Naturalization without Natural Kinds:

On the prospects of a unified theory of religion.

From the propagation of religion, it is not hard to understand the causes of the resolution of the same into its first seeds or principles; which are only an opinion of a deity, and powers invisible and supernatural; that can never be so abolished out of human nature but that new religions may again be made to spring out of them by the culture of men as for such purpose are in reputation.

-Thomas Hobbes, *Leviathan*, Part I, Ch xii, 23

Naturalization has dominated philosophy of mind for a generation. Philosophers have sought to explain perennial philosophic disputes such as the nature of consciousness, knowledge or intentionality in natural terms. Now that same movement has come to religious studies. Among others, Pascal Boyer, Harvey Whitehouse, Tom Lawson, and Bob McCauley seek to explain religion—or, more technically: religious concepts, rituals and behavior—in terms of the natural mechanisms of the human mind. The problem facing this movement is that there is general agreement that religion, unlike mental kinds naturalized by philosophers of mind, is not a natural kind. Thus, the nascent discipline of the cognitive science of religion appears to attempt the impossible: to naturalize an unnatural kind.

In this paper, I argue that this challenge is less impossible than it prima facie appears.

Naturalization is the process of explanation through the specification of underlying mechanisms that realize the behaviors to be explained. Naturalists tend to think that naturalization begins by tallying all known instances of a phenomenon, and only then querying the underlying mechanism. This is not exactly right. Naturalization is a dynamic process, in which kinds that previously appeared to be natural are split, rejoined or discarded altogether.

The same is likely to be true of the study of religion. Religious beliefs and behaviors, which may never be explicable in terms of a single mechanism, can be explained by a disunified collection of natural and unnatural mechanisms, the exaggeration of each of which turns a nonreligious social or psychological behavior into a religious behavior. Unfortunately, these mechanisms also produce behaviors not deemed
religious, and hence cannot provide a basis for the unification of religion. This does not mean, however, that the beliefs and behaviors themselves are not natural kinds.

The argument proceeds in four sections. In the first, I relate three classic analyses of the concept of a ‘natural kind’ and argue that religion fails to satisfy any of the analyses. In the second, I consider the process of ‘naturalization’, in analogy to the history of cognitive science and the role of philosophy of mind in the formation of that field as well as the process of splitting and dissolving kinds. In the third, I review the theories of religion offered by Whitehouse, Boyer and Lawson and McCauley in light of the analysis of naturalization developed in section 2. In addition, I propose a new approach, based on religious attitudes, to understanding religion that complements these three. Finally, in the fourth section, I argue that it is possible to maintain the process of naturalization of religion, even without natural kinds, and draw out a few lessons for future progress in the cognitive science of religion.

First, a note on formatting. When referring to concepts, I will use all capitals, when referring to the word, I’ll use single quotes, and to the objects themselves, I’ll use the word. Thus, SQUIRREL designates the concept, 'squirrel' the word, and squirrel the particular squirrel about which we are speaking. By 'extension', we mean the set of objects covered by a particular concept. Thus, the extension of the concept SQUIRREL is the set of all squirrels. The extension of the concept THAT SQUIRREL is the particular, individual squirrel about which I am thinking.

1. Natural Kinds

Tom Lawson, Bob McCauley and Pascal Boyer have all argued that religion is not a natural kind. Their arguments are well-known but, to my mind, unconvincing. The notion of ‘natural kind’ operative in these arguments is a rudimentary one. I argue that a more complex analysis of the concept yields the same result, but for different reasons. Before I can proceed with the argument, I must clarify some of the traditional philosophic analyses before applying them to the arguments put forward by Lawson, McCauley, and Boyer.

A natural kind, at its most basic, is a classification of events, entities, properties, relations, behaviors or states of affairs that group together naturally, rather than artificially. This preliminary notion raises the immediate problem of delineating between ‘natural’ and ‘artificial’. Take, for example, a classic ‘unnatural’ kind: weeds. Suppose I am gardening one spring day, and I ask my wife “Is this a weed?” I am
not asking if this particular plant is unnatural—it obviously is a member of the set picked out by my concept ‘natural’. Thus, I am not seeking an answer to a horizontal question, such as “Is this particular tree an elm?” I am seeking an answer to a vertical question, such as “is this plant a member of a species that is included under the super-concept WEED?” And the category ‘weed’ applies to species based not on properties intrinsic to them, but on these species’ relations to their environment (i.e. ‘invasive’, ‘alien’) or their relation to humans (i.e. ‘cultivated’, ‘despised’). Thus, a concept can be natural horizontally, but artificial vertically.

It may perhaps be better to distinguish between ‘intrinsic kinds,’ those kinds that group together solely on the properties of the individual members considered alone, and ‘extrinsic kinds,’ those kinds that group together based on the relations each individual member has to something else. The set of all 18-22 year olds hangs together intrinsically, in virtue of the fact that they came into this world between 18 and 22 years ago. The set of all students in my Critical Thinking class hangs together extrinsically, in virtue of the fact each of them has a certain relationship with me. I will return to this kind of delineation in a moment, but let me first consider some classic analyses of natural kinds found in the philosophic literature.

1.1. Projectible Properties

First, there is a tradition in the philosophy of science, usually attributed to W.V.O. Quine (1999a), that holds that natural kinds support ‘projectible’ properties while non-natural kinds do not: if a property holds of one member of the natural kind set, it probably holds of other members of that set. Thus, if ‘mammal’ picks out a natural kind, it is likely that all members of the set mammal will have the properties of any given mammal. There are two challenges to this approach. First, the duckbill platypus has a number of properties that are not shared by any other mammal, yet ‘mammal’ picks out a natural kind. Second, the property of being despised by gardeners is projectible to the set of all weeds, which is not a natural kind.

We can solve the problem by pointing out that the latter projectible property is a ‘just-so’ property. The statement that weeds are despised by gardeners contains a trivial truth. The property of laying eggs, which we may wish to project from the case of the duckbilled platypus is not a ‘just-so’ property. And the statement that mammals lay eggs does not contain a trivial truth. In fact, it contains a falsehood. One cannot falsify ‘weeds are plants despised by gardeners’, for if one found a plant that was beloved by gardeners, it would not be classified as a ‘weed’.
On this account, we can distinguish between natural and artificial kinds, not on the basis of their relationship to human-classification schema, but rather on the ‘just-so’ nature of the projectible property associated with that natural kind. Properties projected from natural kinds are likely to hold for all the members of that kind. That is, they might not hold. Properties projected from artificial kinds hold necessarily for all members of that kind.

Religion does not admit of projectible properties. First, the term ‘religion’ or ‘religious’ can be applied to a system of practices, particular rituals, individuals, or sets of beliefs. A property of a system of practices may be completely inapplicable to a particular ritual in that tradition. A person may be deemed to be ‘religious’ if he or she participates in religious rituals, but not necessarily. And a set of beliefs likely shares few properties with the practices that correspond to it.

Second, one cannot predict that all and only members of the class religion will include ritual acts of self-sacrifice, meditative states, beliefs in supernatural beings, or any of the rest. For any one of these properties, scholars of religious studies can point out a litany of counterexamples. But one must be careful with this dialectic. Pointing out that the duckbilled platypus lays eggs does not make us think that the class mammal is any less of a natural kind. A single counterexample may undermine a particular projectible property, but it does not undermine the claim that the class constitutes a natural kind. If, on the other hand, there are no projectible properties, then we have reason for thinking that there is no natural kind. It would be premature to argue, on the basis of this dialectic, that the concept RELIGION should be discarded. For example, we shouldn’t discard the concept RELIGION just because there are belief systems covered by that term that do not contain representations of the infinite. To discard the concept on this basis would be to assume, without argument, both that concepts are defined in terms of the necessary and sufficient conditions for their application and that concepts must correspond to natural kinds. Neither of these is true. The concept HEAP is useful, even if we cannot specify any specific projectible property that all and only heaps have (i.e. one that distinguishes between heaps and mounds). And it is very unlikely that HEAP picks out a natural kind.

1.2. Counterfactual Reasoning

A more sophisticated version of the Quinian approach is offered by Jerry Fodor and Zenon Pylyshyn, in their paper “How Direct is Visual Perception: Some reflections on Gibson's 'Ecological
Approach.” Fodor and Pylyshyn claim that natural kinds hold in counterfactual (unobserved) cases where mere generalizations do not. Consider the claim that all mammals have hearts and all mammals are born before 2010. Both claims hold for all observed cases, but only the former holds for all counterfactual cases as well. The claim is not that natural kinds actually hold in counterfactual conditions (as that is impossible), but that they can hold—i.e. that natural kinds support counterfactual reasoning while unnatural kinds do not. As Fodor and Pylyshyn say, the former “provides reason for thinking that there could be no mammals without hearts, while the later provides no reason for thinking that there could not be mammals born after 1982.” (2002: 174)

Fodor and Pylyshyn’s modal approach to natural kinds allow us further to rule out the kind of trivially true claims such as ‘all creatures born on the fourth of July 2007 were born on the fourth of July 2007’. Such cases are not just trivially true, they are necessarily true: one cannot imagine a possible world in which that statement was false. Consider again ‘all mammals have hearts’. That statement might, in fact, be false. It is unlikely, but possible. The former is impossible. Thus, natural kinds support reasoning about probably true but possibly false projectible properties, while unnatural kinds yield only necessary truths or fail to support reasoning regarding probably true projectible properties.

