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**Sacred Versus Secular Values***Cognitive and Evolutionary Sciences of Religion and  
their Implications for Religious Freedom*

Richard Sosis and Jordan Kiper

## INTRODUCTION

In his chapter for this volume, Justin Barrett develops the view put forward by Robert McCauley that “religious expression in beliefs and practices is nearly inevitable in most people.”<sup>1</sup> This view is based on recent advances in the cognitive and evolutionary sciences of religion (CESR, henceforth), and is otherwise known as the *naturalness of religion thesis*: the claim that because religion is part of the phylogenetic and ontogenetic history of human beings, it is natural to humanity. The purpose of this chapter is to examine this claim and explore some of its implications for religious freedom, the principle that people are free to choose their own religious beliefs, and governments should not enforce a uniform state religion or seek to eliminate all religious expression. The primary question we wish to address is: if religion is indeed natural to humanity, should it be afforded special political protections safeguarding its expression? At first blush, it may appear that the answer to this question depends on how the alleged naturalness of religion is understood. We argue, however, that regardless of where religion lies on the naturalness spectrum, CESR offers few convincing normative reasons *per se* for protecting religious expression in terms of naturalism, and, on the contrary, it may provide compelling reasons to be cautious about blanket protections of religious expression. Our central thesis is that religious freedom may be a fundamental political right that deserves legal protection, but the

<sup>1</sup> R. N. McCauley, *Why Religion Is Natural and Science Is Not* (New York: Oxford University Press, 2011).

justification and the level of such protections cannot be derived from the naturalness of religion alone. What CESR can offer is a materialist account of religious beliefs, practices, and systems. This may prove useful for explaining religion in secular terms, resolving conflicts between religious adherents and secularists, and highlighting the potentially negative unintended consequences of manipulating or interfering with religious systems from the outside.

Barrett has initiated a discussion on naturalism from the perspective of cognitive science;<sup>2</sup> we hope to complement his outstanding contribution by focusing on recent advances in the evolutionary sciences. Together, these approaches have ushered in a renaissance in religious scholarship, including the emergence of new academic societies, conferences, and journals. Indeed, over the past decade the cognitive and evolutionary sciences have merged into what appears to be an interdependent and mutually beneficial long-term collaboration.<sup>3</sup> Still, these areas of study began as independent approaches, and despite a flourishing relationship, they continue to maintain distinct research methodologies and foci.<sup>4</sup> As the following discussion illustrates, the two approaches often yield divergent conclusions over the evolution of religion, even when considering the very same issue.

To summarize the outline of this chapter, we first offer a brief overview of the evolutionary study of religion and its relationship to the cognitive science of religion. We then describe one evolutionary theory of religion, namely, signaling theory, which is acutely pertinent to the discussion that follows. Next, we examine the implications of evolutionary signaling

<sup>2</sup> J. L. Barrett, *Cognitive Science, Religion, and Theology* (West Conshohocken, PA: Templeton Press, 2011), and J. L. Barrett, *Born Believers: The Science of Children's Religious Belief* (New York: Simon and Schuster, 2012). See also Barrett's contribution to this volume: Chapter 3, "On the Naturalness of Religion and Religious Freedom," pp.

<sup>3</sup> R. Sosis, "The Road Not Taken: Possible Paths for the Cognitive Science of Religion," in *Religion Explained? The Cognitive Science of Religion After Twenty-Five Years*, eds. L. Martin and D. Wiebe (London: Bloomsbury Press, forthcoming).

<sup>4</sup> J. Bulbulia, et al., eds., *The Evolution of Religion: Studies, Theories, and Critiques* (Santa Margarita: Collins Foundation Press, 2008); R. Sosis and J. Bulbulia, "The Behavioral Ecology of Religion: The Benefits and Costs of One Evolutionary Approach" *Religion* 41 (2011): 341–362; J. Watts, et al., "Broad Supernatural Punishment but not Moralizing High Gods Precede the Evolution of Political Complexity in Austronesia," *Proceedings of the Royal Society of London B: Biological Sciences* 282.1804 (2015): 20142556; B. G. Purzycki, et al., "Moralistic Gods, Supernatural Punishment and the Expansion of Human Sociality," *Nature* 530 (2016): 327–330; D. Johnson, *God Is Watching You: How the Fear of God Makes Us Human* (New York: Oxford University Press, 2015).

theory for the naturalness of religion thesis. We then conclude with a short discussion about the implications of this work for religious freedom. Because of the numerous fields of study that our topic touches upon, we note here that our discussion is conveyed amidst considerable intellectual ferment, diversity, and debate in the science and philosophy of religion. Undoubtedly, then, many issues such as religious epistemology, the moral right to religion, and the nature of religious freedom are beyond the limits of our analysis. Nonetheless, we hope our contribution is able to traverse disciplinary divides and speak to scientists, philosophers, and policy-makers alike.

#### EVOLUTIONARY SCIENCE OF RELIGION: AN OVERVIEW

Eminent theorists from David Hume to Max Weber have long recognized that religion evolves; that is, it changes and develops over time. For instance, in his *Natural History of Religion*, Hume commented that there is a kind of flux and reflux to religion such that, in due time, it changes with individuals and societies.<sup>5</sup> Likewise, Weber noted that a community's religious system tends to become embedded in its political structure, thus changing with its military and economic prosperity.<sup>6</sup> But despite recognizing the ebb and flow of religion, these theorists, like most scholars of their day, remained in the dark about the exact mechanism responsible for change; it was not until the advances of Charles Darwin that light was shed on the matter.

The evolutionary study of religion rightly originates with Darwin, who offered a mechanism that could explain change in nature, including changes in human behavior over time. That mechanism is natural selection, which Darwin described as follows: "[I]f variations useful to any organic being do occur, assuredly individuals thus characterized will have the best chance of being preserved in the struggle for life; and from the strong principle of inheritance they will tend to produce offspring similarly characterized."<sup>7</sup> Building on this observation, Darwin considered human evolution in *The Descent of Man, and Selection in Relation to Sex* (1871), where he argued that, similar to other adaptations, human beliefs

<sup>5</sup> David Hume, "The Natural History of Religion," in *Dialogues and Natural History of Religion*, ed. J. A. C. Gaskin (New York: Oxford University Press, 1993 [1757]), 158–159.

<sup>6</sup> Max Weber, *The Sociology of Religion* (Boston: Beacon Press, 1991[1922]), 17.

<sup>7</sup> Charles Darwin, "On the Origin of Species," in *Darwin: The Indelible Stamp*, ed. J. D. Watson (Philadelphia: Running Press Book Publishers, 2005 [1859]), 413.

and behaviors evolved by differential survival and reproduction. Remarkably though, when considering religion Darwin failed to apply his own selectionist logic and thought the problem of the origin of religion was relatively easy and obvious. He wrote: “As soon as the important faculties of the imagination, wonder, and curiosity, together with some power of reasoning, had become partially developed, man would naturally crave to understand what was passing around him, and would have vaguely speculated on his own existence.”<sup>8</sup> According to Darwin, then, once humans evolved the ability to reflect on their own existence they needed answers to existential questions, and religion was born to provide those answers.

Darwin was a careful scientist and his detailed descriptions of the structure and form of numerous species remain an inspiration to scientists today. Yet, in spite of his keen observational skills, he seems to have completely missed the structure and form of religion. For simply contemplating existential questions does not lead one to build elaborate monuments, undergo circumcision, renounce sexual activity for a lifetime, or turn dinner into charcoal on an alter for beings that have never been seen. Darwin deserves credit for launching the evolutionary science of religion, but, admittedly, it was not a strong beginning. Indeed, only in the past decade have evolutionary scholars begun to understand why selection has favored the many remarkable beliefs and behaviors that constitute religious expression.

While Darwin may have thought the causal factors favoring religion’s evolution were obvious, the evolutionary study of religion faces a number of significant challenges. Here we mention two that are particularly relevant to the discussion that follows. The first challenge is that patterns of religious behavior, like other areas of social life, have undergone considerable change over our evolutionary history, making generalizations about them somewhat tenuous. British anthropologist E. E. Evans-Pritchard was explicit on this point when he argued that dramatic historical changes in religious behavior render it impossible to generalize across categories of religions such as tribal, chiefdom, and contemporary world religions.<sup>9</sup> To overcome this challenge, the evolutionary science of religion offers the

<sup>8</sup> Charles Darwin, “The Descent of Man, and Selection in Relation to Sex,” in *Darwin: The Indelible Stamp*, ed. J. D. Watson (Philadelphia: Running Press Book Publishers, 2005 [1871]), 678.

<sup>9</sup> E. E. Evans-Pritchard, *Theories of Primitive Religion* (Oxford: Oxford University Press, 1965).

following three observations. First, religion is describable by means of methodological naturalism, which simply means that the supernatural and normative need not be invoked to explain any set of religious phenomena. Second, the ethnographic record indicates that religious behavior is quite costly, but nonetheless rampant across cultures, including modern societies.<sup>10</sup> Third, given that religion is costly, natural selection must have favored its survival only if it provided potential benefits to its practitioners, such as enhancing cooperation, assuaging existential concerns, or improving health and healing.<sup>11</sup> Hence, evolutionary scientists of religion do generalize across time and space because they presume that religious behaviors are natural phenomena that are responsive to the range of selective pressures humans have experienced throughout their varied evolutionary history, and the costs and benefits of these behaviors can be analyzed from an adaptationist perspective.

