern of an incompatibility of religion and natural sciences which was introduced to Japan at the end of the 19th century from the West. However, as Martin Repp observes in “‘When Science Fiction becomes Science Fact’: The Role of Science, Science Fiction and Technology

in Aum Shinrikyo,” after young gifted scientists joined the group, they attempted to harmonize their beliefs with modern sciences in theoretical and practical ways. They claimed, for example, that “True religion is science.” Science had to verify the truth of their religious beliefs, e.g. through scientific tests of meditation practices. Since the mindset of these young believers had been formed by contemporary science fiction literature, they even attempted to proceed from science fiction to “science fact.” Thus, Aum Shinrikyo became in Japan the religious group which was (in comparison with other groups) most deeply involved in the natural sciences.

South Asian Traditions

“Vivekananda and the Scientific Legitimation of Advaita Vedānta” examines one of the key figures in the Hindu endeavor to reconcile tradition with modernity: Swami Vivekananda. C. Mackenzie Brown begins by discussing the general crisis of religious authority in late nineteenth-century colonial India, and, in that context, analyzes the personal spiritual crisis of Vivekananda as he realized that his religious beliefs and trust in the ancient Hindu sages were undercut both by the writings of European skeptics like David Hume and John Stuart Mill and by the discoveries of modern science. Brown then explores the impact of western writers, in particular Herbert Spencer and the Theosophist Helena Petrovna Blavatsky, on Vivekananda’s eventual resolution of the crisis, leading to his reinterpretation and scientization of the classical Hindu monistic philosophy of Advaita Vedānta. The chapter concludes with an assessment of Vivekananda’s rhetorical strategies and in particular his understanding of “science.”

Western commentators often envision the International Society for Krishna Consciousness (ISKCON)—also called the Hare Krishna movement—as a countercultural group born out of the American youth subculture. Yet the movement’s origins are actually in the Indian experience of colonization and the response to the colonial experience. In “Inverted Orientalism, Vedic Science, and the Modern World: Bhaktivedanta and the International Society for Krishna Consciousness,” Benjamin Zeller considers ISKCON’s position on science as it developed from its founder A.C. Bhaktivedanta Swami Prabhupada. Zeller argues that Bhaktivedanta’s views on science emerged from his encounter with colonialism, and that his eventual

rejection of Western science must be read as part of this process. Bhaktivedanta utilized the concept of the West in order to position himself and his movement as ideally Oriental, but in a reversal of traditional Orientalism, Bhaktivedanta reserved the ideals of modern and scientific for the Orient. The approach to science, for ISKCON, came to represent their self-identification as the paragons of both ancient Asian tradition as well as modern thought.

Modern Vedic Evolutionism is a popular Hindu response to debates about evolution which absorbs Darwinism as a “lower-level” truth in the Hindu beliefs about karmic cycles of manifestation and dissolution of the universe. In “Madame Blavatsky’s Children: Modern Hindu Encounters with Darwinism,” Meera Nanda sets out to explore the social and intellectual history of Modern Vedic Evolutionism in the intersection between the cultic milieu in the United States and the Hindu reformist/revivalist milieu in India in the 19th century. She traces the roots of Modern Vedic Evolutionism to Madame Blavatsky’s Theosophy which first appropriated Hindu cosmology and mythology to produce an esoteric theory of evolution, and demonstrates that the entire repertoire of intellectual arguments that modern Hindus use to dress up traditional Hindu cosmology in scientific costume of progressive evolution was originally created and popularized by Madame Blavatsky and her fellow Theosophists.

Maharishi Mahesh Yogi, founder of the Transcendental Meditation Organization, was a prime example of a Hindu leader who appealed to the authority of science to lend his movement legitimacy. Maharishi claimed that parallels to quantum physics and other forms of Western science such as biochemistry confirmed ancient Vedic “sciences,” thus developing strategic apologetics to redescribe traditional Advaita Vedanta philosophy and various practices as scientific. As discussed in Cynthia Ann Humes’ “The Transcendental Meditation Organization and its Encounter with Science,” Maharishi added to his apologetics intensive field study through which he claimed he could prove the western scientific basis of his metaphysical interpretations. Maharishi sought to validate his programs by undertaking social-scientific research on Transcendental Meditation, the Sidhi techniques, and group meditation. He also established academies, universities, institutes, as well as journals, and held quasi-academic conferences to announce and explore the “Science of Creative Intelligence.”