Does calling some behavior ‘religious’ provide reason for thinking that that behavior will continue in counterfactual conditions? The statement “all religious people engage in meditative behavior” provides me no reason for thinking that people who cease to engage in meditative behavior have likewise ceased being religious. It may be the case that meditation occurs only during part of a religious adherent’s life. Or we can imagine a possible religion that refrains from meditation. An analogous case can be made for culturally postulated superhuman agents. To claim that all religions contain representations of culturally postulated superhuman agents provides me no reason for thinking that it is impossible that a culture without such representations would, for that very reason, be areligious. For example, suppose a culture that engaged in ritual behavior without technical motivation, yet lacked representation of superhuman agents. If this qualifies as a religion, then according to Fodor and Pylyshyn’s counterfactual approach, the mere possibility of such a religion entails that ‘all religious people have representations of culturally postulated superhuman agents’ is false. In his paper “After the Naming Revolution: Joachim Wach’s Unfinished Program,” Alles argues that the category ‘religion’ is inference-poor, meaning that there is little one can
infer from the claim that some thing is a religion. His claim is consistent with this rejection of natural kinds as counterfactual-supporting generalizations.

1.3. Unity of Underlying Mechanisms

Consider the statement ‘all mammals have mammary glands.’ Is that statement not trivially true? In a sense, it is. But when the initial category was delineated, having hair, being warm-blooded and a host of other projectible properties were putative candidates for the defining feature of mammalianness. The process of classification is a dynamic one. Categories are often put forward tentatively and subjected to future revision. The process of definition is on-going, not a static stipulative process as assumed by Penner and Yonan (1972) but a dynamic dialectic between our categorical schema and the empirical facts we seek to categorize.

Natural kind terms are continually revised in light of new observation, experiments and models. Phlogiston was once considered a natural kind, the substance that was released in combustion. It is no longer, having been split and replaced by ‘Carbon dioxide’ and ‘nitrogen’. However, the kind once called ‘dephlogisticated air’ may be the same as what we call ‘oxygen’ today (see, e.g., Kuhn, 1962: 54-55). Francis Bacon did not begin his investigation of heat with the stipulative definition “heat is an expansive motion which is checked and struggling through the particles” (Book II, Ch XX: 135). He began his investigation of heat by cataloging all the phenomena that fit our common-sense notion of heat, all those closely related phenomena that do not, all those exhibiting degrees of heat, all those that reject heat, etc. Only then, through the process of cataloging, did he arrive at the definition of ‘heat’. If one or more of these categorizations changes in light of empirical evidence, we would expect our definition to change as well. Naturalizing a concept requires a dialectic between our classifications of the world and the empirical facts of the matter.¹

Both the Quinian tradition and Fodor and Pylyshyn’s extension ground the identification of natural kinds in terms of the ‘reasonability’ of holding projectible properties onto other members of the set in

¹ The disagreement between those who believe science begins with stipulated definitions and those who believe that science begins with investigation is literally as old as science itself. Hobbes distinguished himself from Bacon on precisely these terms, arguing that lack of formal definitions was the cause of error in scientific investigation. It is worth nothing, however, that not only did the Royal Society model itself on the teachings of the New Organon, but Hobbes was never admitted to membership.
question. But neither view explains why one might find a projectible property reasonable and another unreasonable. It is my contention that what we find ‘reasonable’ grounds the dialectic between our definitions and the empirical facts of the matter.

Surface-level correlation fails to distinguish between what is reasonable and what is not. Being liquid is highly correlated with being H₂O, but being H₂O does not provide reason for thinking something is liquid. The converse is true of mammals having hearts. Having a heart is highly correlated with being a mammal, and we find it highly improbable that something without a heart would be a mammal. But that is explanatorily flaccid. The reason we find such a claim highly improbable is because we know that a heart is an essential part of an underlying mechanism of mammalian viability. Being liquid is not an essential product of being H₂O, at least without constraining temperature and pressure.

Counterfactual reasoning cannot proceed on mere correlation. If it were to proceed on correlation, there would be no reason to consider one correlated property as providing reason over another. Thus, counterfactual reasoning must suppose something deeper. Counterfactual reasoning of this kind supposes, implicitly or explicitly, an underlying structure or mechanism that realizes the natural kind in question. A single unified structure or mechanism suggests a natural kind, different structures or mechanisms suggest different kinds. If we were to discover a mammal that lacks mammary glands, it would play less havoc with our natural kind classification schema then if we discovered a mammal with internal systems built of silicon chips, wires and hydraulics.

“All mammals have hearts” supports counterfactual reasoning precisely because having a heart is required for the function of the underlying mechanism of mammalian viability. “All mammals have appendices” does not because an appendix is not required for the function of the mechanism of mammalian viability. Just-so predicates, such as ‘all mammals are called mammals by English-speaking humans’, are ruled out as they are not properties of internal, underlying structures.

The question of whether ‘religion’ is the product of a single, unified mechanism will have to wait until I further clarify what I mean by ‘mechanism’, and how we have come to distinguish mechanisms—and correspondingly natural kinds—in the history of cognitive science.
2. Mechanisms and Naturalness

The simplest tactic used to show that religion is not a natural kind is the one already discussed: positing counter examples to any putative projectible property. As I have argued, I find this dialectic unconvincing and misdirected. The second tactic purporting to show that religion is not a natural kind is to show that the concept RELIGION depends, in some way, on the people who use that concept. These arguments are also unconvincing. Natural kinds pick out single, unified mechanisms, but those mechanisms may be realized in a number of ways or include responses to stimuli. Classifying those responses into ‘natural’ and ‘artificial’ provides a rubric for classifying kinds as ‘natural’ or ‘artificial’. Only once that taxonomy is complete may we return to the naturalness of religion and religious ideas.

By ‘mechanism’, I am referring to the underlying entities, properties and relations, as well as the actions they perform and their interactions with other entities, properties and relations. Thus, ‘structure’ is a static mechanism: for example, H$_2$O. For example, the expansion of freezing water is explained by the mechanism of crystallization (i.e. interactions) of the underlying entities: molecules of H$_2$O. The process of natural selection is a mechanism, as is the circulatory system.

Two additional points must be made before I move on. First, contrary to the view that the only explanations that count are those that seek to reduce all phenomena to physics (or all psychological phenomena to neurology), I hold that there is no privileged ‘level’ for mechanisms. Mechanisms that explain the freezing of water may well be explained in terms of the entities, properties, actions, interactions and relations of electrons and neutrons, which are in turn explained by quarks, etc. Each explanation is a genuine explanation.

Second, what counts for the identification of a mechanism is its function, not its parts. A car could have a conventional piston, Wankel-rotary or hybrid engine, yet the appropriate explanation for a car’s ability to move is ‘it has an engine’. Mechanisms at lower levels may differ (i.e. an engine may not have a catalytic converter) but that does not mean that there is not a kind ‘engine’ any more than a human without an appendix does not have a digestive system. The psychological mechanism that realizes religion in one

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2 My characterization of mechanism here is quick and dirty. For a much more sophisticated characterization, see Bechtel and Richardson 1993, Ch. 2 and Machamer, Darden, & Craver, 2000.

3 See, e.g. Craver 2001 and 2002
culture may differ from the psychological mechanism that realizes religion in a different culture. The differences in those mechanisms may produce different religious behaviors in those cultures. But that no more entails that we cannot call them both ‘religious’ than different engines, and the different rates of acceleration that result from those differences, entails that different cars cannot be called ‘cars’. Notice that while this does not entail that cars are natural kinds, as their unifying mechanism (engines) is an artificial kind, it does entail that cars are a kind. That should come as no surprise to anyone.

2.1. Mind-Dependent Natural Kinds

A natural kind is a kind realized by a single unified mechanism that is ‘natural’. As the human mind is a product of nature, and is a part of nature, a natural mechanism may include psychological or sociological entities, properties, relations or organizations. Therefore, whether or not a kind is natural tells us nothing about whether or not it is mind-dependent. And vice versa: being mind-dependent does not entail being an artificial kind. Pain is a natural response to bodily damage. Nausea is a natural response to eating rotten meat. And death is a natural response to being poisoned. Thus, painful stimuli, nauseating substances and poison prima facie constitute natural kinds. More work must be done to tease these apart.

We can further delineate three types of mind-dependence that are relevant to our discussion of religion. Doing so provides a basis for distinguishing between various approaches to the study of religion that are viable today: for example, those who seek to explain religion in terms of neurological events, specific kinds of concepts or specific kinds of ritual behaviors. Let us proceed with an example. Poison

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4 One might argue here that distinguishing between the kind of engine, alongside my argument that different underlying mechanisms implies different kinds, entails that we could split the kind referred to by ‘cars’ into distinct kinds corresponding to type of engine. To do so is to miss the point about the levels of explanation above. ‘Cars’ is united insofar as it refers to objects that share an underlying mechanism that is unified in its function: ‘engines’. ‘Engines’ can be split into different kinds. But insofar as engines are united in their function; the kind ‘cars’ is united.

5 The concept of ‘natural’ has a long history of dispute – in the Treatise, Hume offers two distinctions: between those events that are rare and unusually (miracles) and those that are natural, and between things that depend entirely on acts of will, which he calls ‘artificial’ and those that do not, which he calls ‘natural’. The later distinction is consistent with the distinction I make below between response-dependent and intention-dependent kinds. Book 3, Chapter 1, Section 2, Paragraph 8-9 / 475 in the {Hume, 2000 #51} for the distinction and 3.2.2 Para 19 for it in use.
constitutes a natural kind. It supports projectible properties, counterfactually as well as actually. The chemicals in question play an integral role in a natural, biological mechanism. However, in a world without humans, nothing would be poisonous to humans. Thus, poison is a species-specific response-dependent natural kind. Analogously, if we were to unite religion in terms of our species-specific responses to certain kinds of concepts (say, culturally postulated superhuman agents), it would not entail, by itself, that religion was not a natural kind. More work must be done.