The second challenge for evolutionary scientists is how to define religion. Put simply: what is religion? And, more specifically, when considering the evolution of religion, on what exactly is selection operating, and what precisely is evolving? With regard to what religion is, scholars have offered countless definitions. However, those definitions range from individual experiences to collective beliefs, from ritual practices to social institutions. Alternatively, they are specific to particular research topics, which can be as diverse as Neanderthal burials and contemporary religious fundamentalism. It is not clear, then, whether religion is a coherent set of phenomena or an artifact of various disciplines and discourses, imposed on disparate human activities. Acknowledging these difficulties, evolutionary scholars propose that religion, if anything, is an inherently fuzzy category with unclear boundaries.

Accordingly, rather than defining religion per se, many evolutionary scholars have concluded that it can best be studied by considering its constituent parts.<sup>12</sup> For despite its diversity, religion consists of recurrent

<sup>10</sup> J. Bulbulia, "The Evolution of Religion," in *The Oxford Handbook of Evolutionary Psychology*, eds. R. I. M. Dunbar and Louise Barrett (New York: Oxford University Press, 2007), 622.

<sup>11</sup> R. Sosis and C. S. Alcorta, "Signaling, Solidarity and the Sacred: The Evolution of Religious Behavior" *Evolutionary Anthropology* 12 (2003): 264–274; R. Sosis, "Religious Behaviors, Badges, and Bans: Signaling Theory and the Evolution of Religion," and J. Bulbulia, "Nature's Medicine: Religiosity as an Adaptation for Health and Cooperation," in *Where God and Science Meet: How Brain and Evolutionary Studies Alter our Understanding of Religion*, Vol. 1, ed. P. McNamara (Westport: Praeger, 2006), 61–86 and 87–122; and J. Bulbulia and R. Sosis, "Signaling Theory and the Evolution of Religions" *Religion* 41 (2011): 363–388.

core features that receive varied emphasis across cultures. For instance, although Christian cultures place great emphasis on the afterlife, Judaic cultures put less emphasis on the afterlife and more on human responsibility in this life.<sup>13</sup> Furthermore, while some cultures focus on mystical experiences, others focus on creeds and doctrine.<sup>14</sup> The task for evolutionary scholars is therefore to shift attention away from providing a conclusive definition of religion, and to focus instead on demarcating its recurrent features. In doing so, one finds that such features include – among others – ritual, myth, taboo, emotionally charged symbol, music, altered consciousness, commitment to supernatural agents, and belief about the afterlife. Developing a list of religion’s core features is of course fraught with its own difficulties; scholars will undoubtedly continue to debate fiercely about what should be included and excluded from the list. We wish to point out, however, that even if a list of features were universally accepted, religion would remain a fuzzy category, as there are always human activities on the fringes that will defy strict definitional boundaries.

With that said, breaking the social category of religion down into its more easily definable core elements has several advantages. First, it avoids endless disputes concerning whether Marxism, science, patriotism, sports and so on are religions. After all, it is clear that religion shares several core elements with these cultural institutions, especially in terms of promoting group commitments, involving ritual, assuaging anxieties, and inculcating myths. Second, it allows researchers to take a comparative approach to religion, and thereby identify and explain why some groups emphasize

<sup>12</sup> S. Atran and A. Norenzayan, “Religion’s Evolutionary Landscape: Counterintuition, Commitment, Compassion, Communion,” *Behavioral and Brain Sciences*, 27 (2004): 713–770; C. S. Alcorta and R. Sosis, “Ritual, Emotion, and Sacred Symbols: The Evolution of Religion as an Adaptive Complex,” *Human Nature* 16 (2005): 323–359; J. Bulbulia, “Are There any Religions? An Evolutionary Exploration,” *Method and Theory in the Study of Religion*, 17 (2005): 71–100; H. Whitehouse, “Cognitive Evolution and Religion; Cognition and Religious Evolution,” in *The Evolution of Religion: Studies, Theories, and Critiques*, eds. J. Bulbulia et al. (Santa Margarita: Collins Foundation, 2008), 31–42; R. Sosis, “The Adaptationist-Byproduct Debate on the Evolution of Religion: Five Misunderstandings of the Adaptationist Program,” *Journal of Cognition and Culture* 9 (2009): 315–332; R. Sosis “Religions as Complex Adaptive Systems” in *Mental Religion: The Brain, Cognition, and Culture*, ed. N. Clements (Farmington Hills: Macmillan, forthcoming), 219–236.

<sup>13</sup> L. Baeck, *Judaism and Christianity* (Philadelphia: Jewish Publication Society, 1958).

<sup>14</sup> H. Whitehouse, *Modes of Religiosity: A Cognitive Theory of Religious Transmission* (Walnut Creek: AltaMira Press, 2004).

different aspects of religion above others. Third, and most importantly, by breaking religion down into its basic elements it becomes obvious that these elements did not evolve together. Ritual, for example, has antecedents in many other species<sup>15</sup> and presumably has a much deeper evolutionary history in our lineage than many other core elements, such as myth. Therefore, “When did religion evolve?” is a poor question because it assumes that at some point in our evolutionary history religion simply “appeared.” But this is not the case. Religion did not just appear, but rather consisted of uniting cognitive processes and behaviors that for the most part already existed. And although these elements evolved separately, at some point in our evolutionary history they began to coalesce and appear together with regularity. With regard to timing, then, the appropriate question is: “When did the features of religion coalesce?” At the moment we do not have a clear answer to this question, and we know surprisingly little about the dynamic interrelationship between the many core features of religion. Of course, understanding why these features coalesce as they do should provide us with insights about *when* they began to do so.

Finally, breaking religion down into its constituent parts also clarifies what selection has operated on – i.e., a coalescence of cognitive, emotional, and behavioral elements. It also directs us to the questions one needs to ask in order to analyze the adaptive value of religion. Put simply, even if religion is merely a Western construct, as some have argued,<sup>16</sup> it is nonetheless a collection of cognitive processes and behaviors that form an appropriate unit of adaptationist analysis. For it is the functioning of these processes in coordination with each other that makes religion an adaptive system. Specifically, religion is an adaptive system similar to – but no less complex than – the respiratory, circulatory, or immune systems. These too are Western constructs that probably lack counterpart in the lexicon of traditional populations, yet they are no less interpretable through an evolutionary lens. With this in mind, it is clear why evolutionary scholars avoid the murky waters of defining religion, and focus instead on pinpointing its recurrent set of core elements. In short, evolutionary scholars do isolate and study specific core elements of religion in order to

<sup>15</sup> E. G. D’Aquila et al., *The Spectrum of Ritual* (New York: Columbia University Press, 1979); C. S. Alcorta and R. Sosis, “Ritual, Emotion, and Sacred Symbols,” 323–359; C. S. Alcorta and R. Sosis, “Rituals of Humans and Animals,” in *Encyclopedia of Human-Animal Relationships*, vol. 2, ed. Marc Bekoff (Westport: Greenwood, 2007).

<sup>16</sup> M. Klass, *Ordered Universes: Approaches to the Anthropology of Religion* (Boulder: Westview Press, 1995).

understand their fitness effects and how they function. But it is the religious system itself, which is the coalescence of these elements, that must be the focus of an adaptationist analysis.<sup>17</sup>

#### EVOLUTIONARY SIGNALING AND RELIGION

From an adaptationist standpoint, the most striking feature of any religious system is its costs. This is particularly noticeable in terms of the ritual practices that throughout the world are often torturous and terrifying.<sup>18</sup> For instance, consider just a few of the initiation ceremonies historically performed by Native Americans: Apache boys were forced to bathe in icy water, Lui seño initiates were required to lie motionless while being bitten by angry hordes of ants, and Tukuna girls had their hair plucked out. Of course, not all communities demand such sacrificial behavior of their members. Indeed, the most common religious activities in Western world religions, namely, prayer and scriptural study, are comparatively benign compared to the above rituals. It deserves mentioning, however, that even in religious communities that place few demands on their adherents, religious activities still require time and energy – time and energy that will thus become unavailable for other activities.

But this begs an important question: why is there so much variance across religious communities with regard to the costs imposed on adherents? Furthermore, what are the determinants of this variance? In trying to understand why selection would favor costly religious behaviors, evolutionary scholars have used two main insights drawn from cultural anthropology, which we address briefly here.

First, anthropologists have often approached religion as a form of communication, typically viewing ritual as the primary expression of religious belief.<sup>19</sup> However, it was not until anthropologist Roy Rappaport's pioneering work that ritual was clearly shown to be

<sup>17</sup> B. G. Purzycki, O. S. Haque, and R. Sosis, "Extending Evolutionary Accounts of Religion Beyond the Mind: Religions as Adaptive Systems," in *Evolution, Religion, and Cognitive Science: Critical and Constructive Essays* (Oxford: Oxford University Press, 2014), 74–91; B. G. Purzycki and R. Sosis, "The Extended Religious Phenotype and the Adaptive Coupling of Ritual and Belief," *Israel Journal of Ecology & Evolution* 59.2 (2013): 99–108; and J. Kiper and R. Sosis, "Moral Intuitions and the Religious System: An Adaptationist Account," *Philosophy, Theology and the Sciences* 1.2 (2014): 172–199.

<sup>18</sup> A. Glucklich, *Sacred Pain: Hurting the Body for the Sake of the Soul* (New York: Oxford University Press, 2001).