In “The Sikh Scientific Ethic—Worldly and Mystical,” Richard Cimino examines the religious discourse of Sikh applied science

professionals in the U.S. and how they relate their faith to work in science and technology. Based on in-depth interviews with 15 Sikh applied science professionals—mainly engineers and IT workers—he finds that the Sikh emphasis on practicality (“living the truth”) and mysticism supports both the pragmatism and technological optimism of applied science. This Sikh “scientific ethic” makes for little conflict between the domains of science and religion, though it may weaken the social justice thrust of the religion.

The Radhasoami tradition has almost since its inception in 1861 in Agra, India, attempted to explain its practices and teachings as a higher form of spiritual science. But in so doing, Radhasoami has developed its own unique understanding of how science operates which at times is at odds with more conventional definitions of how to systematically study nature. In “The God Experiment: Radhasoami’s Version of Science and the Rhetoric of Guru Succession,” David Christopher Lane examines the history of Radhasoami’s version of science and how and why it has attempted to legitimize its religious practices in light of the latest discoveries in astronomy, physics, biology, and psychology. Lane is also particularly interested in exploring how and why Radhasoami’s definitional use of science often contradicts a scientific worldview.

Judaism and Islam

Damián Setton’s “The Use of Medicinal Legitimizations in the Construct of Religious Practice: The Dietary Laws of Judaism” focuses on the relationship between medical science and religion as part of the proselytizing strategies of orthodox movements in the Judaic world. Based in sociological research inside the Chabad Lubavitch community of Buenos Aires, Argentina, the article analyses how secularization of the dietary laws implies an appeal to medical discourse, by which these laws are legitimized according to their health benefits. This secular universe of representation was hegemonic throughout the 20th Century. But by the end of the century religious movements began emerging from all over the Judaic world. By approaching non-religious Jews, striving to bring them closer to religion, they built a discourse opposed to modernity that simultaneously borrows from the same set of meanings formulated by modernist thought. In this process, they claim to arrive at the meaning of religious precepts.

In “Science is just catching up: The Kabbalah Centre and the neo-enlightenment,” Hanna Skartveit discusses the Kabbalah Learning Centre’s somewhat paradoxical relationship to science; as convenient modern reference and as misguided producer of doubt. Notions of knowledge and certainty, as depicted in the interpretations of central Biblical narratives, lay the grounds for the Centre’s perception of science, and deem its material and rationalistic definitions of reality as incomplete. Through analysis of Kabbalistic texts and ethnography from Buenos Aires, Skartveit traces the relationship of Kabbalah to science historically and locates it within a contemporary neo-enlightenment movement. She also argues that, contrary to appearances, the Kabbalah Centre does not approach science looking for authorisation of its cosmology. Rather, it seeks to confirm science’s subordinate position to Kabbalah in the management and production of true knowledge.

Approximately two decades after its publication in 1859 the Darwinian theory of evolution became known in the Muslim world. In “Islamic Opposition to the Darwinian Theory of Evolution,” Martin Riexinger points out that from the very start it met with unfavourable responses from conservative Muslims. However, the issue remained a topic of minor importance until the Nurcu movement started a campaign against the theory of evolution. In order to undermine the materialism of their Kemalist and Marxist opponents they denounced the theory of evolution as unfounded hypothesis. For this purpose they borrowed the auxiliary arguments of American creationists. Since the late 1990s their brand of Islamic creationism has become popular especially in migrant communities due to the propaganda of the freelance writer Harun Yahya on the Internet.