Let us call a concept response-dependent if and only if that concept picks out entities that share a disposition to produce a certain response in a certain population. The concepts IRRITATING, NAUSEATING, SOPORIFIC, for example, are uncontroversially response-dependent concepts: they pick out kinds that are unified with respect to their disposition to cause irritation, nausea or sleep in the relevant population. The chemicals picked out by the concept POISONOUS plausibly share no unified underlying structure other than their disposition to cause certain responses in humans, namely death. But that doesn’t mean that the chemicals themselves–or their effects on humans–are artificial. It simply means that the mechanism of the natural kind is realizable in a number of different ways. Hence, we have lower-level mechanisms that lead to further type classifications: neurotoxins, metabolic toxins, etc. Therefore, arguments, such as the one offered by Boyer and discussed in depth in the section following, that purport to show that religion is not a natural kind because it is realized in different cultures through different psychological mechanisms are unconvincing.

The case becomes more complicated when the response that unifies a kind depends on conceptual processing. Consider ‘art’ for example. One could argue that art is that which is disposed to produce a certain aesthetic response–and hence, that it is response-dependent. One could alternatively argue that the relevant response is not a non-conceptual emotional response, but rather an institutional acceptance. In the

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6 While there is a great deal of discussion in the philosophic literature on response-dependence, most of it is concerned with its putative immunity from error (see, e.g. Holton, 1992). For a clear discussion of the concept of response-dependence itself, see section 1 of Holton, 1991.

7 This is a fairly uncontroversial definition of ‘response-dependence’. See, e.g. Johnson, 1993: 103.
former, we might call art a ‘natural’ kind, in the latter ‘artificial’.⁸ IRRITATING is an artificial kind, SOPORIFIC may be natural. NAUSEATING probably includes both natural and artificial instances.

We can further segregate conceptually-dependent responses from the biologically-dependent responses as ‘concept-dependent kinds’. A kind is concept-dependent if and only if it picks out entities that are disposed to be categorized under a particular concept in a relevant population. If I were to argue that an aesthetic experience requires the concept of BEAUTY, then I would be classifying ART as conceptually-dependent kind. Color, on the other hand, may be merely response-dependent; as there need be no conceptual processing for the experience of color (babies can see color, as can birds, honeybees, etc.). If I hold that RELIGION depends on certain kinds of concepts (say MCI concepts), I would be classifying religion as a conceptually-dependent kind. If, on the other hand, I hold that RELIGION is the result of natural biological mechanisms, such as seizures in the temporal lobe, I would be classifying religion as a response-dependent kind.⁹

Concept-dependent kinds can be further analyzed in terms of concepts that are elicited in response to stimuli and concepts that are imposed on stimuli through the act of judgment. The view that art is institutional holds that the concept ART is judgment-dependent, while the view that art is emotional (insofar as emotions are non-conceptual) holds that the concept ART is response-dependent. Let us call a concept ‘judgment-dependent’ if and only if it picks out entities that are disposed to be judged in a particular way by the relevant linguistic-cultural community. One would consider RELIGION to be

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⁸ One might object here that the response-dependence of art so described is not ‘internal’ or ‘underlying’, and hence cannot provide the basis for the naturalization of art. The obvious rejoinder to this is to say that the phenomenon to be explained–Art–is sociological. Hence, its underlying structure will contain entities, properties, activities and interactions that make up that society–individuals and institutions.

⁹ There are a few philosophers who contend that all experience is conceptually laden, and hence there are no response-dependent kinds that are not also concept-dependent kinds. I do not wish to argue with them here, but rather to establish a taxonomy of kinds for the purpose of distinguishing between different attempts to naturalize religion. Moreover, philosophers who make that claim can certainly recognize the utility of having the distinction available to us for discussion. Whether or not the distinction corresponds to anything in the world is a subject for a different paper.
judgment-dependent if one held that religions are unified only insofar as they have a property or properties that makes them disposed to be judged as religions by the relevant community, perhaps those who hold chairs of religious studies at major universities in the West.

Again, there are philosophers who might argue that there are no concept-dependent kinds that are not also judgment-dependent kinds: i.e. that all applications of concepts to a stimulus are cases of judgment. But consider linguistic audition. The phenomenal experience of hearing a song for which you do not know the lyrics (I have in mind the introduction to The Clash’s ‘Wrong ‘em Boyo’ from London Calling) is radically different from hearing the same song once you have read the lyrics. Observing a ritual performed in a language you do not understand is phenomenologically very different from observing one performed in a language you do. In the latter, concepts are clearly being deployed. There is no reflective awareness of a judgment being made, and there is no tentativeness in the act of conceptual categorization. To call this an ‘act of judgment’ would be an abuse of our commonsense notion of what it means to engage in an act of judgment. Both concept-dependent kinds and judgment-dependent kinds are relevant to a theory of religion, as we could define RELIGION as that which promotes a certain biologically-hard-wired emotional response in adherents or as that which is judged worthy of study by experts in the field of religious studies. The former is response-dependence, the latter judgment-dependence.

The final variation on mind-dependence is intention-dependence. Again, an analogy to art is useful here. Suppose an artist created a work that everyone hated. Is failed art included under the concept ART? One might argue that art is that which the artists intend for a special purpose: to be appreciated aesthetically (or, artistically, if we define that in terms of ‘being treated in a special way by those identified as “the artworld”’). Duchamp’s ‘Snow Shovel’ (1915) is art because he intended it to be so. But the snow shovel in Duchamp’s garage is not, for he did not intend it to be so appreciated. Whether or not the artistic works are successful in eliciting the intended response is irrelevant to the artist’s intentions; therefore, it is irrelevant to their status as artworks. A concept is intention-dependent if and only if it picks out entities that are intended to elicit some response in others. Intention-dependent kinds are useful here, as we can include failed religions under the concept RELIGION. Thus, if I intend to create a system of ritual practices that would be treated by the experts as religious, and was unsuccessful in doing so, it could still be an instance of RELIGION.
It is certainly plausible to delineate between ‘natural’ and ‘artificial’ kinds as the difference between ‘response-dependent’ and ‘concept-dependent’. There is little controversy that judgments and intentions are artificial. While they are certainly ‘natural’ states for humans, they depend on acts of will in a way that being poisoned does not. Counterfactually, one can imagine a world with humans but without art-institutions and art-intentions. But it is hard to imagine a world with humans but without aesthetic responses to beautiful objects. Thus, Art characterized as eliciting institutional acceptance (judgments) or being intended for something, is an artificial kind. While Art, characterized as eliciting aesthetic responses, is a natural kind—whether or not those responses require concepts.

The question becomes more complicated when we consider concept-dependent non-judgment-dependent kinds such as those displayed by linguistic audition. These kinds are artificial insofar as one must possess concepts (say, those of spoken English) before one recognizes the kind. Yet the application of those concepts to the stimulus is automatic and modular in a way that suggests naturalness. Given that humans, by nature, are social language-using creatures, I am inclined to argue that concept-dependent kinds, like the case of linguistic audition, are natural. They are merely kinds that require specific training to recognize. Wine tasters can pick out kinds that I cannot, using concepts like TANNIN that I lack. That does not mean that the kind so delineated is artificial. It is simply that individuals lacking the concept cannot recognize the kind. RELIGION, then, may be a concept that requires training to deploy. Note that it is no more useful to insist that religion does not exist because only those trained in religious studies can recognize it than it is to claim that tannins do not exist because only wine-tasters can recognize them.

Any mechanism of a response-dependent kind will include plausibly automatic and modular non-conceptual response to stimuli. Those kinds of responses are ‘natural’ in a way that responses that depend on conceptualization—and hence are subject to interpersonal variation and acts of will—will not. This also helps explain why natural kinds hold in counterfactual case where artificial kinds do not. An automatic and modular mental mechanism will continue to function in counterfactual cases where it has not been effected—just as a digestive system can function in the absence of an appendix—while a mechanism that depends on acts of will will not continue to function in counterfactual cases, at least not in counterfactual cases where we vary people’s beliefs and desires rather than their biological constitution. Thus, a natural kind can include mind-dependent kinds, but only if the mind-dependence is a matter of automatic, modular,
cognitively-impenetrable responses. RELIGION can be so defined only if scholars of religious studies reliably, automatically without cognitive influence recognize certain behaviors as religious.\textsuperscript{10} I find it unlikely that that is the case in the classification of religion.

2.2. \textit{Intrinsic and Extrinsic Responses}

Just as we can delineate between response-dependent kinds and judgment-dependent kinds, we can distinguish between those responses that are culturally bounded from those that are biologically determined. Seeing one’s wife and young child after returning from a long conference elicits a strong emotion reaction—but that emotional reaction may be partially socially grounded instead of biological. Seeing a stripper perform may elicit certain biological responses without eliciting emotion. Being mugged may elicit strong memory traces while sitting through a boring lecture may elicit few, if any memories. Participating in a ritual where one’s life is threatened will likely elicit stronger memories than sitting through one of thousands of liturgical readings.

