Appraisal of Recent Evolutionary Theories of Religion:

Cognitive Theories of Religion

And

Socially and Ecologically Adaptive Theories of Religion

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Table of Contents

1. Introduction

As with other phenomena that over the course of history became objects of scholarly study religion can be studied from different angles, by various means, and with astonishing variety of goals and purposes. Problems arising from difference between insider-outsider distinctions in the study of religion are often debated and studied in the field of religious studies and theology. This study relies on approaches that treat religion as a human capacity. But not as just another capacity alongside other capacities, instead it treats religion as a capacity that is central in our understanding of ourselves and those processes that made us who we are.

Throughout this study various critiques and interpretations are given parallel to the presentation of diverse theoretical approaches rather than being reserved for a separate conclusion. Whole study is systematized based on theoretical assumption inherent in those approaches to religion discussed here. Other possible ways of arranging this material are possible but it is a distinct contribution of this study to present theoretical approaches to religion that take religion to be a biological adaptation and approaches that think of religion as a by-product of human cognition that has evolved for different purposes as essentially complementary.

The main argument here is twofold. First, that there are preliminary considerations that must be taken in count by any theological project that wants

itself to be in any way related to modern scientific descriptions of reality. Second, that there are theological meanings of religious behaviors which have to be considered by any scientific attempt to describe those religious behaviors in particular and human culture in general. This is done by presenting and examining various recent attempts to theorize religious behaviors from scientific evolutionary point of view. This study shall establish what set of conceptual tools was developed by evolutionary theories of religion and it is going to show which of those tools are suitable for the task at hand, namely finding a place for religion in human evolutionary history so that we can better understand our present situation and, perhaps more importantly, our future.

Religious traditions present us with both, a model of reality and a model for reality. They contain our understandings of ourselves. They define our concepts of power, fairness, sex, and intimacy. Religious traditions are a repository of our understanding of divinity, degradation, and danger together with our understandings of free will and well-being. A close look at our religious ideas can reveal ourselves to us and give us insights into who we are. Those same religious traditions contain an enormous potential for various kinds of abuse. Motivations provided by religious traditions are often used in conflict between groups whose coherence depends on those traditions. The role religious studies scholars, theologians, and scientists from various disciplines can play in elucidating those ambiguities can be critical for the future of humanity.

1.1 Classical and Contemporary Theories of Religion as a Resource for Evolutionary Theories of Religion

The story of recent evolutionary theories of religion, according to number of historians of religious studies, begins in 18th century in Europe with thinkers like David Hume, continues to 19th century with Auguste Comte and Edward Burnett Taylor, and it continues to the 20th century with Emile Durkheim, Sigmund Freud, and numerous other thinkers who theorized religion as a human activity and gave it what Preus has called "naturalistic explanations" (Preus 1987; Capps 1995; Pals 2006). In that tradition religion became a "problem" that has to be somehow solved and most solutions concentrated on the question of origin of religions. The roots of that approach go deep into the religious wars in 17th century Europe and the sense of relativity of religious traditions that seem incapable to deal with the apparent permanent pluralism of religious denominations that ensued after the protestant reformation and it became obvious during the Europe's encounter with the Ottoman Empire. European expansion around the world also played a key role in the sense that somehow religious views are arbitrary at worst and in need of serious harmonization at best. Within Christianity in 17th century a number of theological adjustments were made, and some of those adjustments went so far as to completely part ways with theological traditions of the past. Various kinds of deism were proposed and the role religion played in human lives was complexities by postulating a number of natural causes

and forces that influenced the shaping of religious traditions. Examples of such thinkers are Jean Bodin and Herbert of Cherbury and it is in their proposals that J. Samuel Preus finds the beginning of a research tradition that eventually lead to thinkers like David Hume and Auguste Comte who each in their own way parted with theological ways of grounding religion (Preus 1987). While for Bodin or Herbert of Cherbury it was enough to produce a set of universal characteristics that every religious tradition contains, for thinkers like Hume it was enough to attempt at explanations that were purely based on naturalistic assumptions. A number of changes in the intellectual climate of that period, especially philosophical attitudes of Cartesianism and other types of rationalism and empiricist philosophy coupled with the beginnings of modern science produced a new set of conceptual frameworks within which those new ways of theorizing religion developed. Origin of religion was a theological question in the early modern period and in many ways remains that still today.

The philosophy of David Hume played an important role in the formulation of questions regarding religion in such a way that some of his definitions and conceptual frameworks remain with us still today (Hume 2007). He is often credited as being among the first modern thinkers to ask the question of origins of religion not from any kind of natural-theological point of view like Bodin or Herbert would do, but from a completely non-religious point of view. Of

course we have to accept his formulations of what constitutes a religious point of view in order to understand his point of view as non-religious.

The philosophy of Immanuel Kant and especially his critique of metaphysics by establishing an active role our mind plays in all cognition contributed heavily to theological views after his time (Kant 2004). If our mind plays an active role in cognition than it seems that our theological concepts are precisely that, our concepts. There is no possibility of knowledge of things-in-themselves and religious ideas are bound by that too. If we accept Kant's view another problem becomes immediately obvious. How can we explain the apparent ubiquity of religious concepts across cultures? One way to think about this issue is to postulate that religious traditions are based on some sort of universal set of cognitive capacities that are cross cultural. For Kant it was obvious that the reason is that kind of universal. Other thinkers explored other possible ways of thinking about this problem.

Auguste Comte stands out as one of the thinkers who were able to recognize the social aspect of religion and to theorize religion not as something individuals do, but as something that makes human social groups possible (Comte 1974). Comte's view of religion is in many ways dependant on his interpretation of history of human societies and it is determined by his view of melioristic progress typical of modernity. It is indeed fascinating how Comte's ideas of progress of humanity actually depend on religious progress. Major steps in the

social development of cultures are marked by a progress in religion according to Comte. His views might seem at first outdated today, but at closer inspection there seems to be so much of what he proposed that can be found as an undercurrent in present day theorizing about religion. Comte proposed a seamless whole of interconnected hierarchical knowledge that encompasses everything from mathematics, physics and biology to what he called "social physics" or his science of human history and societies. Social dynamics through history is understood through progress of various forms of religious thinking and organization of societies based on those forms of thought. From what he called "theological" phase of history of human societies and its periods of "fetishism," "polytheism," and "monotheism," to the age of "metaphysical state" or "critical period of modern society" Comte traces in considerable detail the development of religious ideas through history (Comte 1974). He ends of course with his proposal for "the positive state." Throughout most of Comte's *Positive Philosophy* he finds a necessity for all those stages of "development," and he concludes by finding religious ideas deeply flawed but outright necessary for establishment and functioning of human societies. Many recent theorists of religious behaviors whose ideas are discussed in this study and who do not explicitly share much with Comte, do resemble his basic presupposition that religion is an intrinsic component of human social organization and that social organization is what religions establish in human societies (Wilson 2002; Geertz and McCutcheon

2000). After that initial period a number of different research traditions developed partly on the basis of methodology, partly based on geographic and cultural location (Antes et al. 2004a; 2004b; Geertz and McCutcheon 2000, 8). Most of those research traditions do not necessarily interact and do not use each other's findings. Some of those approaches to the study of religion include historical, philological, psychological, sociological, anthropological, ethnological, cognitive, and others.

Research programs and conceptual frameworks that are used in the study of religious behavior without taking a religious point of view are often seen as problematic by those who see themselves embedded within various religious traditions. This is known as "the insider/outsider problem in the study of religion (McCutcheon 1999). The problem is that of assuming someone else's point of view and to which extent is that possible. Research tradition that this study is based on in most part does not assume phenomenological point of view that would demand uncritical empathetic description of human behavior. Instead it assumes a critical position and it sees religion as something that can be studied without any religious point of view. That does not mean that those phenomenological subjective points of view are not described and taken into account. It just means that religious behaviors are in most cases seen as being an instance of something else. What religious believers self report is taken to be, or reduced, to what researcher theorizes about. It is a considerable challenge for a

researcher or theoretician to propose the tools for entering the experiences of others, but it is not any less of a challenge to build theories from the outside of those structures of meaning created by religious behaviors. In most cases motivations, emotions, and desires of those engaged in religious behaviors is not known to researchers and valid methodological questions can be raised over this issue.

Reductionism is another closely related methodological issue within those research traditions considered in this study. Question of reductionism can be posed in many different forms. We can ask is religion some sort of irreducible quality or faculty or is it "really" and instance of something else. Insider/outsider problem and the question of reductionism are closely related and it is my methodological assumption that reducing religious behaviors on their biological constraints does not produce unquestionably certain conclusions about those behaviors and that any subjective phenomenological account of those behaviors does not produce unquestionably certain conclusions about them either. Reductionist accounts of religion do contribute significantly to our understanding of them and their strength is their ability to model complex behaviors and simplify them in order to make them comprehensible. Approaches that take in count first-hand experiences should not be threatened by reductionisms. Instead, those two types of accounts of religious behavior, reductionist and subjective, should be seen as complementary because both of those are reflexive and relative.

2. Cognitive Theories of Religion

Immense development of cognitive sciences aided by both, novel philosophical and conceptual approaches to the subject of human knowledge, and neuroscience, enabled researches coming from different backgrounds to apply those research traditions to the question of cultural transmission of information in general, and religious behaviors in particular. Cognitive theories of religion are an instance of application of various findings of cognitive sciences to our understanding of religion.