Christian Tradition

Conservative Christians in the United States have historically struggled with the authority and legitimacy of science and scientific knowledge. In “Fighting Science with Science at Pat Robertson’s Christian Broadcasting Network,” Carie Little Hersh examines the Christian Broadcasting Network (CBN), a nondenominational religious organization founded by controversial televangelist Pat Robertson, which expresses a complex and contradictory engagement with science. Employees, students, and other participants at CBN recruit scientific data to support Biblical text while simultaneously critiquing institutions

of science for skewing knowledge to meet their own cultural suppositions. Through dialogue over issues of global warming, evolution, and biblical archaeology, members of Robertson’s Christian Broadcasting Network and related organizations construct the scientific “Other” as at once having familiar authority and legitimacy and yet also usurping its boundaries, proffering answers to questions it is not equipped to address and leading people towards atheism and away from Christianity.

Jeremy Rapport’s “Christian Science, New Thought, and Scientific Discourse” examines the ways that Christian Science and New Thought groups, especially the Unity School of Christianity, used science as a legitimization strategy. Both Christian Science and New Thought groups validated their claims by attempting to show how they aligned with scientific claims. By using language that invoked science and claiming that their religious practices and tenets could be scientifically demonstrated as accurate and effective, Christian Science and New Thought show one way that alternative religious groups try to appropriate conventional knowledge to support their unconventional claims. Christian Science and New Thought use of science also reveals an important way that religious groups have tried to reconcile religious claims with those of the modern world.

In “The Unification Movement: Science, Religion and Absolute Values,” Sarah M. Lewis examines the interpretation and role of science within the Unification Movement, with particular reference to the relationship between science and religion. It explores some of the key aspects of Unificationist theology, particularly the Fall of humanity and consequent need for salvation and how science is accommodated into this belief system. It discusses Sun Myung Moon’s creation of the International Conference on the Unity of the Sciences (ICUS) and some of the other organisations created to further his beliefs and aims. It also briefly places the Unification Movement in its Korean context, and suggests how the Korean background of the Movements has influenced its theology.

Spiritualism and Spiritism

Alternative states of consciousness such as trances and the manifestation of additional personalities have traditionally been the purview of religious authority. Cathy Gutierrez’s “Spiritualism and Psychological Research” examines nineteenth-century Spiritualism as a staging

ground for a clash of interpretation: mediums entering Mesmeric trance states and speaking in the voices of the dead invited renewed speculation on the source and meaning of multiple kinds of consciousness. Beginning with Mesmerism and its affinities to both esoteric pursuits and medical science, alternative states are traced through hypnosis, mediumship, and psychoanalysis. London's Society for Psychical research and America's William James marshal support for continuing to see such states as theological rather than pathological and this current is traced into contemporary popular movements that blend psychology and spirituality.

At the turn of the twentieth-century Latin America, and coincidentally with the development of new scientific activity, a positivistic epistemology appeared as a strategy for contesting the Catholic hegemony over ritual authority, doctrine and discourse. The contest with Catholicism was most marked in the diffusion of a popular positivism among subaltern sectors of the Argentinean society through the action of a new Spiritist trend, namely, the Basilio Scientific School—*Escuela Científica Basilio*. It popularized the dialogical interchange with spirits and the spiritual world through the doctrinal argument—similar to classical Kardecism—that it was not only possible but also scientifically verifiable. Thus, positivism lost its monopolization by the social elites and became, instead, a popular epistemology about the otherworldliness that contested dogmatic truths. In “Popular Epistemologies and ‘Spiritual Science’ in Early Twentieth Century Buenos Aires,” Gustavo Andrés Ludueña analyses the processes of appropriation of a singular positivism in this particular trend of spiritual religiosity.

Psychical research and parapsychology have been highly influential in forming contemporary notions of the ostensibly “supernatural”, “occult”, and/or “paranormal”. The work of parapsychologists has fuelled modern occulture with indispensable concepts as well as providing an air of scientific legitimacy to new religious formations making use of such concepts. In “Parapsychology: Naturalising the Supernatural, Re-Enchanting Science,” Egil Asprem takes a three-fold thematic approach to parapsychology in its attempt to unravel and analyse some of the social and cultural dynamics that ties parapsychological discourse to scientific and religious discourse in the 20th century. The chapter explores these aspects of 20th century parapsychological discourse, and indicates their reception in, and importance for, contemporary forms of popular religiosity in the negotiation of the authority of science.