We can classify these experiences in at least two further ways. First, in terms of the type of psychological response they provoke—i.e. memory, emotion, arousal, etc. And second, in terms of the intrinsic or extrinsic character of the response itself—i.e. if the emotion elicited depends on the social relations between the individuals involved, or is automatic and biologically-dependent.\textsuperscript{11}

\textsuperscript{10} Notice that I am not arguing here that natural kinds must be recognizable reliably and automatically without conceptualization. Natural kinds that are unified in terms of their internal structure, or any of the other criteria I lay out here are not counterexamples to this claim. This claim applies only to putative natural kinds unified by their disposition to cause certain kinds of responses in experts.

\textsuperscript{11} There are those who argue that one or more of these can be analyzed in terms of one or more of the others: i.e. that all responses are necessarily socially-determined. I believe (although I will not argue for it here) that the moral relevance of an individual (i.e. a judgment) in most ethical is based on group-membership, which is ultimately based on emotionally-dependent responses. Shaun Nichols argues that moral rules that elicit the disgust mechanism are more likely to elicit strong memory traces, and hence survive cultural transmission than those that are not. Other traditional theorists of ethics, such as R.M. Hare sought to reduce moral claims from the world of judgment-dependence to the world of ‘yeah/nay’ emotional dependence (see, e.g. Ayer, 1952 and Hare, 1952). These arguments are not my concern here. My concern is merely to provide a taxonomy of possible response-dependent kinds through which we can understand the process of the naturalization of religion.
It may turn out to be the case that these two ways of making the distinction will have some overlap. Embarrassment, for example, is an emotional state that requires, plausibly, a relation to an outside perceiver. Depression is not. Thus, to classify the kind ‘embarrassing’ in this way is to classify the kind as an extrinsic-response dependent kind. And to classify the kind ‘depressing’ in this way is to classify it as an intrinsic-response dependent kind. In the matter of religion, rituals that require witnesses for their emotional impact (weddings, e.g.) can be separately classified from rituals that can be performed in solitude (meditation, e.g.).

There are emotions, like joy and sadness, which can be delineated accordingly. There is a phenomenological difference between being joyful just for the sake of joyfulness, and being joyful in relation to others (not joyfulness because of others, but joyfulness that relates to other’s joyfulness). Thus, there will be joyous events that are intrinsic-response dependent and joyous events that are extrinsic-response dependent. The same holds for sad events. Feeling sad by oneself is a phenomenologically different state than feeling sad with a group of people (i.e. at a wake or a funeral). Indeed, many instances of mass-emotions may be so classified. Religious rituals can be likewise delineated into those that elicit emotions that require a relationship with others either real or imaginary (confession, e.g.) and those that elicit emotions that do not require such relations (the ecstasy of certain hallucinatory states, e.g.).

2.3. Splitting Kinds and Dissociative arguments.

So far, we have discussed a number of different ways in which religion—or aspects thereof—might be classified. One might be tempted to argue that the best road forward would be to split the concept into a number of different, smaller kinds, each of which could be naturalized in different ways. I am sympathetic. But let us proceed carefully, with the benefit of the lessons of history.

Memory was once considered to be one, single, natural kind. Cognitive scientists now consider it to be many different phenomena classified under a single rather unwieldy term. There are phenomenological precedents for this dissociation. Plato explained memory via the allegory of an aviary: just as a man who owns a bird in an aviary may not be able to catch it at any given time, a man can be said to remember something even if he could not recall it at any given moment (Theatatus, 197d & 198d). In the modern era, the philosopher Gilbert Ryle distinguished between know-how and know-that (1949).
But these phenomenological distinctions (i.e. distinctions made on the basis of what it is like to remember something) were not codified into standard scientific thinking until the case of H.M. The case of H.M. demonstrated that through surgically removing the hippocampus, know-that (declarative / explicit memory) could exist independently of know-how (non-declarative / implicit). The case of K.C., as studied by Endel Tulving, demonstrated that through injury, declarative memory could be further separated into memory for facts and memory for facts related to one’s own experiences (i.e. episodic memory). These cases exemplify the dissociative principle: If two things can exist apart, they are not the same thing. By intervening in the underlying mechanism of memory, we demonstrated that these two kinds of memory can exist apart, and hence should be considered distinct natural kinds.

This is not to say that the two kinds will be found separately in any naturally-occurring individual. To dissociate kinds is to make a modal claim: that they can exist independently –not that they do exist independently. Thus, to dissociate natural kinds within religion, one must be able to demonstrate that artificial intervention in the natural mechanism of religion can produce practices without concepts, concepts without practices, etc. This is not to say that we would ever actually find such religions naturally occurring in the world–just as we would never expect to find a person whose hippocampus had been removed through natural causes. We would, however, expect that artificial intervention in the mechanism that realizes religious behavior will lead to one kind existing without another and vice versa.

On the other hand, if we wish to unify a previously dissociated kind, there is essentially only one path: to demonstrate that the two phenomena are the result of a single mechanism. In short, we must demonstrate that the phenomena in question are really two ways of looking at the same phenomenon. In cases such as these, any putative differences turn out to be differences between the intension and the extension\textsuperscript{12} or simply confusion on matters of synonymy (scotch bonnet v. habanera pepper). There is at least one genuine case of rejoining kinds in the history of science.

‘Color contrast’ refers to the visual system’s tendency to produce afterimages and hue variation when colors are placed next to one another in space or time. ‘Color constancy’ refers to the visual system’s ability to recover constant representations of hue and lightness in spite of changes in the illumination

\textsuperscript{12} ‘Creatures with a heart’ and ‘creatures with kidneys’ have different \textit{intensions} but the same \textit{extension}. The same can be said of ‘the morning star’ and ‘the evening star’, which both refer to Venus
conditions. Since the original delineation of these phenomena in the late 19th century, there have been numerous attempts to reunite and separate the kinds again. The Gestalt psychologists emphasized constancy as the ‘root’ phenomenon in color experience, explaining contrast in terms of constancy. Helson and Judd, who dominated psychophysics in North America in the middle of the 20th century, held that both were aspects of one phenomenon called ‘color conversion’. Edwin Land split the kinds again, establishing constancy as too robust to be explained in terms of contrast. Modern mathematical models hold that both result from a single opponent-processing based mechanism.\(^\text{13}\)

3. **How does the Cognitive Science of Religion fare?**

Recent years have witnessed an explosion of interest in cognitive-scientific theories of religious beliefs and behaviors. In this section, I will consider each theory as it attempts to naturalize ‘religion’. I will argue that while each of these offers insights into behavior that is religious in nature, they each fail to distinguish between religious and nonreligious concepts and behaviors. Nevertheless, they do advance the process of naturalization. They all explain some behavior deemed ‘religious’ in terms of an underlying, natural mechanism. In short, they naturalize at least one aspect of an unnatural kind. What is missing from these accounts is an analysis of religious attitudes. At the end of this section, I develop a sketch of what a theory of religion based on religious attitudes might look like. This sketch is meant to complement, not replace, the views discussed herein. It is not an overarching theory of religion, but rather an attempt to naturalize an aspect of religion not considered by the other theories on offer.

3.1. **Minimally Counter-Intuitive Concepts**

Pascal Boyer, perhaps the most famous thinker to contribute to the burgeoning cognitive science of religion, explains religion in terms of religious concepts. Evolution primes the human mind to store, recall and transmit certain kinds of information better than others. It is exactly these different abilities, and the differences in the information that elicits these different abilities, that explains religion for Boyer.

\(^{13}\) Footnote suppressed for purposes of blind review.
Religious concepts, which according to Boyer underlie religious beliefs and behaviors, are those that activate, in specific ways, particular humans’ abilities to retain, recall and retell information.\textsuperscript{14} Thus, religious concepts constitute a response-dependent kind: specifically, religious concepts are those that activate the biologically determined psychological mechanisms of mind-reading, decontamination and others by minimally violating ontological categories increasing the likelihood of that concept’s retention, recollection and retelling by any given individual in the given community.\textsuperscript{15}

This definition requires further explication. A religious concept, according to Boyer, is a minimally counterintuitive concept or ‘MCI’. By ‘counterintuitive’, Boyer means that the concept includes “information contradicting some information provided by ontological categories” (65). These ontological categories provide ‘templates’ for domain-specific inferences\textsuperscript{16}: i.e. if something is an instance of a LIVING CREATURE, we can infer that it will move with respect to place by itself. A counterintuitive concept is one that violates a template: an instance of a LIVING CREATURE that is not alive, is a counterintuitive concept. Religious concepts, however, are \textit{minimally} counterintuitive in that they preserve “all the relevant default inferences except the ones that are explicitly barred by the counterintuitive element” (73). Concepts such as these demand our attention because of their counterintuitiveness, promoting retention and recollection, and they promote cultural transmission (what I am calling ‘retelling’) because templates in the mind provide “a lot of information to complete the fragmentary elements provided by other people.” (75)

\textsuperscript{14} e.g. “we have a word for religion. This is a convenient label that we use to put together all the ideas actions, rules and objects that have to do with the existence and properties of superhuman agents such as God.” (2001: 9)

\textsuperscript{15} The terms ‘retention, recollection and retelling’ are mine. Boyer says: “There is some experimental evidence for different inference systems with specific domains of input. Religious cues trigger activation of a particular list of these systems, which increases the likelihood that concepts of this kind get built in human minds, that they appear intuitively plausible, that someone agrees with their explicit formulation, that they are left untouched by such corrosive influences as that of science.” (298) I believe that my shorthand terms capture the sense of his mechanism.