2.1 From *Rethinking Symbolism* to *Rethinking Religion*—Dan Sperber

In a range of philosophical, theological, and anthropological contexts the concept of symbol is used in a rather different sense and with a various degree of importance.

Symbols and symbolism are for many religious thinkers at the center of what religious content to human behavior emphasizes. Among many philosophers and theologians who have developed influential view of symbols Paul Tillich stands out in many respects. For Tillich religious concerns can be expressed only in symbolical form (Tillich 1957, 47-50). Tillich's use of the concept of symbol is pivotal for his understanding of religion and it is very precise and well defined. For Tillich symbols have six characteristics: symbols, like signs, point beyond themselves, but unlike signs they participate in that to which they point. Symbols

open levels of reality that otherwise would be closed, and they unlock dimensions and elements of our mind that correspond with those realities that they unlock. Symbols cannot be invented intentionally because they grow out of the individual and collective unconscious, and symbols can, just like living beings, grow and they can die.

Unrelated to Tillich's view of symbols Dan Sperber's view grows out of necessity that anthropologists face when collecting their field data.

In a slim 1975 volume entitled in English translation *Rethinking Symbolism* French anthropologist Dan Sperber has set out to propose an understanding of symbolism that would encompass various kinds of human behaviors "from myths to linguistic figures, from religious rituals to gestures of courtesy" (Sperber 1975, x). Sperber's title reminds of another influential book, namely, Edmund Leach's *Rethinking Anthropology*, and in turn it is resounded by Lawson and McCauley's *Rethinking Religion* (Leach 1961). Leach, an influential British social anthropologist who critically appraised Claude Levi-Strauss and developed structuralist analysis of myths and social structures, wrote a favorable review of Sperber in *Times Literary Supplement* (Quoted on the cover of Sperber 1975).

For Sperber anthropology deals with possibilities and constraints of human culture. Culture is in turn made possible and constrained by human learning ability based on human biology.

Biology determines cultural variability, but it does not account for cultural variations. Shared underlying biological traits might determine certain features of different cultures and are at the same time influenced by those features of cultures that are adaptive. The dynamic interaction between biology and culture still leaves enough space for cultural variations that do not directly affect or are not directly determined by underlying biological mechanisms.

Sperber theorizes that the most interesting cultural knowledge from anthropological perspective is tacit knowledge. As opposed to other kinds of knowledge tacit knowledge must be reconstructed by each individual. Example that Sperber gives is that a phrase can be understood as insulting for a group of people without explicit agreement on precisely what makes a given phrase insulting. The task that Sperber puts in front of himself is to show what makes such understanding and tacit knowledge in general possible—nothing short of a description of the universal conditions of its learning.

One of the problems anthropologists encounter when studying cultures other than their own is a very practical problem of what behaviors and what aspects of culture should they describe and study. What are the criteria that should be applied when differentiating between various behaviors? For example, if one is to light a candle at night and then do some work that requires light the meaning of this act is explicit, but if one is to light a candle in a corner in front of a picture, say some words and then move from that corner and do something else the

question of what makes this act intelligible is not explicit. Sperber's proposal is a solution to this problem. He asserts that symbolism is a cognitive mechanism and as such it is autonomous alongside the perceptual and conceptual mechanisms and it participates in the construction of knowledge and in the functioning of memory.

Great French social anthropologist Claude Lévi-Strauss, whose work undoubtedly influenced Sperber, remarked that the study of myths and mythology is in fact a study of human mind (Lévi-Strauss 1978). To extrapolate that—structure that he was describing as it is expressed in mythology and in forms of social organization including kin relationships is the structure of our mind. Meaning and order that is imposed on the world that surrounds us and that we are full a part of is a meaning and order that is structured by our mind.

Sperber is generally proposing a cognitive view of symbolism as opposed to irrational and non-verbal views of symbolism. Two main criteria were used in anthropology to account for symbolism. First, the symbolic is the mental minus the rational (irrational), and second, it is the semiotic minus the language (non-verbal) (Sperber 1975, 1).

The view that symbolism is characterized by irrational behavior Sperber ascribes to early anthropologist Sir Edward Burnett Tylor and to French philosopher Lucien Lévy-Bruhl. For Tylor symbolic thinking was a substitution for what was not known, and for Lévy-Bruhl it was a systematic application of irrational explanation (Sperber 1975, 2).

The rationalist view of symbolism is seriously weakened when we recognize presence of rational thought in all societies and presence of symbolism in modern Western societies. If either Lévy-Bruhl or Tylor would be right that should not be the case. That is just one of the major criticisms of rationalism for which Sperber claims we can dispense with.

Second view of symbolism that Sperber dismisses, or in his words dispenses with is that of symbolism as the semiotic minus the language. Sperber portrays that view as contrary to the rationalist view. According to the second view symbolism does not have its own symbols, instead it uses signals found elsewhere, namely in language. Instead of saying something, people use symbols to express themselves non-verbally. Everything that can be expressed symbolically can also be expressed in language and this is precisely what happens when we interpret symbolical communication (Sperber 1975, 5). Problem with that view is that it cannot account for any hidden meaning in symbolical expression and it cannot really explain why we have symbols in the first place if language can express everything.

Linguistic interpretation of symbolical narratives found in myths cannot exhaust their meaning because the meaning of myths changes depending on the context. Social context and individuals psychological state both dynamically determine potential meanings of myths.

It is important to note that for Sperber one of the main reasons for the cognitive turn in explaining symbolism is the fact that in his field research he was confronted with a practical problem of describing behaviors of people he studied that he thought are symbolical behaviors but his hosts could not explain what do those practices mean. When asked what do certain behaviors that to an outsider seem to be symbolic mean they replied that they do not know, that they always did it that way, and that maybe their ancestors knew but they have forgotten what does it mean. According to Sperber it does not matter which object is being used to symbolize something. What that object represents is not as important as how is that object being used in a particular setting and this is what makes its use symbolical.

At the heart of Sperber's proposal is the claim that, in his words, "Symbols are not signs. They are not paired with their interpretations in a code structure. Their interpretations are not meanings" (Sperber 1975, 85). Symbols are neither encoded nor do they have hidden meaning, instead Sperber proposes understanding of symbols that has analogy not in language but in how humans conceptualize olfactory inputs, or smells. As in the case of smells symbols too are processed by two aspects a displacement of attention, or focalization; and by a search in memory, or evocation (Sperber 1975, 119). This is important move because it emphasizes cognitive aspect of symbolism and it claims that symbolism defies direct conceptual treatment. Explaining the cognitive

mechanism that makes tacit knowledge possible would be next step in explaining symbolism.

For Sperber's understanding of evolution of culture by epidemiology of representations cognitive turn in anthropological theories of symbolism is paradigmatic (Sperber 1996). Sperber achieved his cognitive turn in his *Rethinking Symbolism* by combining structuralist theories in anthropology and linguistics, especially those of Claude Levi-Strauss, linguistics and analytical philosophy. Directly or indirectly many of the current theorists in the cognitive theories of religion have adopted similar cognitive turn as their main framework of meaning. Pascal Boyer, Scott Atran, E. Thomas Lawson, and Robert N. McCauley are some of those that were directly influenced by Sperber.

2.2 Cognition in Ritual Behavior—E. Thomas Lawson and Robert N. McCauley

Next step and in many ways a substation extension of the cognitive approach to culture in general and religion in particular after Dan Sperber is the work of E. Thomas Lawson and Robert N. McCauley. In their book from 1990 titled *Rethinking Religion* Lawson and McCauley propose a new theory ritual with important consequences on understanding religious behavior in general.

Lawson and McCauley assert the importance of addressing a series of metatheoretical, theoretical, and substantive issues. In the realm of

metatheoretical considerations they are proceeding by way of integrating interpretative and explanatory approaches to religion, and in their view cognitive approach to religion can do just that. Questions of meaning addressed by interpretative approach and questions of causation explored by explanatory approach must have, in the final analysis, some common ground. Lawson and McCauley reject extreme positions that would represent symbolic-cultural systems as only susceptible to interpretation and not to explanation (Lawson and McCauley 1990, 13). According to them within the field of religious studies balance is tipped towards favoring interpretative approach to explanatory approach.

McCauley and Lawson argue that in the field of religious studies there is disproportional insistence on the priority of interpretation over explanation. The view that the interpretation is practically the sole avenue for any study of religion is particularly strong among those authors who claim uniqueness of religious over any other cultural phenomenon. Lawson and McCauley list Mircea Eliade and Rudolf Otto as the primary examples of such a view.

Both Otto and Eliade did indeed hold views similar to those implied by Lawson and McCauley but it is important to note that especially for Eliade to recognize an aspect of religion that is unique does not exclude other possible aspects of religious phenomena.

Lawson and McCauley quote Eliade, (Lawson and McCauley 1990, 13) but the quote is cut short. Here is the quote in its entirety from Eliade (Eliade 1958, xiii):

> In the same way, a religious phenomenon will only be recognized as such if it is grasped at its own level, that is to say, if it is studied as something religious. To try to grasp the essence of such a phenomenon by means of physiology, psychology, sociology, economic, linguistics, art or any other study is false; it misses the one unique and irreducible element in it—the element of the sacred. Obviously there are no purely religious phenomena; no phenomenon can be solely and exclusively religious. Because religion is human it must for that very reason be something social, something linguistic, something economic—you cannot think of man apart from language and society. But it would be hopeless to try to explain religion in terms of any one of those basic functions which are really no more than another way of saying what man is.