<sup>19</sup> E. E. Evans-Pritchard, *Nuer Religion* (Oxford: Clarendon Press, 1956); E. Leach, *Culture and Communication: The Logic by Which Symbols Are Connected* (New York:



a unique form of communication.<sup>20</sup> Based on his ethnographic accounts of the Maring of New Guinea, Rappaport demonstrated that rituals serve as a non-linguistic mode of expression, insofar as the ritual act itself conveys and instills social conventions among members of a community. This is because participating in ritual is equivalent to accepting what it represents, which, for Rappaport, is commitment to the community and its social way of life. As such, rituals serve as the very foundation of society, and even the origin of the social contract.<sup>21</sup>

Secondly, while researchers have long maintained that religion promotes group solidarity, it is Durkheim's key insight into the nature of social life that remains a central tenet for the anthropology of religion.<sup>22</sup> That is, because we are born into groups, we develop an underlying sense of the basic social structures that promote group solidarity. For instance, we learn through enculturation to abide by the general morals and legal traditions of our group, and we do so not only to avoid punishment but also to benefit from harmonious social operations. Recognizing this, Durkheim argued that from a social-scientific perspective, the primary characteristic of religion is not supernatural belief but rather collective behaviors that serve the needs of the group. After all, seemingly religious behaviors such as worship services or rituals are actually social behaviors that reinforce group solidarity through collective effervescence. This was made clear by Durkheim's analysis of totemism among the Australian Aborigines. There he showed that the totem is at once the symbol of god and society – just as, for instance, the cross represents Christ and the Church for Christian communities. Thus, when individuals collectively served the totem, they inadvertently served the group, thereby strengthening its underlying social structures.

Cambridge University Press, 1976); N. Luhmann, *The Religion of Society*, ed. A. Kieserling (Frankfurt: Suhrkamp, 2000).

<sup>20</sup> R. Rappaport, *Pigs for the Ancestors* (New Haven: Yale University Press, 1968); R. Rappaport, "The Obvious Aspects of Ritual," in *Ecology, Meaning and Religion*, ed. R. Rappaport (Berkeley: North Atlantic Books, 1979), 173–222; and R. Rappaport, *Ritual and Religion in the Making of Humanity* (Cambridge: Cambridge University Press, 1999).

<sup>21</sup> Rappaport, *Ritual and Religion in the Making of Humanity*, 132.

<sup>22</sup> E. Durkheim, *The Elementary Forms of Religious Life*, trans. Karen E. Fields (New York: The Free Press, 1995 [1912]); V. Turner, *The Ritual Process: Structure and Anti-Structure* (Chicago: Aldine, 1969); H. Whitehouse, "Immortality, Creation and Regulation: Updating Durkheim's Theory of the Sacred," in *Mental Culture: Classical Social Theory and the Cognitive Science of Religion*, eds. Dimitris Xygalatas and William W. McCorkle Jr. (New York: Routledge, 2014), 66–79.

For evolutionary scholars, the above accounts highlight the fact that religion promotes communication and group solidarity. But these accounts alone are not entirely satisfactory for those who wish to understand religious behavior in terms of its evolution. To understand how natural selection could have favored ostensibly costly religious behaviors, evolutionary scientists have turned to evolutionary signaling theory, which aims to explain the adaptive value of signals used in animal communication.<sup>23</sup> Of central interest to signaling theorists are the conditions under which selection will favor reliable signals, on one hand, and deceptive signals, on the other.<sup>24</sup> Based on costly signaling models, communication between individuals with conflicting interests can be reliable when there is a link between the quality of a signaler and the signal being produced, which typically depends on the cost of the signal. Under conditions where the signal is costly to produce, selection can favor those whose qualities enable audiences to distinguish reliably between honest and dishonest signalers. As a result, natural selection provides the means to discriminate by exacting demands that are more costly for low-quality signalers than they are for high-quality ones.<sup>25</sup> For instance, numerous reliable signaling systems have evolved – such as the stotting of Thomson’s gazelles, the plumage of peacocks, the frequency calls of frogs, and so forth – that involve organisms that possess the energetic resources to display signals that are too hard to fake for those with low energetic resources.<sup>26</sup> Put concisely, signals expressing phenotypic condition can be honest if the costs to lower-quality individuals of imitating the signals of higher-quality individuals outweigh the benefits that can be achieved.

Applying these insights from evolutionary biology and cultural anthropology, evolutionary anthropologists Lee Cronk and William Irons began to investigate religion as an evolved and dynamic signaling system. Irons

<sup>23</sup> L. Cronk, “Evolutionary Theories of Morality and the Manipulative Use of Signals,” *Zygon* 29 (1994): 81–101; W. Irons, “Religion as a Hard-to-Fake Sign of Commitment,” in *Evolution and the Capacity for Commitment*, ed. R. Nesse (New York: Russell Sage Foundation, 2001), 292–309.

<sup>24</sup> W. Searcy and S. Nowicki, *The Evolution of Animal Communication: Reliability and Deception in Signaling Systems* (Princeton: Princeton University Press, 2005).

<sup>25</sup> A. Grafen, “Biological Signals as Handicaps,” *Journal of Theoretical Biology* 144 (1990): 517–546; Amotz Zahavi and Avishag Zahavi, *The Handicap Principle: A Missing Piece of Darwin’s Puzzle* (New York: Oxford University Press, 1997).

<sup>26</sup> T. J. Polnaszek, and D. W. Stephens, “Why Not Lie? Costs Enforce Honesty in an Experimental Signalling Game,” *Proceedings of the Royal Society of London B: Biological Sciences* 281.1774 (2014): 20132457; Eileen A. Hebets, et al., “A Systems Approach to Animal Communication,” *Proceedings of the Royal Society of London B: Biological Sciences* 283.1826 (2016): 20152889.

argued that the costliness of religious behaviors enables them to serve as honest signals of commitment to the group.<sup>27</sup> This is because only those who are committed to the group's beliefs and goals will be willing to incur the time, energy, and opportunity costs of such actions. The solidarity created within religious communities enables them to offer community members significant benefits, including social networks, insurance, materials, and even marital partners. These benefits, however, can be exploited by free-riders who are not committed to the community yet nonetheless reap the group's benefits. To avoid the free-rider problem, communities must therefore impose a cost on potential group members. Accordingly, religious performance serves to demonstrate an individual's commitment and loyalty to the group, thereby allowing them to benefit from the social and material resources it offers.<sup>28</sup>

#### ON THE NATURALNESS OF RELIGION

The salient point that emerges so far is that evolutionary scholars seek to describe religion in natural terms. But the word *natural* among evolutionary scholars remains ill-defined, unless we cling to the preconception that whatever science investigates is simply natural. Thus the meaning of the term is an open question. Of course, there is a prevailing definition in philosophy that centers on the concept of ontological naturalism. This is the view that the real world is nothing more than the physical world – that is, the objective world around us is causally limited to physical antecedents and physical consequences.<sup>29</sup> While most evolutionary scientists

<sup>27</sup> Irons, "Religion as a Hard-to-Fake Sign of Commitment," 292–309.

<sup>28</sup> For more detailed accounts of the application of costly signaling theory to religion see: R. Sosis, "Why Aren't we all Hutterites? Costly Signaling Theory and Religion," *Human Nature* 14 (2003): 91–127; J. Bulbulia, "Religious Costs as Adaptations that Signal Altruistic Intention," *Evolution and Cognition* 10 (2004): 19–42; R. Sosis, "Does Religion Promote Trust? The Role of Signaling, Reputation, and Punishment," *Interdisciplinary Journal of Research on Religion* 1 (2005): 1–30; R. Sosis, "Religious Behaviors, Badges, and Bans: Signaling Theory and the Evolution of Religion," 61–86; J. P. Schloss, "He Who Laughs Best: Involuntary Religious Affect as a Solution to Recursive Cooperative Defection," in *The Evolution of Religion: Studies, Theories, and Critiques*, 197–209; J. Bulbulia and R. Sosis, "Signaling Theory and the Evolution of Religions," 363–388; E. A. Power, "Building Bigness: Religious Practice and Social Support in Rural India" (doctoral dissertation, Stanford University, 2015).

<sup>29</sup> D. M. Armstrong, "The Causal Theory of Mind," in *Philosophy of Mind: Classical and Contemporary Readings*, ed. D. J. Chalmers (New York: Oxford University Press, 2002), 80–87 (originally published in D.M. Armstrong, *The Nature of Mind and Other Essays* [Brisbane, Australia: Queensland University Press, 1981], 16–31); D. Lewis,

embrace such a perspective, they operate on a slightly different conception of *natural*, which is best described as methodological naturalism: the view that metaphysical commitments of any kind outside of logical analysis and empirical data have no place in science, for science adopts no particular metaphysical account of the phenomena it investigates.<sup>30</sup> If that is right, then a definition of “natural” for many evolutionary scholars is simply the commitment to the scientific method. For the study of religion, however, it is necessary to turn basic definitions like these, in which *natural* is an essentially methodological assertion, into a defensible understanding of religious behavior as natural phenomena. In this section, we wish to examine the novel approach McCauley and Barrett pursue in order to demonstrate the naturalness of religion. After discussing their view, we will briefly provide our own take on the matter.