New Age and Occult

Based on an analysis of New Age primary literature, in “The ‘Scientific’ Presentation and Legitimation of the Teaching of Synchronicity in New Age Literature,” Jochen Scherer discusses a concept which features prominently in New Age discourse: synchronicity, or meaningful coincidences. Synchronicity is in part an epistemological concept: as the coincidences in view are said to carry meaning for a particular individual, catching synchronicities is a method of attaining knowledge about one's spiritual journey. Because of this strong focus on individual spiritual development, it is easy to perceive synchronicity as an element of the alleged individualist nature of New Age spirituality, but this would be a misunderstanding of the phenomenon's ontological implications. In New Age sources, synchronicities are an objective part of the constitution of reality, and individuals must submit to its dynamics or else suffer the consequences.

Fritjof Capra argued that intuition and experience constitute valid approaches for the acquisition of knowledge about reality and are consonant with the new physics. Olav Hammer has called this approach “the scientist stance”. Ruth Bradby's chapter, “Science as Legitimation for Spirituality: From The Aquarian Conspiracy to Channelling and A Course in Miracles,” deals with the “scientist” strategy by looking at two influential figures in the development of the 1980s New Age network of spiritualities, William Bloom and Marilyn Ferguson. Ferguson appropriated the vocabulary of science as she described the coming shift to a “New Age” and made her central appeal to science for legitimation. In contrast, Bloom argued that channelling has been central in the development of New Age ideas, though it appears to contradict the New Age emphasis on an epistemology of individual experience with its link to scientific empiricism. To illustrate how channelling has influenced the construction of a new religious paradigm, consideration is then given to *A Course in Miracles*, a text channelled in New York in the 1960s and 1970s. The Course, as it is popularly known, continues to be revered in the network of new spiritualities, although its radically world-denying spirituality presents a challenge to those looking to science for legitimation. Those who claim legitimation for channelled wisdom because of the supernatural provenance of their sources adopt a position not unlike believers in religions that claim divine revelation, including Judaism, Christianity and Islam. However, anecdotal evidence suggests that followers of channelled texts rely ultimately on the “scientist” proof of experience.

There appears to be a reasonably clear distinction between science and religion: the scientific method is based on rational enquiry and the exploration of testable hypotheses relating to the nature of physical reality, whereas religions in all their various forms reach beyond the physical realm, often placing their faith in spiritual powers attributed to transcendent deities. Modern Western magic, however, falls into a different category because it is not faith-based. One needs to distinguish between magical beliefs that are simply superstitious, and the ‘high magic’ approaches utilised in modern esoteric practice that involve willed responses to altered states of consciousness. In “Modern Western Magic and Altered States of Consciousness.” Nevill Drury argues that because the practice of ‘high magic’ involves the use of altered states of consciousness induced by specific meditative, visualisation and mental dissociation techniques that are in turn subject to the individual will, such approaches to magical practice lend themselves, potentially, to scientific evaluation.

In “Legitimizing Belief through the Authority of Science. The Case of the Church of Scientology,” Régis Dericquebourg attempts to define the notion of legitimization in religion and then demonstrates how it is expressed among the members of the Church of Scientology. Among the several ways people use to legitimate their belief is appeals to the authority of science. In this chapter, Dericquebourg describes the self-legitimization of Scientology in its writings and the legitimization of Scientology in a sample of confirmed followers. Surprisingly, the scientologists do not validate their creed with the authority of science mainly because, from their viewpoint, Scientology is a form of spirituality; it is thus in itself validated. Some aspects of Scientology such as the psychological theory and the psychosomatic thesis of Ron Hubbard are considered scientific by members, but, in general, they do not feel that an appeal to science is necessary to validate the story of the Thetans, the story of the planet, Scientology’s program of self development and the like.