As one can clearly see Eliade is not denying other possible aspects of religious phenomena but he does insist on the sacred as the aspect that makes religious phenomena religious. However true all those other aspects of religious phenomena do not make any phenomenon religious according to Eliade.

For Lawson and McCauley there is no need to postulate any religious *sui generis*, nothing properly religious in the sense that it cannot be described by other means, i. e. cognitive science (Lawson and McCauley 1990, 14-31). They proceed by attempting to methodologically merge explanatory and interpretative approaches to the study of religion. Three different ways of relating interpretation and explanation occur in the literature on the subject. First there is a claim that

either interpretation or explanation have exclusive access to religious phenomena. If religion can be understood to have its own kind, *sui generis*, then only by means of interpretation we can access its content. From another point, if religion does not have any specifically religious content then any attempt to find it gets in the way of truly explaining religion. Second way of relating interpretation and explanation is the inclusive relation in which explanation is and must be subordinated to interpretation. Third way of relating interpretation and explanation and the route that Lawson and McCauley are proposing to take is that of interaction, namely, explanation and interpretation should inform each other.

Interactive relation between explanation and interpretation does not assume that explanation is free of any interpretative elements, nor that interpretation should supersede explanation just because explanation is riddled with interpretation.

Further, Lawson and McCauley explore what they term as three dominant approaches in attempts to theorize religion, namely intellectualism, symbolism, and structuralism. Those three characteristic approaches are criticized because Lawson and McCauley think that in them an attempt to recognize interaction between interpretation and explanation is present.

Intellectualist theories of religion would presumably be those interested in establishing rationality of human beings that is reflected in their attempts to explain the world around them, and that in different cultural idioms around the

world that rationality is expressed differently. Above mentioned Edward B. Tylor and Lucien Lévi-Bruhl would be among the theorist with this kind of view. Religion would be one instance of rational explanation of the environment in which human beings find themselves and which they establish within their societies. "Religion is a kind of thinking, namely, explanatory thinking" (Lawson and McCauley 1990, 33).

Religious language and religious claims are theoretical claims aimed at explanation of the phenomenon they describe. Religion is about the world in much in the same fashion as scientific theories are about the world. Intellectualism of this kind is contradicted by religious believers themselves and by many religious studies scholars. For Claude Lévi-Strauss, for example, it is clear that myths are not explanatory, and for majority of Christians science does not present competitive enterprise to that of their religious behavior and belief.

Symbolism is another methodological approach that Lawson and McCauley dismiss and in that they are following relatively closely the approach of Dan Sperber from his *Rethinking Symbolism* (Sperber 1975). Among noted theoreticians within this approach they mention Claude Lévi-Strauss, Sigmund Freud, and Victor Turner (Turner 1967).

Main characteristics of symbolism are an understanding that human beings represent their values, commitments, and feelings in encoded form that in turn can be decoded (Lawson and McCauley, 1990, 37). Symbolical systems are not

explanations of the world, but representations of psychological or social systems in a roundabout rather than unembroidered way. Main point that Lawson and McCauley criticize in Turner's work is that hidden meaning that symbols carry require interpretation and at the same time give rise to social structures that do not correspond to that interpretation. As they say "symbols not only represent human needs but they fulfill them" (Lawson and McCauley 1990, 39). Lawson and McCauley rely on Sperber's critique of what he has called cryptological explanations given by symbolists like Victor Turner. According to that critique all symbolist views propose that symbolic systems involve content that requires interpretation. In Sperber's view symbols do not constitute similar systems that linguistic entities do. Symbols are not "quasi-linguistic" entities. Sperber disqualifies symbols as linguistic entities because of the plurality of their meanings. Symbols cannot be reduced to any language equivalent.

That part of Sperber's argument would be well appreciated by Tillich for example and it seems consistent with above mentioned understanding of the main characteristics of symbols. But at the same time Sperber wants to go further. For him symbols do not have meaning at all in what he calls "information-theoretic" sense because it is impossible to pair on one to one correlation, and perhaps in any way, symbols and their interpretations. In other words, according to Lawson and McCauley Sperber is right when he writes that symbols do not have meaning in linguistic sense because they lack standard semantic properties like entailment,

paraphrase, contradiction, etc. (Lawson and McCauley 1990, 40). Lawson and McCauley in their assessment of symbolical approaches to religion concede that those approaches do shed some light on how human beings represent social realities. It is in the area of possible interpretation of, for Lawson and McCauley who follow Sperber on that nonexistent, meaning that they depart completely from anthropologists like Victor Turner.

The final approach that gets rejected is that of structuralism. Structuralism according to Lawson and McCauley appropriated traits from both intellectualist traditions in the study of religion and from symbolist approaches. From intellectualist approaches structuralism takes the view that myths and rituals are examples of cognitive rather than emotive activity but at the same time it claims that rationality of myths and rituals is not contained in their explanatory role alone (Lawson and McCauley 1990, 41).

After criticizing different approaches Lawson and McCauley develop cognitive approach to religious ritual systems by developing their own theory of ritual competency. Their approach is based heavily on linguistically theory of Noam Chomsky and on above mentioned critique of structuralism given by Dan Sperber. Another interesting feature of Lawson and McCauley approach is that they take theory of religious ritual to be central to a theory of religious behavior. Lawson and McCauley are not alone in assuming that theories of religion should be in fact theories of ritual (Zuesse 2005, 7833).

Lawson and McCauley developed their theory of religious ritual action on several places including their books *Rethinking Religion* and *Bringing Ritual to Mind.* In one of their articles they concentrated on participant's competence with religious ritual systems (Lawson and McCauley 2002b).

In their quest for more scientific theorizing of religion Lawson and McCauley start by claiming that there is no need to postulate any human capacity that are in any way different from all other capacities in order to account for religious ritual behavior. It seems as if much of the theorizing within cognitive science of religion is directed up against some sort of claim that there is a need to postulate a separate and qualitatively different set of explanations in order to account for religious behavior. It is yet to be clarified by those theorists what precisely they have in mind, because most of the theories of religious behavior and symbolism do not necessarily postulate anything of the sort.

Two components are needed in order to produce satisfactory theory of religious ritual behavior: a model has to be produced that can account for cognitive processes and their products and influence that those processes have on religious behavior has to be accounted for. Lawson and McCauley implicitly claim that by applying methodology of model making and testing we can avoid much of the confusion produced by theorizing based on data. Model building is widely used across natural and social sciences and in many cases it is the only way a complex phenomenon can be studied. Modeling cognitive processes

involves only most general ways or representing cognitive mechanisms without actually accounting for any neurological biochemical or any other observable phenomenon often studied by cognitive science. Lawson and McCauley's methodology of modeling cognitive processes resembles linguistic models of deep grammatical structures more than localizing certain neurological functions on the brain or elsewhere.

Without questioning modeling as a sound and widely accepted scientific methodology we can ask a question of what precisely is the nature of correspondence between those models and our actual cognitive processes. Question of reflexivity, that in some sense permeates any cognitive theory because by definition it has to account for itself, presents itself here and it remains to be seen how receptive to that question cognitive theories of religion are going to be.

Two explicit commitments are crucial for Lawson and McCauley's theory of religious ritual competence: first that "the differences between everyday action and religious ritual action turn out to be fairly minor" and second that "the roles of culturally postulated superhuman agents in participants representations of religious rituals will prove to be pivotal in accounting for a wide variety of those rituals' properties" (Lawson and McCauley 2002, 153).

In their first explicit commitment that states that cognitive apparatus for the representation of action in general is one and the same with the one used to

represent religious ritual action they basically claim that there is no need to postulate any separate cognitive capacities and processes in order to account for religious behavior in general and religious ritual behavior in particular. Same cognitive abilities and same processes are involved when we conceptualize any action is necessary and sufficient for any account of religious ritual action. That claim in and of itself might not be as objectionable as it seems at first. Lawson and McCauley present their first commitment as the one that is supposed to raise some questions among their non-cognitive religious studies peers. It seems as if it is hard to produce any theory of religious ritual action that requires anything but ordinarily cognition. From Lawson and McCauley's argument is hard to read what would constitute a violation of their theoretical commitment number one.

In their second explicit methodological commitment Lawson and McCauley hypothesize culturally postulated superhuman agents and claim their centrality in any religious system. Lawson and McCauley claim that by doing so they are going against prevalent assumptions throughout the study of religion. Prevailing view in religious studies according to Lawson and McCauley is that only meanings matter. In opposition to that they claim that cognitive representations of religious ritual form matter.

Lawson and McCauley are perplexed by what they proclaim is the case in religious studies, namely, that it is questionable that conceptual commitments to the existence of culturally postulated superhuman agents is the most important

recurrent feature of religion across cultures. In other words, for Lawson and McCauley it is clear that the existence of culturally postulated superhuman agents is central. According to them "various scholars in theology, religious studies, the humanities, and even the social sciences maintain that religious phenomena do not turn decisively on presumptions about culturally postulated superhuman agents" (Lawson and McCauley 2002, 154).