Drawing on McCauley, Barrett defines “naturalness” in his contribution to this volume as “thought processes or behaviors that are characterized by ease, automaticity, and fluency.”<sup>31</sup> To illustrate, we must first explain McCauley’s position, which distinguishes between two basic types of naturalness: maturational and practiced naturalness. Maturational naturalness arises as a natural consequence of normal development, such as learning to walk or talk. Practiced naturalness, on the other hand, arises not through the normal course of physical and psychological development, but rather through repeated practice and training, such as learning to play a musical instrument. Barrett further clarifies that maturational and practiced naturalness should be considered along a continuum. At one end of the continuum are maturationally natural behaviors, such as walking, which require little environmental input. At the other extreme are practiced behaviors, which Barrett refers to as expertise, which require extensive training, such as science.

“Psychophysical and Theoretical Identifications,” in *Philosophy of Mind: Classical and Contemporary Readings*, 88–94 (originally published in the *Australasian Journal of Philosophy* 50 [1972]: 249–258); D. Papineau, *Philosophical Naturalism* (Oxford: Blackwell, 1993); D. Papineau, “Mind the Gap,” *Nous Supplement: Philosophical Perspectives* 12 (1998): 373–389; and J. Kim, *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation* (Cambridge: MIT Press, 1998).

<sup>30</sup> P. Draper, “God, Science, and Naturalism,” in *The Oxford Handbook of Philosophy of Religion*, ed. William J. Wainwright (New York: Oxford University Press, 2005), 272–303.

<sup>31</sup> Barrett, “On the Naturalness of Religion and Religious Freedom,” this volume, p. 2. See Robert N. McCauley, *Why Religion Is Natural and Science Is Not* (New York: Oxford University Press, 2011).

Barrett argues that religion lies toward the maturational end of the naturalness continuum. To defend his view, Barrett relies on an emerging set of studies suggesting that core elements of religious expression – such as supernatural agent beliefs, teleological reasoning, and afterlife beliefs – are the natural outcome of normal cognitive development.<sup>32</sup> Accordingly, Barrett comments in this volume that “[t]he regularity and early development of maturationally natural capacities make me think that these capacities map on to what we normally think of as part of human nature or as natural cognition.”<sup>33</sup> While we also find this outlook and the accumulated body of research undergirding it compelling, we suggest that religion actually lies more toward the practiced end of the naturalness continuum. In what remains of this section we defend this view.

To begin, we agree with Barrett that the cognitive structures that produce religious concepts – hypersensitive agency detection device, theory of mind, mind–body dualism, and so forth – are indeed at the foundation of religious thoughts and behaviors.<sup>34</sup> These are essential ingredients of what we call the *religious system*, that is, the recurrent set of core religious elements on which selection operates.<sup>35</sup> But the underlying cognitive structures of religion comprise only the seeds that provide the potential for the system.<sup>36</sup> After all, theory of mind, mind–body dualism, and other cognitive features are necessary but not sufficient to produce religion. To be sustained across the life course and across generations, religious beliefs require reinforcement, and religious behaviors require practice. Therefore, without further qualification, we doubt that religious

<sup>32</sup> Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religious Thought* (New York: Basic Books, 2001); S. Atran, *In Gods We Trust: The Evolutionary Landscape of Religion* (New York: Oxford University Press, 2002); Justin L. Barrett, *Why Would Anyone Believe in God* (Walnut Creek: AltaMira Press, 2004); A. Norenzayan, *Big Gods: How Religion Transformed Cooperation and Conflict* (Princeton: Princeton University Press, 2013); H. De Cruz and J. De Smedt, *A Natural History of Natural Theology: The Cognitive Science of Theology and Philosophy of Religion* (Cambridge: MIT Press, 2015).

<sup>33</sup> Justin L. Barrett, “On the Naturalness of Religion and Religious Freedom,” this volume, p. 2.

<sup>34</sup> Justin L. Barrett, *Born Believers: The Science of Children’s Religious Beliefs* (New York: Free Press, 2012).

<sup>35</sup> Richard Sosis, “Religions as Complex Adaptive Systems,” in *Mental Religion: The Brain, Cognition, and Culture*, ed. N. Clements (Farmington Hills: MacMillan, forthcoming): 219–236.

<sup>36</sup> R. Sosis and J. Kiper, “Religion is More Than Belief: What Evolutionary Theories of Religion Tell Us About Religious Commitment,” in *Challenges to Religion and Morality: Disagreements and Evolution*, eds. Michael Bergmann and Patrick Kain (New York: Oxford University Press, 2014): 256–276.

behaviors are “nearly inevitable” as Barrett contends in this volume. Religious expression requires cultural inputs and cultivation, not just cognitive potential. Whether one believes in Zeus, Vishnu, or Allah will depend on the cultural environment in which one is raised. But mere exposure to teachings and rituals focused on these figures is not enough to generate a commitment to them as supernatural. What is needed to generate this kind of religious commitment? Adherents throughout the world believe in their gods and not other people’s, regardless of exposure, because adherents perform rituals for their particular deities.<sup>37</sup> In other words, while humans possess the cognitive machinery to believe in gods, a commitment to particular gods requires cultivation. In this regard, belief is not automatic but rather achieved through ritual behaviors, such as supplications to a particular god, ritual presentations of myth, ascetic practices, and healing ceremonies, all of which instill an experience of what religious persons would call the “sacred.” This notion is aptly expressed by Karen Armstrong: “Religious discourse was not intended to be understood literally . . . People were not expected to ‘believe’ in the abstract; like any mythos, it depended upon the rituals associated with the cult of a particular holy place to make what is signified a reality in the lives of participants.”<sup>38</sup> That is to say, religious practices are technologies that are critical for performers to understand and experience their community’s shared religious outlook.<sup>39</sup>

In terms of cultivating religious experience, religious ritual is universally used to identify the sacred, and in so doing separate it from the profane. As Durkheim argued, the sacred emerges through ritual and reflects issues concerning the social order, such as group interests and welfare amid the threats and uncertainties of the universe, which take on a seemingly cosmic significance in light of religious discourse.<sup>40</sup> On the other hand, the profane centers on the issues of the individual, such as the daily routines of work and consumption. Additionally, as noted by Rappaport, ritual does not merely identify that which is sacred – it *creates* the sacred.<sup>41</sup> For instance, *prasada*, or food that serves as a religious

<sup>37</sup> C. S. Alcorta and R. Sosis, “Ritual, Emotion, and Sacred Symbols,” 323–359.

<sup>38</sup> Karen Armstrong, *The Case for God* (New York: Random House, 2009), 15.

<sup>39</sup> C. Severi, “Learning to Believe: A Preliminary Approach,” in *Learning Religion: Anthropological Approaches*, eds. D. Berliner and R. Sarro (London: Berghahn Books, 2007), 21–30; Tanya Luhrmann, *When God Talks Back: Understanding the American Evangelical Relationship with God* (New York: Vintage, 2012).

<sup>40</sup> Emile Durkheim, *The Elementary Forms of Religious Life* (1912).

<sup>41</sup> Rappaport, *Ritual and Religion in the Making of Humanity*.

offering in both Hinduism and Sikhism, is not simply food that has been discovered to be blessed by deities, or substance that has been rationally demonstrated to have special qualities; it is rather food that has been *transformed* through ritual. This is because the sanctifying ritual of *prasada* collectively alters the participants' cognitive schema of food itself, rendering them with a template for differentiating sacred, blessed food from profane consumables. Most importantly, from a behavioral perspective the emotional significance of sacred and profane food is quite distinct: not only is it inappropriate to treat *prasada* as one treats profane food; it is emotionally repugnant to do so. The central point can thus be summarized: while religious adherents differentiate sacred and profane things, their cognitive discrimination would be empty without having an emotional reaction to the sacred, for it is the emotional significance of the sacred that underlies "faith," and it is ritual participation that invests the sacred with emotional meaning.<sup>42</sup>

Though we return to signaling theory in the next section, it is also worth pointing out here that costly signaling is central to cultivating religious experience. This is due to the fact that ritual technologies, which separate the sacred from the profane and invest emotional substance into otherwise arbitrary symbols, are often purposefully difficult to perform. Specifically, they are physically demanding, time-consuming, and often dangerous. While the cognitive foundations of these behaviors may be maturationally natural, it would be inaccurate to describe such behaviors as "natural" in McCauley's sense of the term; that is to say, as "easy, automatic, or fluent."<sup>43</sup> Armstrong, for example, describes how the "yogin had to do the opposite of what came naturally. He sat so still that he seemed more like a plant or statue than a human being; he controlled his respiration, one of the most automatic and essential of our physical functions, until he acquired the ability to exist for long periods of time without breathing at all."<sup>44</sup> And ritual performers recognize the difficulty in carrying out their ritual routines. As one Chasidic Jew informed Sosis during his fieldwork in Israel, "Do you think keeping these *mitzvot* is easy? It's hard work doing God's commandments!"<sup>45</sup> With regard to the naturalism spectrum, such behaviors do not come with ease, automaticity

<sup>42</sup> Alcorta and Sosis, "Ritual, Emotion, and Sacred Symbols," 323–359.

<sup>43</sup> McCauley, *Why Religion Is Natural and Science Is Not*.

<sup>44</sup> Armstrong, *The Case for God*, 21.

<sup>45</sup> R. Sosis, "Why are Synagogue Services so Long? An Evolutionary Examination of Jewish Ritual Signals," in *Judaism and Biological Perspective: Biblical Lore and Judaic Practices*, ed. R. Goldberg (Boulder: Paradigm Publishers, 2009), 200.

or fluency, and thus they are best characterized by the practiced rather than maturational side of the continuum.