\textsuperscript{16} Boyer’s notion of domain-specificity, as explained in Ch. 3 of 2001, allows for objects shifting ontological categories – such as using a living creature as a tool, as in the case of ‘bait’, or as an artifact, as in ‘gardening’ or ‘bonsai’. According to Boyer, studies on people using such ontological category shifts, such as these examples, demonstrate that these ontological categories have neurological realization (102).
In Boyer’s own words:

The combination of ontological violations and preserved inferential potential explains the family resemblance among supernatural concepts. The common features are not in the concepts themselves but in the templates that produce them, in the receipt that specifies an ontological category, a violation-tag, as well as the use of all nonblocked inferences. (78)

Mere oddities, which are properties that do not violate the ontological template, do not create religious concepts, as these are not counterintuitive. Totally counterintuitive concepts—concepts that completely violate the template—do not create religious concepts, because they are unlikely to survive communication to others.

So what does all this mean for religion as a natural kind? Religion is not intention-dependent, because one does not develop religious beliefs in response to the intentions of the storyteller. Nor is it judgment-dependent, as conscious will does not enter into mechanism of retention, recollection and retelling. Religion is, however, response-dependent, specifically dependent on the natural mechanisms of mind-reading, ontological classification and memory. Notice also that the mechanisms that constitute the required response do not depend on the minds of others like ‘embarrassment’ does. Boyer’s claim is this: as a function of our biology, we are more likely to store, recall and transmit information about concepts that activate these intrinsic mental systems in specific ways than others. Religious concepts constitute a natural, intrinsic-response dependent kind. And these concepts explain ‘religion’, at least in non-literate religious traditions.

According to Boyer, with the invention of literacy, religious beliefs became formalized and controlled by a central power, those who controlled the means of transmitting information. Religious beliefs come to reflect the institutions that promote them (273), thus turning a natural intrinsic response-dependent kind into an unnatural, extrinsic judgment-dependent kind. Counterfactually, a world with no literate guilds would still contain normal humans. On the other hand, a world without the MCI-concept formation mechanisms would not contain normal humans. MCI-based religious beliefs and behaviors are natural, while institution-based religious beliefs and behaviors are not.

Boyer’s theory breaks new ground in our understanding of religion, and for that alone he deserves credit. His approach is unique insofar as he holds that religious concepts constitute an intrinsic response-
dependent natural kind—the mechanism that makes retention, recollection and retelling likely is not a mechanism that depends on sociological facts. But what is missing from Boyer’s analysis is how MCI concepts become religious beliefs and behavior. Not all behavior deemed ‘religious’ is constituted by MCI concepts. And not all MCI concepts are treated in a religious manner. Boyer’s analysis naturalizes a mechanism that produces concepts, some of which are classified as being the objects of religious belief and ritual action, and some of which are not. Superman, for example, is an MCI concept. So are the X-Men. Both are stored, recalled and transmitted with surprising accuracy. Yet none of these are the subject of religious devotion. Concept possession does not entail religious devotion. I have the concepts of a single entity who is also three entities (as I was raised in a Christian community), yet do not currently have religious belief. If concept possession determined religious belief and behavior, then anyone who possessed a concept would be a believer and practitioner. That would not only rule out the possibility of conversion and atheism, it would rule out the possibility of anthropology a priori. A convert from one religion to another must be said to master the MCI concepts of both traditions, but express religious belief and behavior with respect to only one.

Possession of the relevant types of concepts cannot be sufficient to delineate the religion—even if religious concepts constitute a response-dependent natural kind. The theory can be said, however, to naturalize one aspect of religion: the formation, recollection and transmission of MCI concepts, some of which are treated in a religious manner.

Boyer argues that religion is not a natural kind for two reasons: first, religious beliefs and behaviors that depend on organized and literate doctrines are different in kind from religious beliefs that depend merely on the mechanisms of our own psychology, and second, because religious concepts are formed by the activation of different psychological mechanisms (298). I agree with his first argument. The second argument is trouble. In his words: “There cannot be a magic bullet to explain the existence and common features of religion, as the phenomenon is the result of aggregate relevance—that is, of successful

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17 This critique is widely known as the ‘Mickey Mouse’ problem. See Atran, 2002.
18 Assuming that anthropology requires the researcher to achieve concept possession while maintaining belief indifference.
activation of a whole variety of mental systems” (298). Boyer’s worry that the concepts themselves are not unified because of the variety of mechanisms that increase the likelihood of their retention, recollection and retelling is akin to the worry that a car with a Wankle-rotary engine does not have an engine. It is an interesting and worthwhile project to specify exactly the different psychological mechanisms that lead to greater retention of MCI concepts. But those mechanisms are united insofar as they play a certain characteristic functional role in the society. And that is enough to unify them as a kind; but a kind that is realized by a number of different psychological mechanisms.

3.2. Non-Technical Ritual

Harvey Whitehouse, a longtime advocate for the cognitive science of religion, critiques Boyer’s theory on similar grounds in his 2004 book. Not only does he argue that the standard western fictional characters of myths, comic books and childhood rituals constitute nonreligious MCI concepts, but also that field work by Benson Saler with the Wayú and his own work with the Mali Baining show that these same kinds of nonreligious MCI concepts appear in nonliterate cultures. The breadth of religious belief and behavior cannot simply be accounted for by religious concepts. But that does not mean that the mechanism of MCI concepts formation and transmission as described by Boyer is not interesting, important, and likely correct. It simply means that the concept RELIGION picks out a different kind of thing than for what Boyer accounts.

According to Whitehouse, the explanation of religious beliefs is to be found in religious behavior, specifically religious rituals. Rituals are “special kinds of actions. Part of what makes them special is that they are irreducible to technical motivations and therefore open in principle to a wide range of symbolic motivations” (Whitehouse, 2004: 113). It is the concluding part of this claim that suggests one distinction between Boyer and Whitehouse on the nature of religion. Boyer argued that MCI concepts promote stronger memories than non-MCI memories, and hence, are more likely to be transmitted through generations. Memory, however, is a disunified kind. It is not sufficient to delineate religion as that which

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19 Alafro and Livingston showed that emotionally-arousing MCIs do an even better job of eliciting these strong memory-traces in individuals than non-emotionally arousing MCIs. Thus, the mechanism of response-dependence may be even more complicated than initially thought (Alfaro & Kivingston, 2006).
elicits strong-memory traces. Classical conditioned behaviors, for example, are strong memory-trace dependent, but I do not think we would call a dog’s salivating at a bell a ‘religious’ behavior.

Following the tradition of splitting memory kinds in the cognitive science literature, Whitehouse distinguishes between two types of rituals, and two correspondingly different ‘modes of religiosity’. The first, the imagistic mode, is characterized by low-frequency religious rituals that are (with a few notable exceptions) highly arousing emotionally. The second, the doctrinal mode, is characterized by high-frequency rituals that are (with a few notable exceptions) unarousing. Whitehouse does not mean to characterize these kinds as classically defined sets of necessary and sufficient conditions, but rather two attractor points on a statistically structured continuum of ritual behavior. They occupy this position as attractors because they activate mutually reinforcing psychological mechanisms. Low-frequency emotionally-rich rituals tend to produce strong episodic memories. The role of doctrine and dogma are deemphasized in favor of personal experience and religious expression. Rituals of this sort lack pre-arranged interpretations provided to the participants by religious leaders, which allows those participants to engage in ‘spontaneous exegetical reflection’, which in turn reinforces the episodic and emotionally-rich character of these rituals. On the other hand, high-frequency emotionless rituals tend to produce weaker semantic memories. Religious leaders interpret the rituals for the participants, squashing any individual’s spontaneous exegetical reflection. And hence, semantic-memory based doctrine and dogma become centrally important.

The imagistic mode is, in my terms, an intrinsic response-dependent natural kind. Religious rituals produce in participants a natural response, which leads via natural mechanisms to the formation of strong episodic memories. These responses do not depend on conceptual apparatus—as the conceptual interpretation is exactly what Whitehouse calls ‘spontaneous exegetical reflection’—nor do they depend on

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20 Where Whitehouse uses the word ‘Types’, and Boyer follows him (Boyer, 2005: 4) I will use the word ‘kinds’. I believe Whitehouse uses ‘Type’ to avoid confusion between the vertical / horizontal distinction noted in Section 1. As I am concerned here with Natural kinds, and have made that distinction explicit, I believe ‘kind’ is more useful.

21 There is a litany of potential counterexamples that can be cited at this point: fundamentalist American Christians are clearly doctrinal, but rely on highly arousing rituals such as the Halloween gore-fests to attract recruits. Chick tracts are used in a similar fashion. Rastafarians engage in highly arousing rituals almost daily (that is, if taking a hallucinogenic downer counts as ‘highly arousing’).
emotions that depend on other people. The emotions and experiences that play this role in imagistic
religion—pain, dreaming, hallucinations, etc.—are intimate, personal experiences that can occur in isolation.

The doctrinal mode is, in my terms, an extrinsic response-dependent kind. Rituals in this mode
depend not only on emotions that could exist in a solitary human but on emotions and judgments that take
as constituents the opinions of others. A world that contained only one person could not contain religion in
the doctrinal mode, but it could contain religion in the imagistic mode.