Alternative Archaeologies

In “New Religions and the Science of Archaeology: Mormons, the Goddess and Atlantis,” Carole M. Cusack explores three new religious movements and their relationship with the science of archaeology: the Church of Jesus Christ of Latter-day Saints (Mormons), contemporary

Goddess spirituality, and New Age engagement with channelled beings and the lost continent of Atlantis. Cusack demonstrates that a complex and ongoing dialogue between alternative religionists and academic archaeologists has developed since the mid-twentieth century. Alternative spiritual interpretations of sites and artefacts are generally dismissed by the scientific community as “cult archaeology” or “pseudoarchaeology”, but in recent decades feminist and postmodern voices in Post-Processual archaeology have acknowledged the subjective range of potential interpretations, thus opening up the possibility of accommodating alternative views of archaeological phenomena.

In “Is Dialogue between Religion and Science Possible? The Case of Archaeology and the Goddess Movement,” Kathryn Rountree addresses the debate between archaeologists and the followers of modern Goddess religion, many of whom are enthusiastic visitors to ancient sites (they believe were) once associated with Goddess worship. Despite hopeful talk about multivocality and some archaeologists’ stated desire to engage with other stakeholders who have an interest in the past, attempts at dialogue have often foundered. The chapter discusses problems with attempting to interlace scientific and religious discourses which draw on different epistemologies, languages and values. It asks whether it is possible to create a democratically constituted forum where archaeology—as officially authorized interpreter of the past with immediate access to ‘the trowel’s edge’—can engage with the inevitably marginalised Goddess community to the mutual satisfaction of both groups. The high-profile Neolithic site of Çatalhöyük in Turkey, where the author conducted anthropological fieldwork, is used as a case study.

Charles Nuckolls’s “Mormon Archaeology and the Claims of History” examines Mormonism’s claim—possibly unique among the major world religions—that a large part of its scriptural tradition took place in ancient America. The purpose is neither to explore the history of this claim, nor to take any position on its validity. Instead, the analysis explores the claim itself as it unfolds with reference to a particular domain, Mesoamerican archaeology, and a particular object—the so-called “Tree of Life” stone (also known as Izapa Stela Five) that is sometimes cited as archaeological evidence for the ancient American origins of the *Book of Mormon*.

Theories and Sceptics

Legend has been conceptualized in folkloristics as a genre that validates belief in the supernatural through narratives that focus on somebody's personal experience and are located in the social world. Legend is one of the most persistent genres of vernacular belief, spread among diverse tradition groups all over the world. However, the rhetorical devices of truth production in legends have been changing. Ülo Valk's "Folklore and Discourse: The Authority of Scientific Rhetoric, from State Atheism to New Spirituality" is based on Estonian folklore and it argues that contemporary esoteric discourse, blending different religions, beliefs and doctrines, relies strongly on (quasi-)scientific rhetoric. Traditional strategies of belief verification in legends, such as locating supernatural events into well-known places and references to reliable witnesses, are nowadays supported by the prestigious discourse of natural sciences. Scientification has become a common practice to validate beliefs and re-enchant the world—paradoxically once demystified by the spirit of scientific rationalism.

The phlogiston theory propounded by the German scientist Georg Ernst Stahl (1666–1734) was an attempt to explain combustion in terms of an all-pervading, invisible substance, termed by him "phlogiston", which is given off when substances burn. Although by the late 18th century the theory had been largely discredited by Lavoisier's experiments, it nevertheless survived for some time in Germany, where it merged with mystical ideas and the notion of a world soul. It can therefore be seen as a late relic of the alchemical world view. In "The Phlogiston Theory: a late relic of pre-Enlightenment Science," Christopher McIntosh argues furthermore that it straddles the boundary between religion and science.

Religion in the contemporary era appeals to science as a strategy of legitimation. The sceptics reject their appeals as unscientific and misleading. In "'Oh no, it isn't.' Sceptics and the Rhetorical Use of Science in Religion," Asbjørn Dyrendal deals with the modern sceptics movement, the development of it, and their counter-rhetorical strategies. First, the chapter looks at one central understanding of scepticism in light of the philosophical heritage. Then it traces parts of the history of scepticism, showing that it runs along with the development of science as a profession, partly as response to religious appropriations of and reactions to scientific development. The central part of the chapter deals with examples of "debunking" as narratives, that is on how different counter-rhetorical strategies are used to dismantle claims.

THEORETICAL