Nonetheless, while we wish to emphasize the importance of cultivation in the development of religious beliefs and commitments, we are not claiming that religious expression is at the far *practiced* end of the naturalness continuum, which is inhabited by activities such as science and chess mastery. These are activities that seem to be at odds with our natural cognition, given the immense effort they require. Consider, for example, the challenge of acquiring statistical expertise. Statistical reasoning appears to conflict with fundamental cognitive algorithms to such an extent that even researchers, including those who regularly employ statistical models in their own work, frequently consult statisticians for advice. Of course, such difficulties are consistent with what we know about our evolved minds. As shown by Gigerenzer and Hoffrage, humans have difficulty with Bayesian reasoning when data are presented as probabilities; but when presented as frequencies, Bayesian problems are much easier to solve.<sup>46</sup> Accordingly, our minds are designed to handle and manipulate frequency information, because frequency formats correspond to the sequential way information has been naturally acquired throughout our evolutionary history. Extensive training is thus necessary to attain statistical expertise, for our cognitive algorithms are not naturally consistent with Bayesian reasoning. We fully recognize that statistical reasoning is different from religious cognition. Where the former requires overriding or circumventing normal cognition, the latter requires moderate cultivation to nurture underlying cognitive propensities. This is witnessed by the fact that religious systems everywhere involve the same modes of human cognition, such as the penchant for beliefs in the afterlife, magical or supernatural causation, and supernatural agents.<sup>47</sup> At any rate, although religion may not be at the far *practiced* end of the naturalness continuum, we wish to stress that it still requires repeated articulation and performance to manifest itself in human communities.

This leads us to a final point on naturalism. Following McCauley, Barrett claims that maturational naturalness is characterized by a lack of variation within populations, whereas practiced naturalness is marked by high variance in expertise. To illustrate, while most human beings learn to

<sup>46</sup> G. Gigerenzer and U. Hoffrage, "How to Improve Bayesian Reasoning Without Instruction: Frequency Formats," *Psychological Review* 102 (1995): 684–704.

<sup>47</sup> Ilkka Pyysiäinen, *Magic, Miracles, and Religion: A Scientist's Perspective* (Walnut Creek: AltaMira Press, 2004).



walk in the same manner, they rarely learn the same trades or talents in identical ways. Therefore, we agree with Barrett that the cognitive foundations of religious beliefs are universal and lack significant variation within and across populations. However, we contend that populations exhibit high levels of variance in religious expression, as countless ethnographies have shown, which is precisely what we would expect if practiced naturalness characterized religion. Even in highly religious communities variation is evident, although it tends to be underappreciated by outsiders, who see people dressed similarly and performing the same rituals. Insiders, however, seem to be well aware of such variation.<sup>48</sup> And there is good reason for group members to pay close attention to internal variation: an individual's deviation from community norms indicates deficient group commitment. Evolutionary signaling theory suggests that this variance in belief and practice is likely to have fitness consequences – a topic we would like to address briefly before concluding this discussion on naturalness.

#### SIGNALING THEORY AND PRACTICED NATURALNESS

In a brief commentary on group selection, anthropologist Lee Cronk raised an intriguing evolutionary puzzle: “Considering the phenomenal reproductive rates of Hutterites, the real mystery for evolutionary biology is why the rest of us are not trying to join their colonies.”<sup>49</sup> Indeed, given the extraordinary reproductive success of Hutterites,<sup>50</sup> and provided that natural selection designed us to maximize our fitness, why are most of us unwilling to pay the costs of joining the Hutterites to achieve these reproductive gains? In considering this question, let us consider first the costs and benefits of the Hutterite lifestyle. Hutterites engage in a variety of ritual practices, such as fasting, daily church worship, and thrice-daily communal meals that are preceded and followed by prayer. They also face a wide assortment of restrictions on their behavior, such as prohibitions on owning or using musical instruments, radios, jewelry, tobacco, and other material items. Additionally, dancing and gambling are also forbidden, and colonies impose constraints on contact and communication

<sup>48</sup> Luhrmann, *When God Talks Back*, 132–226; Sosis, unpublished data.

<sup>49</sup> L. Cronk, “Group Selection’s New Clothes,” *Behavior and Brain Sciences* 17 (1994): 615.

<sup>50</sup> S. M. Evans and P. Peller, “A Brief History of Hutterite Demography,” *Great Plains Quarterly* 35.1 (2015): 79–101.

with non-Hutterites.<sup>51</sup> Collectively these requirements of the Hutterite lifestyle are rather costly, but presumably these costs have few, if any, negative impacts on their fertility.<sup>52</sup> Furthermore, while Hutterite rituals are often costly, nonbelievers *can* perform them, which raises additional inquiries. If membership in a group that requires ritual practices genuinely results in net fitness gains, why do others not simply perform the rituals required for membership, even if they do not believe the doctrine that gives meaning to the rituals? If the net gains from joining a group outweigh any ritual costs that are required to join the group, how do the costs of the ritual practices serve as deterrents of free-riders who do not believe in the teachings of a religion? Conversely, if rituals must be costly enough to prevent free-riders from entering a population, why is it beneficial for anyone to pay the costs of group membership?

The answer to these questions is straightforward: Hutterites are Hutterites and we are not because of fundamental differences in how they and we were raised. We are not Hutterites because we do not believe in the teachings of the Hutterites, and the only way to perceive the *net* in-group benefits of the Hutterites is to truly believe in their way of life. This of course begs the question of why we do not believe in Hutterite theology. It seems that the only way to achieve such devoutness is to actually live like a Hutterite *and* initially possess either beliefs similar to their own or highly ambiguous ones. Otherwise, simply attempting to observe Hutterite religious obligations will be perceived as too costly, and hence will be avoided or discontinued if attempted. In other words, there are genuine gains to be achieved by joining the Hutterites. But without “belief” our assessment of these potential gains suggests significant costs. Hutterites, on the other hand, are able to maintain their faith and consequently experience a range of short-term benefits through the performance of the many rituals that fill their lives. Ritual performance during childhood minimizes the opportunity costs perceived by group members later in life, increasing their ability to tolerate costly constraints on their lives. As a Hutterite man from Montana commented, “It seems you have to be born with the Hutterite way, to be brought up from childhood on, to abide by these rules . . . If you are brought up like this, you’re not used to all these things you see in

<sup>51</sup> J. Hostetler, *Hutterite Society* (Baltimore: Johns Hopkins University Press, 1997); R. Janzen, *The Prairie People: Forgotten Anabaptists* (Hanover: University Press of New England, 1999); and L. Wilson, *Hutterites of Montana* (New Haven: Yale University Press, 2000).

<sup>52</sup> R. Sosis, and E. Bressler, “Cooperation and Commune Longevity: A Test of the Costly Signaling Theory of Religion,” *Cross-Cultural Research* 37 (2003): 211–239.

town.”<sup>53</sup> As the Hutterite example indicates, ritual performance fosters and maintains religious beliefs, and beliefs in turn enable rituals to be effective signals of commitment by lowering the perceived costs of ritual performance, thus preventing free-riders from reaping the benefits of religious-group membership. Accordingly, religious belief is undoubtedly important for group membership, but belief itself is a proximate mechanism that facilitates the production of adaptive ritual behaviors.

To summarize, Barrett places religion toward the maturational side of the naturalness continuum, whereas we have argued that religion lies toward the practiced end of the continuum. This difference in perspective is primarily a function of our respective disciplinary trainings and affiliations. As a cognitive scientist, Barrett is interested in uncovering the universal cognitive architecture that produces religious beliefs. Thus, Barrett perceives religion lying toward the maturational end of the naturalness continuum because he is focused on the cognitive mechanisms producing religious beliefs and behavior, and it is indeed the case that our cognition naturally produces religious expression. As evolutionary anthropologists we are struck by the extraordinary plasticity of human behavior in contrast to other organisms. Consequently, we perceive religion lying toward the practiced end of the naturalness continuum because our attention is focused on the diversity of religious expression and how religious behaviors are critical for forming and sustaining belief and commitment.

#### IMPLICATIONS FOR RELIGIOUS FREEDOM

In the previous section it was argued that religion entails both cognitive tendencies and ritual behaviors, which together make the cultivation of religious belief a form of practiced naturalism. Our present concern is whether this naturalness bears on religious freedom. In particular, the question we wish to consider is: if religion is a natural part of what it means to be human, as it seems to be, does it deserve special protections? Should its free expression be afforded special rights and safeguards? To answer these questions, we suggest that several factors related to religious freedom must be kept in mind, including the place of religion in liberal democracies, the implications of the naturalness thesis for religious freedom, and the distinct boundary between scientific description and normative prescription. Based on these factors, the suggestion we put

<sup>53</sup> Wilson, *Hutterites of Montana*, 22.

forward is that CESR cannot directly speak to religious freedom, but it may be able to illuminate the nature of sacred and secular values, thereby helping others appreciate the pervasiveness of religious practices and the holistic nature of religious systems.