A problem arises when we consider the term ‘natural’. As I argued above, it is plausible to
distinguish between ‘natural’ and ‘artificial’ at the distinction between intrinsic response-dependence and
judgment-dependence. In this case, Whitehouse, in opposition to Boyer, appears to want doctrinal religion
to be the natural by-product of human psychology. In order to make that claim, Whitehouse must hold that
the doctrinal mode of religiosity depends not on judgments of the religious community, but on extrinsic
responses. If one performs a high-frequency low-arousal ritual because he or she judges it to be beneficial,
then doctrinal religiosity is an artificial kind. But if one performs a high-frequency low-arousal ritual
because he or she experiences emotions that depend on the judgment of others (i.e. guilt, membership in the
group, etc), then doctrinal religiosity is a natural kind, at least insofar as these extrinsic emotional responses
are natural. Counterfactually, a world without episodic memories—and the spontaneous exegetical
reflections they engender—would not contain normal humans. And counterfactually, a world without
semantic memories—and the institutions they require—would also not contain normal humans. Religiosity
in both its forms is natural.

An analogous critique to the one leveled at Boyer above resurfaces here: there are rituals that fit
these descriptions that are not considered religious. Baseball is a high-frequency low-arousing social event.
The Olympics and the World Cup, with their massive pageantry, are low-frequency highly arousing social
events. Fans of both sports participate in obsessive behaviors in preparation for and during the games.
Whitehouse seeks to avoid this critique by distinguishing, as quoted above, between religious and non-
religious rituals in terms of a ‘technical’ motivation. Nonreligious rituals have clear ends – winning the
game, achieving a certain social status, etc. Religious rituals do not.

On first pass, this distinction is no better, as change in social status, participation in a particular
economic or moral community, and the ability to have sex in socially recognized fashion are all potential
‘technical’ motivations for participation in religious ceremonies. But I think Whitehouse has something slightly more subtle in mind here—which is implied by his insistence that nontechnical rituals are open to a wide range of symbolic interpretations, as elucidated in the passage quoted above. A technical motivation is one where the meaning of the ritual is clear. That is, I am motivated out of technical concerns if I participate in said ritual in order to achieve some concrete end. Thus, getting married in order to have sex would be technical. Undergoing a conversion ceremony to participate in the economic life of a community (or to use their jokes, as in a Seinfeld episode) is a technical motivation and hence not truly religious. One is motivated for non-technical reasons if the reason for participation is not explicit prior to the participation. This criterion for religiosity turns what was previously natural to intention-dependent, and hence, artificial.

But the challenge once again rears its ugly head. People participate in rituals for all sorts of reasons. How concrete is the ‘end’ of an academic ritual? How aware are graduating seniors of their technical motivation to graduate? How aware are most of us of our technical motivations to get married? Or join a community? Just because one cannot articulate the motivations for a ritual does not entail that they are not there—for both religious and nonreligious rituals. But let us turn back to the crucial problem for this paper: the dissection of ‘religious’ into Whitehouse’s two kinds.

Evaluating the validity of Whitehouse’s distinction does not turn on the statistical regularity of any actual religion’s distribution of ritual form. As in the case of episodic versus semantic memory, we would expect that any naturally occurring religious system—like any naturally occurring psychological system—to exhibit both kinds in almost every case. What matters to the splitting of kinds, as argued above, is that the two kinds can come apart. It is necessary to show that one can exist without the other—not that one does exist without the other. In the case of memory, Endel Tulving just needed to demonstrate one patient who had semantic memory but lacked episodic memory to prove that they were distinct.

\[22\] On the relevance of imagination for kind-splitting: imagination is enough only if the kind identity is stated as a distinction of conceptual necessity: i.e. that the concept of religiosity can be split as a matter of a priori reflection on the nature of the concept itself. In that case, what we need to show (akin to causation) is that these two can come apart, but, in actuality, never do. David Chalmers, for example, has argued that as a matter of conceptual possibility, there might be biological humans who lack phenomenal (conscious) experiences. Therefore, having phenomenal experiences is not one and the same as having a certain kind of physical / biological structure, even if all actual humans have both. See Chalmers 1996.
By analogy, Whitehouse only needs to show—through the analogue of traumatic brain injury or lesion surgery—that a culture can have low-frequency rituals without high-frequency rituals and have high-frequency rituals without low-frequency rituals. Of course, his theory does not stop there. High-frequency low sensory rituals underlie the doctrinal mode and are dependent on the mechanism of semantic memory. And low-frequency high sensory rituals underlie the imagistic mode and are dependent on episodic memory. Given these further implications, Whitehouse needs to demonstrate a single instance of a solely doctrinal religious culture constituted entirely by patients like Tulving’s KC. Or a single instance of a solely imagistic religious culture constituted entirely by patients who lack semantic memory entirely.\textsuperscript{23} One might object that a culture constituted entirely by humans lacking a certain psychological mechanism would fail for reasons distinct from religiosity, and hence have no bearing on Whitehouse’s theory. This is probably true. What matters for Whitehouse’s kind-splitting is not that such a culture would actually exist, but that it could. If the two kinds in question are never actually found apart in normal human societies, it just means that the two kinds are a natural part of our psychology. But if they are never possibly found apart, it means that they are not distinct kinds.

3.3. Ritual Competence.

Without offering a definition ‘religion,’\textsuperscript{24} Lawson and McCauley “maintain that what is unique to religious ritual systems is their inclusion of culturally postulated superhuman agents among the class of eligible participants.” (1990: 5) A ‘religious system’ is “a symbolic-cultural system of ritual acts accompanied by an extensive and largely shared conceptual scheme that includes culturally postulated superhuman agents” (5). An account of the shared system of knowledge about how rituals (including particular speech acts) effect and manipulate the superhuman agents found in a culture’s shared ontological system constitutes an

\textsuperscript{23} HM wouldn’t work here, as he lacks both semantic and episodic memory.

\textsuperscript{24} Lawson and McCauley are adamant that definitions are only valid if the theories of which they are a part are successful: "We do not desire to engage in debates about definitions. In science explanatory theories ground central analytic concepts. Those concepts earn our allegiance because of the achievements of the theories that inspire them. These include their predictive and problem-solving power, explanatory suggestiveness, generality, and empirical accountability. Whatever explanatory value construing 'religion' in such a manner exhibits turns on whether or not the theory we have elaborated provides empirically useful insights about religious ritual." (2002: 6)
explanation of religion. Religious rituals, according to Lawson and McCauley, must be studied independently of rituals *per se* because religious rituals, and the knowledge systems that support them, include representations of a peculiar semantic quality: they contain representations of superhuman agents (7).

Lawson and McCauley’s theory begins with the insight that religious rituals are ultimately actions, and hence follow the agent-action-object structure on display in the universal grammar of human language.\(^{25}\) All religious rituals instantiate what Lawson and McCauley call a ‘ritual form’ according to which an agent does something to a patient with a tool. Religious rituals are distinguished from nonreligious rituals insofar as a culturally postulated superhuman agent (hereafter a CPS agent) fits into one of these three rolls: agent, tool or patient.\(^{26}\) It follows, as a corollary at least, that all religious rituals seek to bring about a change, either in this world or the world of the CPS agents.\(^{27}\)

Lawson and McCauley’s theory is distinguished from Boyer’s insofar as the rituals themselves are objects of memory. Rituals that are well-formed (i.e. meet the ritual form) are more likely to be retained in a culture than rituals that fail to meet the form. Further, we can correlate the roles played by CPS agents with the distinction noticed by Whitehouse; rituals tend to coalesce around the attractor positions of low-frequency high-intensity and high-frequency low-intensity. Rituals in which the CPS agents play the role of ‘agent’–i.e. God is doing something to you–are rarely performed, highly arousing rituals. Rituals in which the CPS agent plays the role of ‘patient’–i.e. you are doing something to God–are frequently performed minimally arousing rituals. According to Lawson and McCauley, CPS agents need act only once. Thus,

\(^{25}\) While this aspect of the theory clearly borrows from Chomsky’s notion of a universal grammar, Lawson and McCauley are clear that they do not hold that recursion, the distinguishing feature of language according to Chomsky, is *not* a part of the ritual form they posit. Fritz Staal (1989) has offered a theory of ritual that includes recursion, but this model is rejected by Lawson and McCauley in Ch. 6 of their Lawson & McCauley, 1990.

\(^{26}\) In their own words: “A universal principle of those religious rituals that are least controversially classified as such is that they are presumed (by participants) to implicate superhuman agency indirectly at least” (Lawson & McCauley, 1990: 6, emphasis in original)

\(^{27}\) “All religious rituals - in our technical sense - are inevitably connected sooner to later with actions in which CPS-agents play a role and which bring about some change in the religious world.” (Lawson & McCauley, 2002: 9)
rituals in which the CPS agent does something to a real person need not be performed anymore than once. Changes wrought by God are changes forever. Therefore, rituals in which the CPS agent plays the agent role are likely to bestow changes in social status, rank and even title. They are reversible only by further ritual.