Many theoretical questions arise here. First, if we take up their first commitment, namely that there is no need to postulate separate cognitive apparatus for religious representations, why is it that in their second commitment they find it convincing to reintroduce something that closely resembles what they were trying to avoid. Second theoretical question is broader in nature and asks what is it precisely that they are assuming by superhuman agents? Could we count a nation-state as a superhuman agent? Or any other social reality that clearly transcends any individual human being both in time and in scope. Latter on in the chapter we will examine Pascal Boyer's construction of concepts of what he calls "supernatural" and "naturalness" and we will examine some parallel criticisms that can be directed to them.

Lawson and McCauley criticize what they call overly inclusive views of religion for failing to recognize that meanings are not the only thing that matter within a religious system. They use Dan Sperber's claim that because symbols have so many meanings they have none and say that because religious rituals have

so many meanings they have none. Their criticism of theories of religion that include more than just what they call superhuman agents can be dismissed if we accept that religious symbolism and religious ritual are not the only human activities that have numerous meanings. Art is an obvious example where numerous meanings do not undermine overall impression that meanings matter. It might be true that not all meanings matter, but it is impossible that meanings do not matter for art and by extension for religion, and for that matter for any other human activity as well.

More general objection regarding the claim that meanings do not matter can be expressed by raising the question of the meaning of a cognitive account of religious ritual. It seems as if the duality between hypothesizing produced by the cognitive theory of religion and meanings produced by the rest of the religious studies is somewhat superficial.

For Lawson and McCauley "religious ritual form and the properties of rituals it explains and predicts are overwhelmingly independent of attributed meanings" (Lawson and McCauley 2002, 155). Furthermore, they claim that certain general properties of ritual form are autonomous from specifically cultural forms. Very general features of religious ritual are independent from both semantic and cultural contents.

The core of their argument is contained in two claims, first that "our cognitive system for representation of action imposes fundamental …constrains

on ritual form," and second that "from a cognitive standpoint, then, postulating special cognitive machinery to account for the representation of religious rituals is unnecessary" (Lawson and McCauley 2002, 155-6).

Religious rituals are, besides anything else they might be, also actions performed by agents. From arguments given by Lawson and McCauley it is not clear just against whom they direct their theories. In other words, what kind of approach does it take in order to disprove what they are trying to theorize about ritual action and agency representation in that action? Is there any theory of religious ritual that requires postulation of a special set of cognitive systems in order to account for religious rituals?

Based on the work cognitive and developmental psychologists Lawson and McCauley claim exceptional relevance for how human beings represent agents and how central the role of agents is in order to account for representation of action. Next in their task is to propose a model that would capture both, representational framework for characterizing religious ritual action and familiar presumptions about the internal structures and external relations of actions.

Lawson and McCauley consider their main proposal from *Rethinking Religion* to be a model that can capture both of those characteristics of religious ritual. They are claiming that the model is not a theory itself and that model should be used in order to test the theoretical hypothesis and enable them to elucidate its value. The question of how much is their model laden with theory is

not the one they address. Models are usually used in order to describe systems that cannot be replicated in any other way. Many benefits derived from model building can be in certain cases outweighed by incremental difficulties sustained in the model itself. Lawson and McCauley do not question the practice of model building in religious studies. They take it to be much more appropriate to the specific subject matter of ritual for example so that they do not have to lose sight of universal features of religious rituals in the forest of phenomena that are sometimes impossible to compare to one another.

Another important methodological limitation of Lawson and McCauley modeling is the fact that it might make a significant difference if instead of ritual some other religious behavior is used as a model. Take prayer for instance.

A structural description of religious rituals according to Lawson and McCauley includes about six main categories: 1. the roles that distinguish actions from other events and happenings; 2. entities, acts and their properties, qualities and conditions that can fulfill those roles; 3. presumption is made that at least two of these roles must always be filled, that of an agent and that of an action committed by that agent; 4. constraint that some agents are patients, but not all patients are agents; 5. in certain cases special instruments are preconditions for action; and finally 6. some acts presuppose the performance of another act (Lawson and McCauley 2002, 157-8).

There are three fundamental slots in our representation of religious rituals: its agent, the act, and its patient. This is what religious rituals amount to according to Lawson and McCauley. They recognize that what they postulate is purely speculative theoretical concept and not some sort of descriptive category. That theoretical move is defended by a claim that it produces a theory that is very successful in explaining wide range of features that it describes. In other words by postulating a theoretical entity what is gained is explanation of what is postulated. Inherent circularity of such a statement is defended by Lawson and McCauley by recurring to history of science and examples of similar practices that have in long run presented viable worldviews. In the two-step methodological move Lawson and McCauley have according to themselves postulated non-descriptive technical concept of "religious ritual." That concept has an immense explanatory power that it should be taken to be a representative model of phenomena that is being explained. What is so powerful about a technical theoretical concept of religious ritual is that it enables us to see that what happens in religious ritual is represented by participants in the same way those participants, and presumably everybody else, represent to themselves any action that has similar characteristics like religious ritual action. Religious ritual action is an action.

Lawson and McCauley are themselves astonished with how simple their conclusion is. One might summarize it by saying religious rituals are when somebody does something to somebody. Despite the simplicity of their

contribution Lawson and McCauley are confident that it represents a significant contribution to our understanding of religious rituals in particular and religious behavior in general, and that at the same time they have achieved a significant departure from the tradition of religious studies and theories discussed above. According to Lawson and McCauley in all of history of study of religion nobody realized that there is a similarity between how human beings cognitively represent religious rituals and how they cognitively represent everything else. It is hard to evaluate such a universal claim but despite inherent difficulties in such an assessment it would be possible to show that it bears little to the discussion of the adequacy of different theories of religion.

Adequacy of cognitive theory of religious ritual as devised by Lawson and McCauley is defended by recurring to historical examples pertaining to history of science. Copernicus is invoked and through his historical example some theoretical features that Lawson and McCauley deem non-traditional are justified (Lawson and McCauley 2002, 161).

The main contribution of their theory is to introduce schematic structural view of religious ritual by defining the roles different participants play. Besides the role of agents there are patients in religious ritual, and there are tools those patients and agents can use. Patients in one religious ritual can be agents in another and vice versa. Those roles and different tools used in religious rituals can account for exceptional cultural diversity. Different rituals in different cultures

can all be described, or to be more precise explained, through the scheme presented by Lawson and McCauley. Difference between explanation and description is important here. It seems as if Lawson and McCauley need some sort of description of a religious ritual before they can give their own explanation. That description, for theory not to be severely or viciously circular, has to have at least in pretense of being non-dependant on the explanation. Most anthropologists would agree that their observations do depend on the theoretical outlook that frames their description. If that is the case then we will have to evaluate Lawson and McCauley's contribution in the light of possible circularity of their main argument.

Arbitrary theoretical concepts, like those of an agent, a patient and an instrument, as introduced by Lawson and McCauley, are perhaps important and unavoidable part of the theory. In some cases maybe those concepts do produce major contributions to a successful theory. Still, in this case we have to be careful in accepting theoretical concepts that are not related to our observations but are then in turn used in order to explain and extend that very observation. The very confusion between description, interpretation, and explanation that Lawson and McCauley say they want to avoid is reproduced by their theory.

One example that gets repeated by Lawson and McCauley is when they refer to their description of Christian baptism. When they discuss the role various instruments play in a religious ritual they say at one point "water that has not been

consecrated is just plain old water" (Lawson and McCauley 2002, 162). In order to appreciate that example more we would have to analyze it more closely, but what comes as obvious is that on the one hand there is, to my knowledge, no consensus on the issue of baptism among Christians. More importantly, it is hard to imagine that there is much similarity in how different people represent one and the same occasion of Christian baptism. How is one religious ritual represented by a religious professional performing it can be vastly different from representations other participants have. It seems almost that we can claim with some certainty that there are hardly any two people who would have one and the same representation of a religious ritual.

Second problem with Lawson and McCauley's example is that of assuming too much and then passing their assumption as a description. Besides the fact that consecrated water is more than 'just' water, in most cases it is also water. That is something we can imagine anybody would agree. If somebody claims a possession of a certain object, let us say a bottle of water, then that water does have some property for those who know of that claim. Nothing really happened to the water. It is still just H_2O. But by the fact that somebody says that this is their bottle of water for those who share that persons informational and communicational reality that bottle of water has an added property of belonging to somebody. It is not just plain old water. Since similar behaviors are virtually all present in human societies it seems as if Lawson and McCauley's theory is able to

capture at least some form of human behavior, but it is hard to see how that feature has anything distinctly religious in it. We are not trying to claim that religious behavior is in any way distinct from all other human behaviors on this level, but it is our understanding that Lawson and McCauley would like to define, describe and explain religious behavior and not all human behavior.

Lawson and McCauley also describe recursive properties that are being attributed to agents, patients, and instruments in religious rituals. For example they talk about agents whose agency in one ritual depends on them being patients in previous rituals. Same is true for instruments. In order for some instrument to be effective in one ritual there has to be a previous ritual in which that instrument is for example consecrated. This is why they introduce a concept of "network of ritual actions" (Lawson and McCauley 2002, 162).