When discussing religious freedom, it is important to recognize that we are generally speaking from the perspective of liberal democracy. This is not to say that religious freedom does not exist outside of liberal-democratic political systems, but rather that, on the world stage, it is a value that emerged in a robust and institutionalized form with liberal democracies. And, in general, it continues to be defended most vigorously by liberal democracies. As such, religious freedom holds a special place in the West because it goes hand-in-glove with the fundamental legal rights associated with an expansive notion of political freedom. This expansive sense of political freedom includes the freedom to seek, receive, and share information and ideas, as well as the right to vote, hold office, petition the government, and participate in religion as one sees fit.<sup>54</sup> Religious freedom is included with these other political rights because the history of Western governments suggests that imposing a single religion on a society has always resulted in political turmoil.<sup>55</sup> As articulated in this volume by Wolterstorff,<sup>56</sup> the practical aim of not singling out a religious order for society is related to the idea that political rights serve to protect citizens from abuses. For instance, the free exercise of religion prevents the powerful – even the government itself – from abusing the freedom held by individuals to adopt religion as he or she sees fit. However, the idea of freely adopting and exercising a religion, in turn, is traditionally rooted in the philosophical notion of natural rights, that is, some rights are held by individuals not by virtue of any positively instituted laws but rather the dignity of the person, usually bestowed by a divine creator. Hence, when James Madison and Thomas Jefferson articulated the legal conception of religious freedom they did so with both the ideas of natural law in mind but also with the practical aims of protecting the commonwealth. For prohibiting a state-enforced or established religion serves a governmental interest: namely, political order. In his analysis of failed governmental

<sup>54</sup> M. Perry, *The Idea of Human Rights: Four Inquiries* (New York: Oxford University Press, 1998); M. Perry, *The Political Morality of Liberal Democracies* (Cambridge: Cambridge University Press, 2010).

<sup>55</sup> Douglas Laycock, “Religious Liberty as Liberty,” *Journal of Contemporary Legal Issues* 7 (1996): 313–356.

<sup>56</sup> Nicholas Wolterstorff, “Why There is a Natural Right to Religious Freedom,” this volume, pp.

attempts to establish a single religion, legal scholar Michael Perry expresses the notion in this way: “government is not to be trusted as an arbiter of religious (or anti-religious) truth . . . As Locke put it, ‘the business of laws is not to provide for the truth of opinion, but for the safety and security of the commonwealth, and every particular man’s goods and persons.’”<sup>57</sup> Religious freedom is therefore protected in liberal democracies because, in part, it is practical to do so, as history attests.

Moreover, although religious freedom may be a category restricted to legal rights, liberal democracies and many religious faiths seem to express the same philosophical value at their core: that human beings possess inherent dignity.<sup>58</sup> In other words, liberal democracies and most religious faiths recognize that human beings have an inherent value, which has a normative force that compels individuals and governments to treat human beings with respect. Furthermore, both religions and democracies design rules and guidelines to protect human beings accordingly. Even though both kinds of systems often find ways to overlook that value, they nevertheless share a common ground by affirming and valuing human dignity, a ground that is also shared by international human rights documents.<sup>59</sup>

With these caveats in mind, we consider the notion that discoveries in CESR may have an impact on our understanding and protection of religious freedom. For example, one could develop an argument for protecting religion in light of its naturalness. Specifically, if religion lies on the maturational side of the naturalness continuum, then one could argue that religious expression deserves protection. After all, international law safeguards many human rights because they are in fact basic rights, meaning that they are natural to human life and thus inherent to all other freedoms.<sup>60</sup> Here, the terms “human rights” and “natural rights” are not entirely synonymous. While natural rights are often grounded on the metaphysical claim that they are God-given, human rights are human

<sup>57</sup> Perry, *The Political Morality of Liberal Democracies*, 76–77. <sup>58</sup> Ibid.

<sup>59</sup> See, for example, the Universal Declaration of Human Rights of 1948, which affirms in its Preamble that “recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world,” and goes on to declare that “the peoples of the United Nations have in the Charter reaffirmed their faith in fundamental human rights, in the dignity and worth of the human person and in the equal rights of men and women and have determined to promote social progress and better standards of life in larger freedom.” Available at [www.un.org/en/universal-declaration-human-rights/](http://www.un.org/en/universal-declaration-human-rights/), accessed on February 20, 2017.

<sup>60</sup> Henry Shue, *Basic Rights: Subsistence, Affluence, and U.S. Foreign Policy* (Princeton: Princeton University Press, 1980).

constructs that are grounded on other basic rights – that is, those basic human needs without which all other rights cannot be enjoyed. Examples include positive rights such as the access to water and negative rights such as the freedom from rape or torture. Without these basic rights, all other rights, such as economic or social rights, cannot be enjoyed.<sup>61</sup> Many basic rights appear to be human behaviors that are maturationally natural. For instance, it is maturationally natural for human beings to defend themselves from life-threatening harm and bodily injury, to avoid slavery or servitude, to object to torture and cruelty, to abhor arbitrary confiscation of property, and to eschew several other violations. With each, it seems that being maturationally natural is an element of basic human rights, which indeed receive protection under international law. If so, then religious belief and expression would seem equally deserving of similar protections.

Is the above argument sound? That is to say, can religion be protected along the same lines as other basic rights? We suspect not for at least two reasons. First, even if religion did lie on the maturational side of the naturalness continuum, as Barrett and McCauley contend, it would not be at the far end of the continuum with other natural needs that are associated with human rights. The right to freedom from torture, the right to water, and so forth, are basic rights insofar as other rights cannot exist without them. In other words, it is literally self-defeating to hold that human beings possess rights of any kind without ensuring that their basic rights are protected.<sup>62</sup> We observe that religious freedom is indeed a right – a human right – but it is not a basic right; for other rights can be enjoyed without it. Second, we contend that the political freedom of religion could be on slippery ground if it were justified by virtue of the naturalness of religion. This is because scientists will most likely continue to find new insights and evidence that will further inform our sense of where precisely religion lies on the naturalness continuum. But the freedom of religious belief and expression should not wax and wane with the discoveries of science. It is an essential legal right and an important political freedom, not a scientific proposition subject to continual revision and discovery.

Moreover, if religion lies on the practiced end of the continuum, as we have argued, it is difficult to see how its naturalness could justify special protections. There are countless human activities that build upon natural cognitive mechanisms in much the way religion does, but these require

<sup>61</sup> *Ibid.*, p. 21.    <sup>62</sup> *Ibid.*

practice to gain expertise, thus rendering them forms of practiced naturalness. Just to name a few, these activities include gambling, dancing, playing an instrument, mastering a craft, and excelling at sports. However, unlike basic rights, these activities are rarely protected by societies, because they are not basic human needs. What makes religion different from these activities is that it has a long history of being abused, oppressed, and manipulated by governments. Perry puts the point succinctly: “This, then, is the fundamental warrant for liberal democracy’s commitment to the right to religious freedom: Political majorities are not to be trusted (i.e., beyond a certain point) as arbiters of religious truth; moreover, the coercive imposition of religious uniformity is (beyond a certain point) more likely to corrode than to nurture the strength of a democracy. The warrant, which is rooted in historical experience, is fundamental in the sense that it is ecumenical: Both citizens who are religious believers and those who are not can affirm the warrant. And that the warrant is ecumenical is ideal: Liberal democracies are religiously pluralistic.”<sup>63</sup> Accordingly, liberal democracies seek to protect religious expression, a form of practiced expertise, because the varieties of human experience produce countless forms of religious belief, which, arguably, cannot be verified or falsified. It is thus arbitrary for any majority to impose the supposed truth of its religious beliefs on others. We do not see how the science of practiced naturalness could speak louder than history or philosophy when it comes to this issue.

A final point: the descriptive endeavors of science can rarely speak to the prescriptive enterprise of ethics or law. For that reason, it is important to emphasize that there is a yawning explanatory gap between what *is* according to science and what *ought to be* according to ethics and law. To be exact, the protection of religious freedom – what ought to be – cannot be derived from the adaptationist analysis of religion – what is. Even if religion provides adaptive benefits in the form of positive health outcomes<sup>64</sup> and facilitates collective action,<sup>65</sup> it still does not tell us how

<sup>63</sup> Perry, *The Political Morality of Liberal Democracies*, 79.

<sup>64</sup> H. Koenig, M. McCullough, and D. Larson, eds., *Handbook of Religion and Health* (New York: Oxford University Press, 2001); Connor Wood, “Ritual Well-Being: Toward a Social Signaling Model of Religion and Mental Health,” *Religion, Brain & Behavior* (2016), published electronically July 21, 2016, doi: 10.1080/2153599X.2016.11156556.

<sup>65</sup> M. Soler, “Costly Signaling, Ritual and Cooperation: Evidence from Candomblé, an Afro-Brazilian Religion,” *Evolution and Human Behavior* 33.4 (2012): 346–356.; R. Sosis, H. Kress, and J. Boster “Scars for War: Evaluating Alternative Signaling Explanations for Cross-Cultural Variance in Ritual Costs,” *Evolution and Human Behavior* 28 (2007): 234–247; R. Sosis and B. Ruffle, “Religious Ritual and

religion ought to be handled in liberal democracies. Moreover, determining that a trait is adaptive does not imply that the trait is “good” or offers individual or societal benefits worth protecting. Under conditions of extreme resource stress, for example, infanticide is likely to be adaptive,<sup>66</sup> but few would claim that it deserves protection. In the same way, the adaptive value of religion ultimately says little about whether we ought to protect religious freedom.

#### SACRED VERSUS SECULAR VALUES

But does the naturalness thesis yield any significant and useful insights regarding problems of religious freedom? In this volume, Barrett explores the implications of the naturalness thesis for two issues: complete freedom of religious expression and disallowing any religious expression. Rather than focus on these extreme conditions, here we examine the gray areas where sacred and secular values conflict. There are several related but separable issues that could be raised, but we focus on just one: can CESR help to resolve conflicts between sacred and secular claims and values? To make progress on that question, let us first consider several examples where basic religious activities appear to conflict with secular values.