Religious rituals are a response-dependent kind, as in Whitehouse’s theory, but now doubly so. Not only do religious rituals fall into two types according to which types of responses they tend to elicit, but those response are reinforced by the presence of concepts of CPS agents—which are themselves response dependent. However, Lawson and McCauley eschew the question of the ‘naturalness’ of religious rituals. Their project is to provide a framework to the understanding and interpretation of real existing rituals, not to provide an explanation of these rituals in terms of human physiology or cognitive mechanism honed through our shared evolutionary history. For that reason, it is likely a misnomer to talk of them ‘naturalizing’ religion. But given their long standing practice of offering the theory of ritual form as an competitor to the other views detailed here, I hope they will excuse my extending their view into the project of naturalization.\footnote{Seaquist, 2006 also classifies Lawson and McCauley’s theory as an attempt at naturalization, even though we have differing notions of what that means (see p 212 of his 2006 for his definition).}

Religion is not a natural kind, on this view, because behaviors–such as prayer–that are considered ‘religious’ share nothing in common with religious rituals.\footnote{According to Lawson and McCauley, Prayer is not a ritual because religious rituals routinely bring about change in status of an individual in the religious world: specifically in the categorization of an individual in that society. "So, for example, if the priest baptizes Paul or a rabbi circumcises Joel, then henceforth the terms 'baptized' and 'circumcised' may be used to describe Paul or Joel respectively, regardless of the state of mind of Paul or Joel or the priest when the ritual occurred. By contrast, this is not true about religious rituals that are not rituals in our technical sense. If Paul prays publicly, all we can say is that Paul has appeared to pray publicly. Paul may have feigned prayer. Only Paul knows for sure. Whereas when a priest baptizes Paul (under the appropriate publicly observable conditions), anyone privy to this event and the relevant parts of the accompanying religious conceptual scheme can know that Paul has been baptized." (2002: 15)} Religious rituals, on the other hand, appear

The question, of course, is whether absolution is necessarily public. In some Christian traditions (such as Quakers), there is virtue in public confession, but one’s status as redeemed or not redeemed is essentially a matter between the individual and God.
prima facie to be a natural kind (in my sense) because they are all the products of a single underlying mechanism of ritual form, which is based on our innate linguistic structure, combined with CPS agents. Counterfactually, a world without CPS agent concepts would be a world without religious rituals. And likewise, a world without the mechanisms underlying ritual form would be a world without religious rituals. The question for naturalness is whether or not these worlds would be worlds with normal humans. In the first case, it is certainly plausible to have an individual who has the concepts of CPS agents without that person’s performing the rituals in which those agents play a role. And it certainly seems plausible to have a culture without CPS agents but with rituals superficially similar to our own. If we adopt Boyer’s natural analysis of MCI-concepts in replacement of Lawson and McCauley’s notion of CPS agents along with Whitehouse’s naturalization of ritual form, the mechanisms realizing religious rituals are required for being human.

Lawson and McCauley’s claim that religious rituals seek to bring about a change in this world or the next distinguishes it from the views already discussed. In my terms, religious rituals, so described, are intention-dependent. Insofar as human’s intentions are artificial—i.e. subject to the will, unsupporting of counterfactual generalizations, etc—religious rituals are an artificial kind. However, the kind is unified insofar as it is explicable in terms of a single, unified mechanism. Religious rituals are naturalized, yet not natural kinds.

There are a number of common critiques of Lawson and McCauley’s view. First, as noted by Whitehouse in Ch. 2 of his 2004, there are plenty of rituals, such as those engaged in by sports fans, that are superficially identical to religious rituals but do not involve a supernatural agent. Academic rituals, such as the granting of a doctorate or becoming the president of a university include irreversible changes of status that Lawson and McCauley claim are associated with CPS agents fulfilling the ‘agent’ role, yet there is no CPS agent postulated. Second, there are a number of rituals in which CPS agents play a role that we would not call ‘religious’, such as leaving cookies out for Santa Claus, putting children’s teeth under the pillow for the tooth fairy, etc.

Finally, let us consider the idea that rituals are performed to bring about changes that span the difference between the world of the CPS agents and our own. The difference between a child's belief in

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30 See, e.g. Seaquist, 2006, 218-220.
Santa Claus and an adult's disbelief but tolerance and promotion of the concept is plausibly the belief that Santa Claus does something in this world and appreciates offerings. But that ritual is supposed to be non-religious. Moreover, on this view, people who believe in God as the Great Watchmaker–deists–do not believe in contemporary interaction between this world and the world of CPS agents. Unless we redefine these world-spanning actions as nontemporal, deism is not a religion. Again, and perhaps more importantly, Lawson and McCauley have ruled out *a priori* fatalistic religions. Calvinism, for example, believes that my status regarding the afterlife cannot be changed via any action–ritual or not. Thus, there is no transworld intervention, and hence, Calvinism is not a religion.

The counter case works as well: there are cases of world-spanning that are non-religious. Harvey Whitehouse describes beliefs among the Mali Baining of a forest people that world-span but are not objects of religious devotion. In contemporary America, ghosts are believed to world-span, but are not objects of religious rituals.

Boyer’s critique of Lawson and McCauley’s theory is similar. According to Boyer, these high-pageantry rare rituals may be explained in terms of their ‘technical’ motivation: the change in social status of the patient (Boyer, 2001: 261). Getting a new title or becoming a socially recognized family unit requires nearly simultaneous mass assent. It is no good to get a ‘Dr’ in front of your name if no one knows. A marriage that is not publicly recognized does nothing for the couple (just ask any homosexual couple in the US outside Massachusetts). Thus, highly arousing rarely performed rituals are such not because of the memories they elicit, but because of the need for witnesses.  

I think Boyer is right here. Large, public status-changing rituals not only condone new sets of socially acceptable behavior, but they also allow individuals to join a certain subculture—which often conveys economic and moral privileges denied to outsiders. Similar rituals are found at induction ceremonies for fraternities, fraternal organizations, social clubs, and so on, all of which seek to convey economic and social privilege on the select few.

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31 One might argue here that there are large public events, such as the open-air mass held by the Pope, which are rarely-performed rituals, but do not require mass assent or approval. Rituals like these are, according to this view, like big statements—and statements, or speech acts, *do* require an audience. Public reception of, and participation in, making such a statement is part and parcel of that statement’s grandeur. And hence, witnesses and/or participants are required.
In my terms, Boyer holds (as I do) that rituals of this second form are extrinsic-response dependent kinds (i.e. unified in terms of the emotional states that are raised in relation to the observers) instead of intrinsic-response dependent kind (i.e. eliciting strong memory traces in the individual because of strong emotional states that depend on internal experience alone). This does not mean that such rituals would not raise important emotions and long-lasting episodic memories in the participants. The important point of distinction is merely that the emotional states aroused in the participants in such a ritual would not be so aroused if the ritual had been performed in private. Thus, the defining response for this ritual kind is extrinsic-response dependent. Counterfactually, in a world without economic and moral privileges for the select few of an ‘in-group’, there would be no low-frequency highly-arousing social-status changing rituals.

3.4. Attitudes:

Epistemologists, ethicists and philosophers of religion have long held that recognition of a concept demands a certain attitude: possessing the concept MORALLY RIGHT entails a motivation to act. Possessing a concept clearly and distinctly (such as the cogito) entails an assent to its truth. Possessing the concept GOD entails worshipping him. The converse(s) are also true: if one does not worship God, one must either lack the concept, logical acumen or intellectual diligence. If one does not assent to the truth of the cogito, one hasn’t fully understood it. And if one is not motivated to seek what is right, one cannot be said to understand morality.

These claims are just-so stories. They allow their advocates to dismiss sociopaths, skeptics and atheists as merely ignorant, logically deficient or intellectually lazy. In order to falsify these claims, I need only show that attitudes are not identical, nor entailed by, concepts. And that is simple–I need only show one case of someone who has the concept but not the attitude. Take the thesis that the concept 'good' entails motivation to act. Pheneaus T Gage, the railroad worker who suffered a traumatic brain injury in 1848, is

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32 For example: “[A]lthough a man who does not believe that there is a God can hardly be blamed for not worshipping and serving, there is, I argued in Chapter 3, (given certain conditions) an obligation on him as on all men, to pursue inquiry as to whether or not there is a God; and if he recognizes this latter obligation, he is blameworthy if he does not pursue inquiry. If he does pursue inquiry, he may come to believe that there is a God and so come to recognize the obligation to worship and serve him.” (Swinburne, 1981: 142)
often retroactively diagnosed as having ‘acquired sociopathy’. According to the standard history, the accident changed Gage’s personality dramatically. Where he was a kind family man, he became a gambler, drunk, and philanderer. The reports of his post-injury behavior tell us that he was still able to make moral judgments regarding these behaviors, but was unable to act on those moral judgments. In short, that he had the concepts but lacked the motivation to act on those concepts.

But one need not go back to the foundations of neuroscience to make this point. Addicts can truly have a concept of 'healthy lifestyle', but be unable to pursue it. None of this means that most people, most of the time, really do feel a motivation implied by certain concepts. It just means that there it is not impossible to have the concept and lack the motivation. Analogously, most people, most of the time, use both episodic and semantic memory in concert. But just as Endel Tulving needed precisely one case study to show that episodic and semantic memory are distinct forms of memory, I need only a single case to show that concepts that seem to most adherents to demand attitudes do not necessarily do so. A single convert, atheist trained in religion, or even any religious studies professor who is not also an adherent, will do the trick.

It follows that attitudes comprise a distinct set of phenomena that demand their own study. Atheists (at least those who have taken the time to study theism) really do possess the concept GOD but lack a religious attitude. Converts possess two sets of religious concepts, but have religious attitudes for only one. American Christians have one type of attitude towards the concept GOD and another towards the concept SUPERMAN. A similar case can be said for the Mali Baining.

An analogous argument can be made for religious rituals. Modern American Christians celebrate Halloween without deploying religious attitudes. They mark the winter solstice and spring equinox in Pagan ways while not imposing holding Pagan attitudes or deploying Pagan concepts. Many American Christians read their horoscopes regularly, attributing many of their personality traits and choices to the movements of the heavens. And many of them only loosely recognize Christian rituals such as Epiphany and Lent. The knowledge system and religious concepts that are plausibly reinforced by ritualistically marking the changing of seasons do not determine the attitudes in American Christians one would expect.