Another important concept introduced by Lawson and McCauley is that of culturally postulated supernatural agents. They usually abbreviate that as CPS. Culturally postulated supernatural agents are in most cases the last link in a chain of religious rituals. If some patients through some rituals gain the capability to be agents in other rituals and by that create networks of ritual action those networks are in a way anchored in culturally postulated supernatural agents.

On one level that concept is somewhat appealing. In order to avoid perhaps unresolved tension between academic disciplines of theology and religious studies we can try to devise a concept that is going to be equally

appealing to both. It seems that the concept of culturally postulated superhuman agents can serve that purpose in some contexts. Problem is again of different nature. How can we use such theoretically postulated concept in our descriptions of religious representations? If we are to describe how religious rituals get represent by participants then we cannot soundly introduce a concept that is so central but at the same time does not have anything to do with how would actual participants in religious rituals describe their representations. It is our impression that Lawson and McCauley do take that concept to be descriptive of religious ritual representations.

Culturally postulated superhuman agents are problematic because of the concept of super-human, or super-natural. Perhaps in certain theological-philosophical outlooks there is much room for similar concepts, but in most cases this does not seem to be as useful as Lawson and McCauley would want it to be. As R. G. Collingwood remarked in his book *The Idea of Nature*, all our ideas depend on our idea of nature (Collingwood 1960). Philosophical and religious question of what is the nature of nature is hardly the one that can be answered lightly and unanimously. Our understanding of nature changed profoundly throughout history and there is, to my knowledge, hardly any consensus today on the question of what do we mean when we say nature. We can obviously refer to a totality of everything there is and call it nature (Spinoza 2005). But such a term comes so close to religious concepts that Lawson and McCauley would like to

deem supernatural. Of course main difficulty here arises if we miss the point that we cannot decide on the meaning of supernatural if we are not clear on what we mean when we say nature.

First part of the concept of culturally postulated superhuman agents, that of "culturally postulated," we find much less problematic. Problem with it is that it seems to be implying that there are things that are not culturally postulated. Within human culture it is hard to talk about anything that is not culturally postulated. It seems that the Kantian problem of regulatory concepts like the universe, or god, lurks here. Culture can be understood as one of those regulatory concepts that we cannot 'step out' from and behold them, and therefore they are not just like any other concept. If culture is understood in this way, anything human beings do or say is culturally postulated including of course superhuman agents. If we would want to characterize those agents in any meaningful way we would have to have a different concept from that of culturally postulate superhuman agents. Perhaps our abstract concepts like nation, or state would count as culturally postulated superhuman agents as well. Then again what Lawson and McCauley are describing is accounting for much more than what they would want us to believe.

Ritual actions are embedded one in another, according to Lawson and McCauley. Initiators can initiate because they were initiated. In that chain of religious ritual actions previous ritual actions are in some cases enabling latter

religious actions. Later actions would not be possible without the previous ones. That chain of actions does not go forever in religious ritual actions. There is a final 'explanation' of religious ritual action and this is culturally postulated superhuman agents or what for all practical purposes amounts to gods.

Introduction of culturally postulated superhuman agents requires no further justification or explanation of efficacy of religious ritual action. Culturally postulated superhuman agents generate and guarantee the efficacy of religious ritual action. This is what Lawson and McCauley call "representational closure" (Lawson and McCauley 2002, 164).

They further explain that this is what constitutes the major difference between religious action and any other type of activity or behavior. Only in religious actions do human actions have source in superhuman agents. Besides questionable sustainability of such a claim in light of ethnographic evidence, or even any theological ground, it is also important to note that Lawson and McCauley do not really address the question of what exactly happens and how in order to explain religious ritual action by starting a chain of arguments that starts with gods. This explanation should include some sort of historical elaboration of the chain of events that leads to superhuman agents. Since those agents are culturally postulated they are already just another part of representation. Why one part of our representation does have such a primacy over any other part of our representation?

Furthermore, Lawson and McCauley claim that social scientific descriptions and theories of religion that do not take the measure or take in account the fact that the authoritativeness of religious systems proceeds from culturally postulated superhuman agents to everything else fails to capture the most important feature of religion. Any talk about civil religion, the religion of art, theology of communism is bound to fail because none of those concepts are authoritative since they do not trace their claims back to the culturally postulated superhuman agents.

Lawson and McCauley treat culturally postulated superhuman agents as causes of religious ritual action. If those agents are culturally postulated they also have to be accounted for in culture. How does culture postulate superhuman agents?

In order to account for that Lawson and McCauley explain what is involved in representation of religious ritual action. First and foremost the most important concept is that of an agent. Agent is a concept used to denote a participant that acts. Anyone or anything that can act is an agent. Category of agency is the cornerstone of social interaction, responsibility, personhood and morality (Lawson and McCauley 2002, 165).

Main support for the view Lawson and McCauley expound they find in the work of developmental psychologists and their theories of how do children

develop action representation. According to them children develop cognitive capability to differentiate between agents and non-agents very early.

Representation of religious ritual action does not depend on anomalies in action representation but it depends on special kinds of agents involved, namely culturally postulated superhuman agents.

In Lawson and McCauley's theory of religious ritual action three things are crucial in differentiating between religious ritual action and any other kind of action or representation (Lawson and McCauley 2002, 166). First is that they claim that what is taking place in religious ritual, the acts that are carried out, are unique to religious ritual. This category seems at first glance to be very clear and acceptable, but it is probably the most questionable. For instance, Lawson and McCauley use a running example of baptism as their case in point when describing religious ritual action. Their example is not listed as coming from literature or from actual participatory observation, or from that matter from any other source but author's reconstructions of personal impressions and something that is supposed to be common knowledge. In that very example and in its usual interpretation in religious studies literature similarity between baptism and a cleansing bath cannot be overemphasized. Baptism is about getting clean. So it most definitely is not about something completely different than any other area of human activity and representation. Other cases in point that can be taken up would include behaviors that are widely present across a culture, but only in

certain cases interpreted as having religious significance. Just as a simple superficial example of lighting a candle in order to have light to do a task and lighting a candle on an altar. In which case and by which means can we differentiate between the two identical actions? Actions and representations usually deemed religious are often not that different from any other actions and representations that we can describe.

Second characteristic of religious ritual action and in turn its representation is that they always end in evoking the enabling actions of culturally postulated superhuman agents. Since many agents can be seen as culturally postulated superhuman agents this characteristic can be seen as the one shared with many other kinds of activities that are not counted as religious by Lawson and McCauley. Nations and states can clearly be seen as culturally postulated, and they are most definitely superhuman, or above any individual human being. We also represent nations and states as agents not only in certain political philosophies but also in everyday interaction.

For their theory it is important that by introducing culturally postulated superhuman agents all talk about causality within the framework of religious ritual representation is supposed to stop. Going beyond culturally postulated superhuman agents causally does not make much sense for religious ritual action representation.

Third characteristic of religious ritual action representation is that only with religious rituals do populations of participants engage in actions that presume and involve culturally postulated superhuman agents (Lawson and McCauley 2002, 167).

Besides those three characteristics of religious ritual representation Lawson and McCauley describe two principles for organizing this information about the role culturally postulated superhuman agents play in participant's implicit knowledge of their ritual forms. The combination of above mentioned three characteristics of religious ritual action representation and those two principles that we are going to go on to now is supposed to account for any religious ritual system of any culture at any time according to Lawson and McCauley.

In order to present a cognitive account of religious rituals Lawson and McCauley concentrate on concepts of *Superhuman Agency* and *Superhuman Immediacy* that in their texts are capitalized.

Superhuman agency can be represented as being more directly related to the agent in a ritual, or it can be represented as being more related to the patient or to some instrument used in ritual. Those two distinct ways of representing superhuman agency in rituals constitutes a ground for differentiating between different forms of religious ritual action.

The first kind of rituals are termed "special agent" rituals and the second kind "special patient" rituals. Certain rituals are also termed "special instrument" rituals.

In principle of superhuman immediacy Lawson and McCauley state that the anything in a current ritual is as proximate to as close it is to the place where culturally postulated superhuman agent appears. By knowing what role in the current ritual some enabling rituals are connected and how many of those enabling rituals are needed in order to establish connection with the culturally postulated superhuman agent we can devise a typology of religious ritual action (Lawson and McCauley 2002, 169).

Action representations system in Lawson and McCauley's theory can account for how do participants establish and evaluate success and correctness of those religious rituals. Rituals that do not conform to a certain form or rituals where action is not represented in a way that is understood are not well formed and therefore not effective. Implied here is the claim that action representation is universal human characteristic on the level of deep grammar or some other postulated property of human psychology that cannot be fully accounted yet on the level of neuroscientific description but is nonetheless something that can be taken seriously as a theoretically postulated reality that can effectively present and successfully explain phenomenon in question.

Besides general action representation this model is supposed to account for something Lawson and McCauley deem to be specifically relevant for representation of religious ritual action. There are special entries that take part in representations of religious ritual action and those entries make representation of religious ritual action distinct from any other action representation. What makes representations of religious ritual action unique among representations is the introduction of culturally postulated superhuman agents and their actions. It is through the actions of culturally postulated superhuman agents that participants judge well-formedness and efficacy of religious rituals.