In April 2011, the *New York Times* reported that Hindu communities in Queens, New York were using the bay in Gateway National Recreation Area for religious ceremonies, including births, deaths, and festivals.<sup>67</sup> The water of the bay is believed by local Hindus to possess healing powers that can cure sickness, pain, and suffering. But unlike the Ganges, where Hindus traditionally perform religious rites, the enclosed bay does not sweep away refuse. Consequently, park rangers found the remains of Hindu rites on the banks of the bay, such as clothing, statues, coconuts, and clay bowls. Furthermore, during cremation ceremonies human ashes were tossed into the bay. Park rangers and conservationists were of course concerned about the environmental impact of performing these religious rites in a fragile ecosystem.

Cooperation: Testing for a Relationship on Israeli Religious and Secular Kibbutzim,” *Current Anthropology* 44 (2003): 713–722; and Y. Hartberg, M. Cox, and S. Villamayor-Tomas, “Supernatural Monitoring and Sanctioning in Community-Based Resource Management,” *Religion, Brain & Behavior* (2016): 95–111.

<sup>66</sup> S. B. Hrdy, *Mother Nature: Natural Selection and the Female of the Species* (London: Chatto & Windus, 1999).

<sup>67</sup> Sam Dolnick, “Hindus Find a Ganges in Queens, to Park Rangers’ Dismay,” *New York Times*, April 21, 2011, accessed May 29, 2015, [www.nytimes.com/2011/04/22/nyregion/hindus-find-a-ganges-in-queens-to-park-rangers-dismay.html](http://www.nytimes.com/2011/04/22/nyregion/hindus-find-a-ganges-in-queens-to-park-rangers-dismay.html).



The Jewish holiday of Hanukkah offers a second example. In 2007 an Israeli environmentalist organization launched a “Green Hanukkah” campaign in which they encouraged Jews to light seven rather than eight candles during the “festival of lights.”<sup>68</sup> In an extensive internet campaign, environmentalists argued that every candle produces 15 grams of carbon dioxide and thus the millions of Jews celebrating Hanukkah over eight days were “irresponsibly” contributing to climate change. Similar concerns have been raised by American environmentalists over the energy costs of fueling Christmas lights.

However, not all conflicts between religious and secular values involve environmental issues. Jehovah’s Witnesses have been at the center of numerous court battles concerning conflicts between their beliefs and secular values. Witnesses, for example, have refused to salute the American flag, which they believe would constitute idolatry, and in a 1943 decision (*West Virginia State Board of Education vs. Barnette*), Witnesses were granted the right to refuse to salute the flag and recite the Pledge of Allegiance.<sup>69</sup> A more recurrent conflict centers on battles over their right to refuse blood transfusions, which their faith prohibits because it is equated with drinking blood. Their right to refuse blood transfusions, even if it means certain death, has been upheld in numerous court cases. In response to a 2011 lawsuit, a court ordered the state of Kansas to provide, at considerable expense, a bloodless liver transplant for a patient, based on her beliefs as a Jehovah’s Witness.<sup>70</sup>

The courts, of course, have not only handled sacred and secular conflicts among Jehovah’s Witnesses. For example, in 2009, eleven Old Order Amish families filed a religious discrimination lawsuit against the town of Morristown, New York.<sup>71</sup> The families were denied building permits by the town because they refused to abide by established building codes that conflicted with their religious restrictions on the use of electronic appliances. The town, for example, demanded full compliance with fire codes,

<sup>68</sup> “‘Green’ Hanukkah Sparks Criticism,” *United Press International*, December 5, 2007, accessed May 29, 2015, [www.upi.com/Top\\_News/2007/12/05/Green-Hanukkah-sparks-criticism/52981196902639/](http://www.upi.com/Top_News/2007/12/05/Green-Hanukkah-sparks-criticism/52981196902639/).

<sup>69</sup> *West Virginia State Board of Education v. Barnette*, 319 US 624 (1943).

<sup>70</sup> J. Gordon Melton, “Religious Freedom and Bloodless Liver Transplants,” *Wall Street Journal*, May 13, 2011, accessed May 29, 2015, [www.wsj.com/articles/SB10001424052748703730804576317110673663444](http://www.wsj.com/articles/SB10001424052748703730804576317110673663444).

<sup>71</sup> Associated Press, “Amish Sue New York Town for Discrimination Over Building Code Enforcement,” *Fox News.com*, January 6, 2009, accessed May 29, 2015, [www.foxnews.com/story/2009/01/06/amish-sue-new-york-town-for-discrimination-over-building-code-enforcement.html](http://www.foxnews.com/story/2009/01/06/amish-sue-new-york-town-for-discrimination-over-building-code-enforcement.html).

but the Amish families contended that their faith did not allow electronic smoke detectors in their homes.

Legal conflicts between religious and secular values are manifest in other social arenas as well, including sexuality,<sup>72</sup> wearing religious items,<sup>73</sup> commercialization,<sup>74</sup> and ritual practice.<sup>75</sup> Before considering what CESR can do in these situations, it is worth considering what it cannot do. In line with what we have argued throughout this paper, CESR cannot offer any fine-grained adjudication of such conflicts because it employs methodological naturalism not as a way to discern matters of value or policy but as a way to acquire knowledge. Methodological naturalism in this regard is simply an epistemic outlook, which presumes that all phenomena can be impartially studied using the systematic methods of observation, testing, and replication.<sup>76</sup> Because methodological naturalism attempts to eliminate from science the influence of human biases – such as religious and moral beliefs – it is widely considered the most objective way to approach the natural world. Hence, employment of this approach is the surest way for CESR to maintain its legitimacy as a viable science among the greater scientific community. To offer judgments on conflicts of value, then, especially in the name of naturalism, would not only breach the is–ought barrier, but also pose a risk to the objectivity and credibility of CESR.

In spite of our numerous caveats and objections, we think that CESR does have something valuable to contribute: the resolution of conflicts between sacred and secular values. How so? One causal factor that pervades most conflicts between the religious and secular, as in most disputes, is a lack of understanding and appreciation for the beliefs and behaviors of the opposing side. Suggesting that observant Jews, for example, should light one candle fewer during Hanukkah indicates a complete lack of understanding and appreciation for the deep conviction that

<sup>72</sup> “Peter and Hazelmary Bull, British Hotel Owners Who Rejected Gay Couple, Sell Property,” *Queer Voices*, *Huffington Post*, September 19, 2013, accessed March 3, 2017, [www.huffingtonpost.com/2013/09/19/peter-hazelmary-bull-sell-hotel-\\_n\\_3955433.html](http://www.huffingtonpost.com/2013/09/19/peter-hazelmary-bull-sell-hotel-_n_3955433.html).

<sup>73</sup> “British Airways Christian Employee Nadia Eweida Wins Case,” *BBC News*, January 15, 2013, accessed March 3, 2017, [www.bbc.com/news/uk-21025332](http://www.bbc.com/news/uk-21025332).

<sup>74</sup> S. Nissenbaum, *The Battle for Christmas* (New York: Vintage, 1996).

<sup>75</sup> *Merced v. Kasson*, 577 F.3d 578 (5th Cir. 2009); Jane Sutton, “*Santeria Animal Sacrifice Underpins Guantanamo Legal Challenge*,” *Reuters*, April 18, 2012, [www.reuters.com/article/us-usa-guantanamo-chickens-idUSBRE83H1H320120418](http://www.reuters.com/article/us-usa-guantanamo-chickens-idUSBRE83H1H320120418).

<sup>76</sup> Paul Kurtz, *Philosophical Essays in Pragmatic Naturalism* (Buffalo: Prometheus Books, 1990).

underlies religious beliefs and practices. If CESR can offer anything in such a dispute, it is the explanation of religious beliefs and behaviors in materialist terms. Of course, CESR theories and data are unlikely to be satisfying for many religious adherents, because they fail to capture the full depth of meanings in their convictions. But such interpretations of religion are likely to provide satisfying materialist explanations for secularists. Above all, CESR should not aim to justify such beliefs and practices, but it can open up a fruitful dialogue to facilitate conflict resolution by clarifying why humans possess such strong religious convictions and how those convictions undergird a wide variety of religious beliefs and sometimes demanding religious rituals.

#### ON RELIGIOUS SYSTEMS

Coming full circle, we conclude our discussion of religious freedom with a brief examination of the adaptive nature of religion and its implication for society writ large. One of the most important aspects of CESR research is understanding religion as an adaptive system.<sup>77</sup> Religious systems are dynamic and complex. We have little understanding of how the feedback mechanisms of religions operate, but religious systems are clearly organic—that is, they are signaling and self-sustaining processes.<sup>78</sup> Altering one part of the system, then, will likely have significant effects on other parts. At the same time, those effects are difficult to predict even for those most familiar with the system, such as religious leaders. To illustrate, sociologists Rodney Stark and Roger Finke have argued that when the Second Vatican Council in 1962 repealed many of the Catholic Church's prohibitions and reduced the level of strictness in the church, it had unforeseeable consequences.<sup>79</sup> Presumably, the Vatican Council was an attempt to

<sup>77</sup> C. S. Alcorta and R. Sosis, "Ritual, Emotion, and Sacred Symbols," 323–359; B. G. Purzycki and R. Sosis, "The Religious System as Adaptive: Cognitive Flexibility, Public Displays, and Acceptance," in *The Biological Evolution of Religious Mind and Behavior*, eds. E. Voland and W. Schiefenhövel (Berlin: Springer, 2009), 243–256; Sosis, "The Adaptationist-Byproduct Debate on the Evolution of Religion," 315–332; R. Sosis, E. J. Philips, and C. S. Alcorta, "Sacrifice and Sacred Values: Evolutionary Perspectives on Religious Terrorism," in *Oxford Handbook of Evolutionary Perspectives on Violence, Homicide, and War*, eds. Todd K. Shackelford and Viviana A. Weekes-Shackelford (New York: Oxford University Press, 2012), 233–253.