Damasio has written extensively on the case, but I have in mind here an argument that appears in many places, most notably Roskies, 2003.
Being embedded in a knowledge community or having the religious concepts that are meant to be ritualistically reinforced by observation of Lent and Epiphany does not lead them to observe them. And conversely, routinely consulting with astrologers to make decisions over the course of their lives does not lead them to a different set of religious beliefs and concepts.

My contention is that the cognitive science of religion needs to study attitude-dependent behaviors scientifically. I take it that a statement like ‘I believe that Superman is great’ has two parts: a proposition, in which two concepts (SUPERMAN and GREAT) are equated. The second is an attitude that is predicated of that proposition: I believe it. I could just as well disbelieve it, feel it, think it, judge it, etc. I contend that religious beliefs deploy a special kind of attitude in connection with special kinds of concepts (MCI or CPS). There is a difference between the attitude expressed in ‘I believe that Lois Lane rose from the dead’ and ‘I believe that Jesus rose from the dead’, when stated by Christian comic-book fans. One can believe fictionally in tales of Paul Bunyan and believe religiously in tales of the Titans. The cognitive science of religion needs to study this difference.

I am not suggesting that we study attitude-dependent concepts–few, if any, concepts determine the attitudes that people have with respect to them. Once again, by analogy to ethics: there is a difference between people who lack a concept–like psychopaths, who are unable to distinguish between natural and conventional morality–and the unmotivated–like the depressed, or those who can't bring themselves to exercise even though they know it is good for them to do so–who nonetheless have the relevant concepts. Atheists who were once religious and converts are the latter: they have the concepts of the old religion, but lack the attitudes.

The nature of the concept constrains the set of possible attitudes one can hold to that concept. I cannot sexually desire a transfinite cardinal. I can, however, believe in transfinite cardinals. Consider an

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34 Hume, in the appendix to the Treatise, argues that belief is a sentiment: roughly: if belief is an idea, it could be mixed with any idea he pleased (and it cannot) and he has no idea of ‘existence’, therefore it is impossible to abstract that ideas annex to another idea to produce belief. Thus, belief is a feeling that depends not on will, but on the natural mechanisms of the mind. Incredulity towards someone else’s argument is, therefore, the feeling caused by the recognition that the argument given was not strong enough to cause said feeling. For a more sophisticated contemporary study of attitudes and motivation, see Svavarsdóttir, 1999 and Hale, 1993.
analogy to perception again. Try as I might, I cannot force myself to categorize my lawn in July, under full
sun under the concept RED. I can categorize it under DARK GREEN, LIGHT GREEN, BLUISH GREEN
and a number of other color concepts. But some concepts are simply ruled out by the stimulus itself. When
I listen to the opening of ‘Wrong ‘em Boyo’ by the Clash, I can’t understand what Joe Strummer is saying,
but I can’t just impose any random set of lyrics. The stimulus constrains the set of possible interpretations I
can impose on it. The same is true for attitudes and concepts. Some concepts are strict in their imposition
on attitudes (i.e. the structure of a valid proof demands assent to the truth of the conclusion in a way few
things do). And others–such as MCI concepts–are very, very loose. Religious attitudes result, I hypothesize,
from an exaggerated (i.e. ‘liberal’) attitude-formation mechanism. When presented with MCI concepts that
do not constrain the set of possible attitudes that can be applied, religious adherents apply that specific kind
of religious belief, rather than fictionalization, entertainment, etc.\(^{35}\)

Using this model, one may reinterpret religious rituals as specific attitude-formation and
reinforcement mechanisms. High pageantry rituals impose certain kinds of attitudes, low pageantry rituals
others. MCI concepts are more likely to produce religious attitudes than non-MCI concepts. And
emotionally-laden MCI concepts even more so. However, the set of possible attitudes is probably more
constrained by the way in which the concept is introduced and reinforced than the intrinsic nature of the
concept itself. Consider the difference between the attitudes of a American Christian when viewing Star
Wars versus The Lion, The Witch and the Wardrobe or The Passion of the Christ. The first is approached as

\(^{35}\)Distinguishing between these attitudes precisely is the topic for future work, but it strikes me as plausible
to distinguish in term so of modal logic. When we say that some statement is *necessarily* true, we mean that
is is true in every possible world. When we say that some statement is *possibly* true, we mean that it is true
in at least one possible world. What worlds qualify as ‘possible’ is determined, usually, by the limits of the
logical system. If we limit ourselves to *conceivably possible*, then a 1000-sided figure is possible. However,
if we stipulate *imaginatively possible*, a 1000-sided figure is impossible. It is my intuition that religious
belief differs from other beliefs in an analogous sense. Objects of religious belief are believed to have
beliefs about the believer – or at the very least, *can* have beliefs about the believer. Objects of fictional
belief are believed to be limited to their own ‘fictional’ world. The modal system of religious belief allows
for reflexive, symmetrical relationships between possible (belief) worlds, while the modal system of
fictional belief denies symmetrical relationships. A further elaboration of the view is in progress.
a work of fiction, the second as a parable of religious expression, the third a religious retelling. But nothing in the movies themselves would tell an outsider that they are to be treated differently.

Having one of these memory-dependent concepts, or participating in a memory-dependent social ritual does not entail attitudinal changes with respect to those concepts or rituals. It is the thesis of this section that the vertical problem of defining ‘religion’ is best solved by attitudinal-dependent behaviors, while the horizontal problem of classifying particular practices as an instance of ‘religious behavior’ is likely multiple horizontal problems to which Boyer, Whitehouse and Lawson and McCauley may offer solutions. This thesis is impossible to prove–after all, we will never be able to determine the attitudes of religious adherents who are long dead. But it is not meant as a conceptual truth to be defended against all comers. As I hope I’ve made clear, I consider naturalization to be a dynamic process in which classifications are put forward and revised in light of empirical evidence. This is one such classification. If it turns out that Hindus in fact do not have attitudes that bear sufficient similarity to the attitudes of American Christians, revision will be necessary.

One might argue that ritual competence is greater than mere concept possession; and hence, ritual competence demands attitudinal assent in a way that mere possession does not. But that claim fails on the empirical ground: people convert and deconvert, even expert practitioners like priests. Engaging in a ritual without the relevant attitude is ‘going through the motions’, which may be acceptable in some theologies, but rejected by others. My point is not to enter that debate, but rather to point out that no ritual participation determines the participants’ attitudes.

4. Life after disunification: Can we naturalize an unnatural kind?

At first blush, the process of naturalizing religion places us in a position analogous to that faced by philosophers and cognitive scientists in the second half of the 20th century. By that time, it had become clear that there was not a single unified neurological type instantiated in all and only those instances we describe as instances of, say, ‘pain’–especially when that type is extended to allow for octopus pain and other ‘alien’ pain. Hillary Putnam, followed by David Lewis and many others,36 proposed that the psychological types, such as ‘pain’, pick out functional roles characterized by three clauses: input

36 There is a huge literature in philosophy on this history. For the originals, see Putnam, 1980 and Lewis, 1980. For an overview, see Jackson & Braddon-Mitchell, 1996.
conditions that typically cause the internal state, interactions that typically occur with other internal states and output states typically caused by that state. Different neurological states in different individuals and different species realize the role in question. ‘Pain’ is unified not in terms of a single unified neurological realizer— but in terms of the role it characteristically plays in the life of individuals with pain. Being in pain is not, therefore, a property of a brain state, but rather a property of the organism. The brain state merely realizes part of the role that is pain.

Analogously, ‘religion’ would play a characteristic role in the life of a community. All of the theories discussed here explain part of that role. MCI-formation mechanisms may well fulfill the input role. Rituals, of both sorts, realize the interaction conditions, as well as the ‘output’ conditions. Transmission of cultural memes may well also be an output state. Recall that it is a mistake to read ‘output’ state as a teleological claim. Output conditions in the philosophy of mind are usually described in terms of observable behavior of the organism, not some ‘end’ of the organism. The same must be true here.

But this analogy is not perfect. In the case of functionalism in the philosophy of mind, we were faced with a number of underlying neurological states, all playing the same role in the life of the organism. Here, we are faced with a number of underlying mechanisms each of which plays a different role in the life of the community and each of which produce phenomena classified as ‘religion’. Thus, functional unification seems inappropriate.

One may rejoin that we could unify religion in terms of the exaggeration of natural mechanisms. All of the theories discussed here appear to fit that model. The problem with this approach, of course, is that it is too liberal—behaviors such as schizophrenia and obsessive-compulsive disorder will be classified as ‘religious’.

The disparate mechanisms described in this paper each explain one aspect of human belief formation or ritualistic behavior in terms of a single, unified underlying natural mechanism (except, of course, the institutionalization of religion in Boyer’s model). Hence, they are all truly naturalize one aspect of religion. None of them—nor their union in terms of functional roles or exaggerated mechanisms—is able to exhaust all and only those beliefs and behaviors we deem ‘religious’.

We must give up the idea that ‘religion’ is a single thing, even functionally described. We can say that a given religion is the result of a number of normal, natural mechanisms that are over-accentuated in a
given culture—but that one religion may share nothing with any other religion other than the fact that the other religion is also the result of a normal, natural mechanism that is over-accentuated in that culture. In one culture, religion may result from a hyperactive agent-detecting mechanism. In another, it might result from over-accentuated decontamination mechanism. In others, it is reinforced by social-status changing rituals, etc. Religion is an unnatural, artificial kind in and of itself. Particular religious phenomena, however, are perfectly natural.

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5. Works Cited