This is a peculiar statement that Lawson and McCauley make since it does separate possible expected outcome of religious ritual from its form, and at the same time it claims that both its form and its efficacy are dependent on one and the same variable, namely on the introduction of culturally postulated superhuman agents. If a ritual would be well formed it has to be efficacious. Since at this point Lawson and McCauley do not introduce any examples, ethnographic or psychological, it is not possible to evaluate which concrete consequence does that have. One can easily imagine a ritual being well formed and not particularly efficacious. Insofar we are involved in model building and evaluating we can dismiss above mentioned distinction between well-formedness and efficacy, but if we would have some concrete examples of religious behaviors that we are trying to account perhaps that distinction is in some sense justified.

Principle of superhuman action and the distinction between rituals where superhuman agency is most directly related to an agent from those where superhuman agency is related to a patient of some action or to an instrument reveals some universal properties of any religious ritual system according to Lawson and McCauley. One of those features is what they call repeatability. While in religious rituals where instruments or patients are the locus of superhuman action that action can be repeated many times in rituals where special agents come in most direct relation to the superhuman agency that action need be repeated only once. Example they offer is that of once in a lifetime initiation and lifelong repetition of religious sacrifices. Again examples offered are shallow anecdotal references to popular preconceptions of what some religious rituals amount to. There are no examples from anthropological literature offered or any careful ethnological descriptions discussed. Every claim is substantiated by recurring to simplistic forms that fit the model that is being offered. Since that model is supposed to stand for and characterize cognitive representations of participants in those rituals it is not clear what kind of example and study would constitute a sufficient example of the theory in question.

Lawson and McCauley claim that their theory and its models explain why some ritual have to be repeated and some are done once in a lifetime. It is because culturally postulated superhuman agents act through their *ritually entitled middleman* in rituals that where superhuman action is most closely related to

those agents (Lawson and McCauley 2002, 171). When culturally postulated superhuman agents "do" things in rituals those things are done once and for all.

Quite opposite from that when superhuman action is most closely related to an instrument or a patient in a ritual the ritual itself has to be repeated over and over again.

Lawson and McCauley write that this is why one only has to be initiated once into adulthood and one has to offer sacrifices over and over throughout one's life. Again they use a passing anecdotal evidence for their theory, and in this particular case example offered does not make any sense. Are we supposed to take seriously the claim that people get initiated into adulthood only once because culturally postulated superhuman agents act directly on them during some ritual? An alternative explanation seems much more appropriate, namely, one only becomes adult once in a lifetime. If we would want to push this analogy further we can use the example of funerary rites and say that they are done only once since culturally postulated superhuman agents are most closely related to agents. Of course such an example would not make any sense either.

Besides frequency of rituals Lawson and McCauley claim that in the case of special agent rituals if something happens that dissolves the works of that ritual then the ritual has to be repeated. They make distinction between that repetition and repetition involved in rituals that have an instrument or a patient in the place of the closest proximity to culturally postulated superhuman agents.

Another feature of religious ritual action representation that is supposedly predicted by their theory is that of substitutability. In certain religious rituals, especially when some item is not accessible, important items can be replaced with other items. Example given by Lawson and McCauley is that of ritual cleansing. If water is not accessible then sand will do. They also claim that in rituals where culturally postulated superhuman agents are in most close proximity to agent of those rituals then substitution cannot occur.

Theoretical prediction offered here is a very dubious one. Culturally postulated superhuman agents are either always substituted by something else in rituals, or if they are not then they are not "just" culturally postulated, then they are actual presence, in one form or another, in the ritual.

All three predictions made by the theory are either so trivial that they are not of much help for our understanding of religious rituals, or they are plainly describing something that cannot be easily be reconciled with any examples offered.

Last point from Lawson and McCauley's theory that we are going to present is that based on *principle of superhuman action* they claim that it can be inferred that there is a relation between the "initial" entry of culturally postulated superhuman agents and the centrality that ritual has for an overall religious system. In other words, if a culturally postulated superhuman agents enters into a ritual more directly then that ritual is going to have more central place in a

religious system as a whole. If more enabling actions are needed for a culturally postulated superhuman agent to enter, then this ritual is going to be overall less central. Supposedly this can be studied empirically by eliciting judgment from religious ritual participants.

When evaluating their own contribution to the cognitive science of religion Lawson and McCauley present three main points (Lawson and McCauley 2002, 174).

First, judgments made by religious ritual practitioners and predicted by their theory do not have to be conscious. Many of the features of religious ritual that are known to all the participants are in fact drawn from what they call a "well" of tacit knowledge of religious rituals. Human beings know a lot about religious rituals without knowing that they know is what Lawson and McCauley would want us to take in.

A second and very important contribution is that it has to be understood that none of this tacit knowledge of religious rituals depends on assigned meaning of any of the features of religious ritual action. Practitioners of religious rituals know what is going on in religious rituals without assigning any meanings to a particular part of those rituals. Even if they cannot provide interpretations of religious rituals participants in religious rituals can judge about their well-formedness and efficacy. This claim is a direct consequence of above discussed theory of symbolism presented by Dan Sperber. It is true that many ethnographers

and anthropologists when interviewing their subjects get answers that are not very conducive for the construction of theories of meaning. People often do rituals because those rituals were done by their ancestors, and if asked about meanings more, they often say that their ancestors knew what those rituals meant, but now most people do not. This is important and interesting theoretical and methodological problem of anthropological fieldwork, but question remains is it a sufficient ground for abandoning any theory that includes meaning of religious rituals. Meaning can be constituted on a personal level and it does not even have to correspond with individual meanings reconstructed by other participants in one and the same ritual and it can still play a major role in what constitutes that ritual, and it perhaps should play a role in any theory that wants to take measure of that ritual.

What Lawson and McCauley hope is going to be the most important outcome of their theory is that ethnographers working in the field collecting data are going to take in count their models and are going to organize their questions and present their findings in a form that is going to be aware of it.

2.3 Religion as a Category Mistake—Pascal Boyer

In his very influential 2001 book *Religion Explained* Pascal Boyer reintroduced concept of "naturalness of religious ideas" that he has advocated already in his much earlier book by the same title (Boyer 1994). It might seem a

little misleading but one of the central concepts in Boyer's approach to religion is that of "supernatural." This is not that surprising knowing that the concept of supernatural played a central role in earliest anthropological accounts of religious behavior like for example in the work of Edward B. Tylor and his concept of animism. What Boyer implies with his concept of naturalness of religious ideas about the supernatural is that human beings have evolved cognitive mechanisms that make them remember certain concepts better. It happens that concepts about the supernatural are easier to remember and therefore in a long run produce what we have today as religious systems. Differentiating between different concepts that represent what is not immediate is difficult. Stories that today generally pass as fiction can contain characters that are hardly any different from characters that one can encounter in what is understood by anthropologists as a religious story.

Pascal Boyer claims that the "main strategy in the study of religion so far has been to just ask people why some concepts of imagined entities (agents in particular) matter to them" (Boyer 2002, 69). He proposes a way to distinguish between different kinds of imagined entities, namely from those he labels religious and all other kinds.

Since people are generally not aware of their own cognitive processes pertaining to religion, much in the same way as we are not aware of the pathways in our brain giving rise to vision, and in the same way that most native speakers of a given language can tell when some form of utterance is unsound but cannot

necessarily explain why, so is with concepts in general, and with religious concepts in particular, claims Boyer.

Different ways how humans process different cognitive input is why there are concepts about supernatural because those concepts are, according to Boyer, easier to remember.

Boyer also gives a list of possible and actual propositions for explanations of religious behavior that he thinks are mistaken (Boyer 2001, 2004).

Among mistaken attempts to theorize religion Boyer finds most of what was discussed by early anthropologists and some of the popular views of the origins of religious behavior. Boyer is not worried at all with methodological observations of religious studies scholars who realized that our concept of religion is an academic creation and as such it is a very recent concept used as a container term in order to encompass enormously wide and somewhat disparate range of phenomena (Smith 2004, 179). Besides the cases of diffusion of religious ideas, which are plenty, there is no unity of phenomena that get studied as religion. Boyer claims that there is, and that there is something qualitatively the same in all cases that we describe as religions.

In Boyer's list of mistaken ways of conceptualizing and theorizing religion we can find some of the familiar examples of speculations about the origins of religious behavior.

It is claimed that religion provides explanations for phenomena that people presumably want to explain but real explanations are beyond the knowledge of that group of people. Puzzling natural phenomena that apparently defy explanation, dreams and similar experiences that have deep personal meaning, explanations of origins of things and origins of the world order and last but not least explanations of origins of good and evil and reasons for why there is suffering and death in this world (Boyer 2001, 5; 2004).

Boyer further dismisses any theory that would conceptualize religion as having its origins in providing comfort to people. He explains how religion can cause as much anxiety and insecurity as it can alleviate.

Religion is often seen as providing the context for social order and morality. Boyer dismisses that as the explanation of the origin of religion.

Finally, Boyer dismisses views that put religion within the realm of what he calls a cognitive illusion. He dismisses views that would say that the origin of religion is in the fact that people are superstitious and they would believe anything.

Instead of trying to find origins of religious concepts in postulated psychological urges Boyer suggest we should correct those postulations and base it on "the mental machinery activated in acquiring and representing religious concepts" (Boyer 2004).