<sup>78</sup> Rappaport, *Pigs for the Ancestors*; R. Rappaport, *Ritual and Religion in the Making of Humanity*; Sosis "Religions as Complex Adaptive Systems," 219–236.

<sup>79</sup> R. Stark and R. Finke, *Acts of Faith: Explaining the Human Side of Religion* (Berkeley: University of California Press, 2000).

regain the commitments of wavering Catholics, but it inadvertently initiated a decline in church attendance among American Catholics, and reduced the overall enrollments in seminaries. Indeed, in the late 1950s almost 75 percent of American Catholics were attending Mass weekly, but since the Vatican's actions there has been a steady decline to the current rate, which is below 35 percent.<sup>80</sup> Such consequences are not exclusive to the Catholic Church. A similar reduction in commitment followed the purging of ritual obligations in Reform Judaism as well.<sup>81</sup> Though many other instances could be referenced, what these two examples illustrate is that religions grow organically – from the bottom up. Therefore, tampering with them either through external intervention or internal transformation can result in unexpected changes, even stunted growth or collapse.

Viewing religion in this light has implications for sacred versus secular conflict. External secular pressures that aim to change religions sometimes result in dangerous consequences. For example, religious radicalization, as exemplified by the emergence of the Muslim Brotherhood in Egypt, Turkey, and elsewhere, appears to be a response to aggressive secular campaigns.<sup>82</sup> If so, minimizing religious extremism in the future may require secularists to accept and tolerate religious traditions and their public expression, and design policies accordingly. This will not be easy, for even externally imposed changes that are intended to benefit religious communities can have long-term negative consequences.

For example, on March 3, 1948, during a period of civil war prior to the Israeli War of Independence, Ben Gurion established a military exemption for yeshiva students. His motives have been debated ever since, but he presumably felt he was saving a cultural remnant of European Jewry that was otherwise headed toward extinction with the birth of the secular Israeli state.<sup>83</sup> As the yeshiva population has grown exponentially because of the extraordinary birth rates of Israeli Ultra-Orthodox Jews, not serving in the military has emerged as a costly signal of one's commitment to

<sup>80</sup> W. V. D'Antonio et al., *American Catholics Today: New Realities of their Faith and their Church* (Plymouth: Rowman and Littlefield, 2007); C. K. Hadaway and P. L. Marler, "How Many Americans Attend Worship Each Week? An Alternative Approach to Measurement," *Journal for the Scientific Study of Religion* 44 (2005): 307–322.

<sup>81</sup> L. R. Iannaccone, "Why Strict Churches Are Strong," *American Journal of Sociology* 99 (1994): 1180–1211; B. Lazerwitz and M. Harrison, "American Jewish Denominations: A Social and Religious Profile," *American Sociological Review* 44 (1979): 656–666.

<sup>82</sup> Karen Armstrong, *The Battle for God* (New York: Random House, 2000); M. Ruthven, *Fundamentalism: The Search for Meaning* (Oxford: Oxford University Press, 2004).

<sup>83</sup> N. J. Efron, *Real Jews: Secular vs. Ultra-Orthodox and the Struggle for Jewish Identity in Israel* (New York: Basic Books, 2003).

the community. For Jewish Israelis, not serving in the military is a stigma with consequences in the labor market. But this stigma serves as a gatekeeper within the religious community: one way of demonstrating one's religious commitment is staying in yeshiva not only until the possibility of being drafted has passed due to age but even several years after one is no longer eligible.<sup>84</sup> As a result, yeshiva students and their families are exceedingly poor because they are permitted only minimal employment under the terms of their military exemption. Due to a lack of understanding of how the military exemption has been transformed into a religious commitment signal, the government has attempted to alleviate the financial plight of these yeshiva students by increasing their subsidies. But this has only exacerbated the problem.<sup>85</sup> By increasing payments to yeshiva students, the government has increased the amount of time yeshiva students must remain in the yeshiva to serve as an effective signal of commitment. In short, the government subsidies have effectively decreased the costs of the signal.

These examples suggest there are strong reasons to be cautious about tampering with religions, as if they were simple constructs for viewing the world rather than highly complex, unified, and organic systems. In fact, CESR confirms that religion is much more complicated than is generally appreciated. It is safe to say that, like other systems in nature, religion is dynamic, emergent, and unpredictable. By recognizing that religion is a complex adaptive system, it is our hope that scholars and policymakers will come to appreciate that if there are compelling reasons to control or reform religion, we currently have little understanding of how to do so. Naïve policies seeking change are likely to yield unintended consequences.

#### CONCLUSION

In this paper, we argued that the cognitive and evolutionary sciences of religion do not provide theoretical or empirical support for the proposition that religion's naturalness warrants the special rights and protections of religious freedom. Our contention was not that religious expression should go without protection, however, but rather that the findings of CESR do not provide support for the political right in question.

<sup>84</sup> E. Berman, "Sect, Subsidy and Sacrifice: An Economist's View of Ultra-Orthodox Jews," *Quarterly Journal of Economics* 115 (2000): 905–953.

<sup>85</sup> E. Berman, *Radical, Religious and Violent: The New Economics of Terrorism* (Cambridge: MIT Press, 2009).

Nevertheless, we suspect that research on religious markets may offer relevant and supportive data for religious protection. We conclude our discussion by briefly pursuing this line of thought.

There is considerable debate among sociologists and economists regarding the effects of competition on the strength and health of religions.<sup>86</sup> It has been argued that when religions enjoy an open competitive playing field they are responsive to the demands of religious consumers, improving the quality of what they offer, and thus increasing religious activity and commitment. On the other hand, where religious monopolies eliminate or minimize competition, religions fail to adapt to current needs. In short, they become stagnant and obsolete. The relatively high levels of religiosity in the United States, and low levels of religiosity in Western Europe, are often cited as support for this interpretation of the religious marketplace.<sup>87</sup> But state-sponsored religious monopolies that enjoy privilege not only foster religious lethargy, but also create environments that are ripe for religious extremism. As Iannaccone notes, “Genuinely violent sects tend to arise in countries where the civil government has suppressed religious freedom, favoring one form of religious expression over all others. Within these environments, an unfavored sect is strongly motivated to despise the established religion, and covet the privileges that come with state support.”<sup>88</sup> In contrast, where religions can compete freely for members, violent religious extremism is rare. Indeed, Iannaccone and Berman observe that “the most striking feature of American sects may well be their near total lack of militancy.”<sup>89</sup>

If this understanding of religious markets is correct, it would seem to provide a strong argument in support of special protections for the freedom of religious expression. We would add, from a selectionist perspective, that the benefits that a religion can offer will be critical to its health and adaptability.<sup>90</sup> The primary benefits that most religions confer on members, and the protections they offer from potential free-riders, derive

<sup>86</sup> Pippa Norris and Ronald Inglehart, “Are High Levels of Existential Security Conducive to Secularization? A Response to Our Critics,” in *The Changing World Religion Map: Sacred Places, Identities, Practices, and Politics*, ed. Stanley D. Brunn (Dordrecht: Springer Netherlands, 2015): 3389–3408.

<sup>87</sup> L. R. Iannaccone, R. Stark and R. Finke, “Deregulating Religion: The Economics of Church and State,” *Economic Inquiry* 35 (1997): 350–364.

<sup>88</sup> L. R. Iannaccone, “Religious Extremism: Origins and Consequences,” *Contemporary Jewry* 20 (1999): 23.

<sup>89</sup> L. R. Iannaccone and E. Berman, “Religious Extremism: The Good, the Bad, and the Deadly,” *Public Choice* 128 (2006): 122.

<sup>90</sup> R. Sosis and J. Bulbulia, “The Behavioral Ecology of Religion,” 341–362.

from social networks that provide mutual insurance. If governments can step in to provide such a safety net for their citizens and obviate their need for the material support offered by some religious networks, they can minimize the threat of violent religious extremism even in cases where there is a state-sponsored religious monopoly.

In reference to the theory of natural selection, in the final passage of *On the Origin of Species*, Darwin concluded, “There is grandeur in this view of life. . .”<sup>91</sup> We entirely agree. We believe that cognitive and evolutionary perspectives do not trivialize religion, explain it away, or attempt to dismantle it. Rather, CESR can lead to a new appreciation of religion. While we doubt that a defensible normative argument that religious freedoms deserve special protections can be built on the sole basis of CESR research, we do believe that CESR research can help facilitate the understanding and appreciation of religion’s nature as a complex and adaptive system, can illuminate the potentially dangerous unintended consequences of tampering with religious systems, and can help to resolve conflicts between sacred and secular claims and values.

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<sup>91</sup> Charles Darwin, *On the Origin of Species by Means of Natural Selection* (Cambridge: Cambridge University Press, 2009 [1859]), 429.