Boyer presents a series of assumptions he ascribes to the studies discussing the origins of religion. Those assumptions are not traced back to any literature or ethnographic description so it is not clear who is it that makes those assumptions. We can take those assumptions to be Boyer's own mistaken attempts at getting to the origin of religion.

Boyer also concludes that because there is "only a limited catalogue of possible supernatural beliefs" that there can be only a limited set of supernatural beliefs (Boyer 2004). Since in his thinking what counts as supernatural is what he has predefined that it would count as supernatural this is a self fulfilling prophecy. There is only a limited number of phenomena that would fit Boyer's understanding and definition of supernatural. Since Boyer's description and definition of supernatural bears very little on religious behavior itself, and it is fully based on a particular kind of outside interpretation virtually devoid of observation we can understand it properly only if we see it in that context.

The concept of the supernatural is widely used in theology and religious studies and Boyer is not making any attempt to connect or reconcile his usage with that which is commonly accepted. In his important survey article Michel Despland tracks some of the more common ways of using the concept of supernatural and points to other authors, especially Robert Lenoble, whose work can perhaps be seen as something of a precursor to some of the ideas expounded by Boyer and perhaps Scott Atran even though neither of them refers to him

(Despland 2005). From about seventeen century and until present somewhat different dichotomy was created between supernatural and natural. Natural became what can be mechanistically explained by "natural" causes. This is very close what Boyer wants us to believe is the real difference between natural and supernatural. Only since then did a worldview of nature arise as "a rigid, coherent system that works like a clock, does not pursue moral ends, and is indifferent to human aspirations" (Despland 2005).

According to Despland it was Lenoble who wrote how pre-modern people could build dams to redirect the flow of a river, and at the same time believe that the dam can be damaged by a spell and if it fails in will the Virgin who is going to save the village below. Modern people build dams and do not believe those dams can be destroyed by spells and do not count on the help of the Virgin if the dam gets damaged. Nature excludes the miraculous. This is very similar to the general presupposition within which Pascal Boyer conceptualizes what counts as supernatural. It is impossible here to describe in all detail the difference between modern and pre-modern views of nature but this simple example is sufficient for us to understand how limited any qualification given by Boyer is. It might make some sense when we want to describe certain representations of religious behavior today, but if we would at the same time claim that those descriptions and representations are indicative of what should pass as religious behavior in any time and in any place we would encounter practically insurmountable obstacle of

different conceptions of what counts as nature, explanation, etc. Boyer's understanding of what counts as supernatural is deeply determined by a worldview that is not shared by those whose representations he is trying to read out of his own concept. Understanding that supernatural and natural are in necessary opposition developed sometime in and after seventeen century and it cannot be anachronistically read back into religious concepts that predate that distinction.

Ever since the nineteenth century scholars who addressed the subject of religion have identified the supernatural to be one of its main characteristic. For Herbert Spencer religions were characterized by belief in supernatural beings (Despland 2005). More cautious writers like Emile Durkheim recognized that the differentiation of natural and supernatural is of much later date then many other religious ideas and he recognized that for example many Christians were confident that God and nature were one, or that dogma and reason fully agreed (Despland 2005; Durkheim 1995[1912], 38-9; 64).

In general terms Pascal Boyer argues that there are several pitfalls most scholarly studies of religion fall into. There are about ten different corrections he would want us to make when reflecting upon religion (Boyer 2003, 120). Again, Boyer is not actually quoting or in any substantial way referring to any particular theory or study of religion so it is hard to determine do his corrections refer to his own previous misconceptions or something else.

First, Boyer claims that religion is often presented as answering people's metaphysical questions. According to him this is not substantially true. Religion might do something like that sometimes but in most cases religious thoughts actually activated deal with concrete people and events. Different situations and actual occurrences of disease, birth, death, etc. when people deal with actual concrete situations and particular occurrences of certain events invoke religious representations.

A second common misunderstanding is that religions are about transcendent God. For Boyer it is more important to realize that religion is about variety of agents besides God. He talks about ghouls, ghosts, spirits, ancestors, and gods in direct interaction with people (Boyer 2003, 120).

A third mistake, already mentioned above, is of thinking that religion is about relieving anxiety. This is misplaced hope for Boyer because it seems that religion causes at least as much anxiety, if not more, than it relieves. Boyer lists anecdotal preconceptions about vengeful spirits, ancestors who are very hard to please, and aggressive gods.

A fourth misconception common among those who try to theorize religion according to Boyer is that they assume religion was created in one point in time. It has a precise point of origin in time. This cannot be further from truth he maintains, since most religious concepts and behaviors are in fact products of long lasting processes and what constitutes religious behavior today is actually a

conglomerate of all kind of behaviors that originated at different times in human evolutionary history.

A fifth mistake is that of assuming that religion is actually about explaining natural phenomena, like storms and earthquakes. This can perhaps be the case on certain occasions, but predominately religion produces salient mysteries and gives little explanation.

A sixth false assumption is that religion is about explaining mental phenomena like dreams and visions. Boyer claims that there is nothing intrinsically religious in those phenomena in cases when religious interpretation is not given to them. It is their particular religious interpretation that makes those phenomena religious and not something that those phenomena intrinsically carry in them.

A seventh misconception is that religion is about mortality and the salvation of the soul. This again might be the case in certain religion but according to Boyer majority of religions do not deal with those issues. The notion of salvation is particular to a few doctrines and it is virtually unheard of in many other traditions.

An eighth common misunderstanding is that religion creates social cohesion. This is perhaps the most prominent view among many anthropologists, and it is virtually the main reason for immense interest that sociologist show towards describing and accounting for religion in their theories. This is false

according to Boyer because religion can create fissions within social groups as well as cohesion. Cohesion alone cannot be seen as a prevalent consequence that religious behavior has since fission based on religious affiliation occurs at least as frequently.

A ninth mistake is to think that since some religious claims are "irrefutable" people are credulously accepting them. Boyer claims that there are many claims that are basically irrefutable but people do not hold them as they do religious claims. What makes religious claims plausible is not the fact that some of them are irrefutable.

And finally, a tenth misconception that plagues most theories of religious behavior is the claim that religion is irrational and people are superstitious. Boyer claims that belief in imagined agents does not suspend critical thinking among religious people. Ordinary cognitive mechanisms of belief-formation are present in those cases.

Boyer insists over and over that there is only a small number of possible supernatural characters actually in use world over and that a systematic investigation reveals that despite cultural variations those concepts are similar world over (Boyer 2004).

It seems more plausible to hypothesize that since Boyer's definition of what counts as supernatural character and his strong postulation that religious behavior is determined by those characters he is able to find what he is looking

for world over. He is not answering the question what else besides his definition those concept do have in common and why should we treat them as one and the same phenomenon instead of treating them as integral parts of different cultures that have to be understood as complex wholes.

Boyer's definition of what counts as a supernatural character is very important. Primarily he emphasizes what he calls "counterintuitive physical or biological properties that violate general expectations about agents" (Boyer 2004).

Boyer here builds on presupposition that constitutes basis for evolutionary psychology and that is widely accepted in its various forms by cognitive scientists. This is the claim that human mind is best understood not as a general purpose problem solving calculator but instead as a combination of many specific purpose oriented tools. Great metaphor used by many cognitive scientists and virtually all evolutionary psychologists is that of a Swiss Army knife. Several task specific tools neatly organized in one complex whole that is than capable of dealing with many different tasks (Barkow et al. 1992; Hirschfeld and Gelman 1994).

Mind modules and domain specificity does not correspond necessarily with different regions of the brain studied by neuroscience. Sometimes they can correspond but it is not required. There can be several distinct regions of the brain that are involved in face recognition, but evolutionary psychologists might call face recognition a module.

It is almost as if evolutionary psychology is doing meta-neuroscience where realities described by them simply cannot be described neurologically yet, and obviously some of them might never be described in such way.

For Boyer mind modules and domain specificity are not merely modeling tools. He speaks of them with such conviction as if they are beyond doubt. For Boyer it is clear that people world over represent the world by using several simple categories that curiously correspond with Aristotle's categories. Those categories are person, a living thing, an object, and a human-made object (tool). Human beings have, according to this theory, whole set of preconceived notions that come naturally as soon as we classify any given experience in one of those categories. If we classify something as a living thing we know that it has certain properties that we ascribe to living things. The same is true for all of those categories. Some categories are loosened sometimes and we give some entities properties that violate their respective categories. These are supernatural or religious concepts then. In other words, sprits are special kinds of persons that can do things that ordinary persons cannot do. According to this theory one reason why this happens is that it is easier to remember entities whose properties mildly violate our intuitive expectations. This is what Boyer calls minimally counterintuitive concepts (Boyer 2001).

Intuitive categories and reasoning that includes them constitute different "folk sciences." Reasoning about human beings can be called folk psychology,

about objects folk physics, about living things folk biology. What is important to note is that authors like Boyer accept those to be universal human characteristics and that cultural differences play only a minor role in those types of reflections. What human beings "expect" from an object is more or less the same world over, and this is proof enough that all speculation about folk physics and mental modules involved in it is in fact describing something substantial and something that is supposed to contribute genuinely to our better understanding of religion.

In a brief introductory account of the field of domain specificity Hirschfeld and Gelman find its roots in the theory of natural language grammar by Noam Chomsky (Hirschfeld and Gelman 1994, 5). They write that besides the theory of natural language other fields of inquiry have converged and gave rise to the problem of domain specificity. Modular approaches to knowledge, constrains on induction, philosophical insights into scientific theories, learning and problem solving, and finally a comparative perspective from animal, evolutionary, and cross-cultural studies (Hirschfeld and Gelman 1994, 5).

In overly simplified terms but still sufficient for this discussion, Chomsky's notion that the language faculty represents a unique mental organ is the single most important feature off all domain specific theoretical thinking. His studies and many others that followed are widely accepted and present the main influence on virtually all writing on domain specificity ever since.

Chomsky's theory despite all of its success in explaining certain phenomena and in fueling a rich and fruitful research remains somewhat controversial but this is beyond the scope of present study. Still, compelling evidence is presented that supports the case that human mind has a modular structure and that one of those modules is the language faculty. Other such modules could be the visual system, a module for facial recognition, etc. (Hirschfeld and Gelman 1994, 8).

What Boyer argues for in most of his texts is that there is no "religion module" that has to be postulate in order to 'explain' what he defines religious phenomena and behavior are. It is not clear in Boyer's writings is he actually in dialogue with somebody who did postulate such a module, or is he just presenting his hypothesis in this form. It should be emphasized again that modules being discussed here are not necessarily yet corresponding with what a neuroscientist interested in describing functions of different regions in the human brain would call a module. Modules here are actually not more than hypothetical devices used in modeling human behavior. By emphasizing this difference we are not trying to undermine validity of such procedure. Such modeling is widely accepted scientific procedure and it has important consequences on our understanding of complex phenomena. Still, it is important to differentiate models from descriptions in this case. Scientific theories are very much domain specific kind of knowledge. Hirschfeld and Gelman argue that it is considered obvious by those

who study scientific theories that, for example, biological theories are ill suited for explaining physical phenomena, and vice versa. Boyer wants us to accept is that religious behavior can be understood without postulating any religion specific domain. At the same time, if there would be any such domain, theory that would be designed from a point of view that would exclude it would be by necessity be ill suited for describing knowledge that belongs to that domain.

Based on some applications of modularity to the problems of vision and hearing in 1983 philosopher Jerry Fodor gave a more general account of possible implications of modularity to a much wider set of problems including color perception, analysis of shape, analysis of three-dimensional spatial relations, recognition of faces and recognition of voices (Fodor 1983; Hirschfeld and Gelman 1994, 9).

The notion of module and the notion of domain vary considerably from researcher to researcher. There seems to be wide variety of ways those notions are used by authors who find them important for their theories.

Another important insight that supports domain specificity theory is that of seeming constraints with which human mind operates. Human experience, it is argued, is so "pluripotent" that it remains to be explained why is it that human beings concentrate on certain phenomena and not on others. Without constraining possible meanings it would be virtually impossible to learn anything. If it is presupposed that there are restrictions on the kinds of knowledge structures the

learner typically uses those restrictions would account for constrains on learning that we can observe (Hirschfeld and Gelman 1994, 11).

Yet another important influence on domain specificity theory is that of scientific theories themselves. Since it is recognized in philosophy of science that theories developed for different domains of knowledge cannot successfully account for phenomena that they repeatedly describe it seemed as if our perception is in some sense divided into different domains. When talking about mental states scientists presume that gravity plays no role. Talking about growth and development in biology completely different and it presumes different mechanisms than anything in cosmology.

That does not mean that all of our knowledge comes in forms of scientific theories but it does imply that scientific theories have something in common with all other ways of describing the world. "Commonsense or folk theory in not the same as a scientific theory" (Hirschfeld and Gelman 1994, 11). At the same time argument is made that links ordinary knowledge into commonsense theories. This is what for example "folk biology" or "folk physics" or "folk psychology" amounts to. Different folk theories can be traced back to the way how human mind has evolved to perceive the world.

Finally, different contributions coming from variety of comparative studies have contributed to the development of the domain specificity as a field of inquiry. Among them most important are animal studies and cross-cultural

studies. Animal studies have revealed that many animals that learn do so with certain constraints. Pairing of sound and shock, or flash of light and shock is possible in rats but pairing of taste and shock is not. At the same time pairing of taste and nausea is possible while sound and light cannot be associated with nausea (Hirschfeld and Gelman 1994, 18). Parallels were immediately drawn to human learning and views of domain specific learning were supported by findings from comparative animal studies.

Cross cultural studies on several important issues such as color terms, folk biology and symbolic representations constitute the main portion of comparative studies that gave rise to domain specific theories in general and to cognitive theories of religion in particular.

Example of differences that can be observed when it comes to how different languages discriminate between colors is well known. Several studies have confirmed that despite linguistic differences color perception is not that much different among different populations. It was shown that boundaries between colors can be different but focal points at which colors are identified do not vary significantly across cultures. That gave rise to a domain specific approach to the problem and Dan Sperber has proposed that just like with the case of kinship terms there has to be domain specific devices that cannot be duplicated in other domains (Hirschfeld and Gelman 1994, 19).

Folk biology is another important example of cross-cultural studies contribution to the development of domain specificity theories. It was originally assumed that categorization of living things varies widely across different cultures. Later on it was shown that there is seemingly amazing consistency in how people in different cultures classify the living world. That finding is even more exceptional when we realize that people in different geographical regions encounter very different fauna and that in many cases much of what they encounter is not economically relevant to their survival. It has been argued by Scott Atran and others that this phenomenon should be explained in terms of domain specificity (Atran 2002; Hirschfeld and Gelman 1994, 20). Atran posits a presumption of underlying essence that applies to all living beings across cultures and that there is a strict taxonomic hierarchy of all living things. All animals breed true to their kind and have specific place in relation to other animals. Regardless and in spite all other cultural differences folk taxonomies are supposedly very similar world over.

Another important area of interest for the development of domain specificity theories is cross-cultural study of symbolic representations. Above discussed work of Dan Sperber is among the most influential examples of domain specific thinking about symbolism. As Sperber has pointed out usual anthropological thinking about symbolical representations of the world are that symbolism is a kind of language. Symbolic language is understood as employing

metaphorical and metonymical reference of the world. According to Sperber's criticism of those views this is not what symbolism does. Instead Sperber has argued that symbols focus attention and evoke representations (Sperber 1975; Hirschfeld and Gelman 1994, 20). Effectively symbols are meta-representations of beliefs that cannot be interpreted without losing its original representation. Symbols cannot be decoded into ordinary language and still convey everything that symbols can convey. This differentiation between symbols and ordinary language can be in turn explained by domain specificity. This is where Boyer makes his contribution to the domain specific thinking. For Boyer, as stated above, there is no religion specific domain but religious thinking and behavior can be explained by evoking domain specific theories and pointing out which domains do contribute to what he term is religious behavior.

Domain specificity is one of the cornerstones of cognitive science of religion. Still, it appears that there is no general consensus on what exactly domain specificity is and even more importantly there is no clear understanding of how do postulated domains correspond to the realities of neuroscience like the brain.

Hirschfeld and Gelman give the following definition of a domain:

> A domain is a body of knowledge that identifies and interprets a class of phenomena assumed to share certain properties and to be of a distinct and general type. A domain functions as a stable response to a set of recurring

> and complex problems faced by the organism. This response involves difficult-to-access perceptual, encoding, retrieval, and inferential processes dedicated to that solution (Hirschfeld and Gelman 1994, 21).

We should add to that definition that domains are hypothetical realities useful for construction of maps and models that can hopefully shed some light on a complex phenomenon of human mind. Hirschfeld and Gelman go further and explain that domains are seen as useful guides to partitioning the world. Our ability and propensity to classify things into categories that can include entities that are in many ways dissimilar to each other is presumed to be in major part due to an evolved mechanism that constitutes and is constituted by our mind. Living beings are categorized together and our ability to differentiate between living beings and everything else is due to the domain that is responsible for folk biology. Knowledge about living things is focused in one domain and not general in nature.

Domains are seen as explanatory frames within which certain rules apply even though some properties of some of the members of a domain are lacking or are hard to recognize. A person in a coma is still a person even though she or he can lack many of the properties normally attached to a person.

Domains serve as functional adaptations that contain knowledge widely shared and targeting recurring problems in organism's environment. Domains are dedicated mechanisms that are not necessarily accessible to the consciousness.

Hirschfeld and Gelman list several examples of what domains are not. According to them domains are not semantic fields, schemata and scripts, prototypes, and analogies (Hirschfeld and Gelman 1994, 23). Domains differ from semantic fields by not being dependant on language as seen in the examples of color differentiation. Domains are different from schemata because domains include expectations that scripts do not. Prototypes cannot fully account for domains because several domains can be involved in a prototype structure. Analogies are inadequate for capturing domains since analogies are used in order to transfer and integrate knowledge across domains but they are not what can account for domains themselves (Hirschfeld and Gelman 1994, 23).

Going back to Boyer and his concept of the supernatural we have to ask what is it that is being described. Above discussion of domain specificity is of exceptional importance for Boyer's concept of the supernatural. It is based on the theory of domain specificity that Boyer claims that there is but a short list of possible types of those concepts and that all of them, in any religion at any time, have very similar, if not identical, structure. As stated above, supernatural concepts are such concepts where some of the properties normally assigned to that domain get changed so that the concept still belongs to that domain, but it has properties that other concepts in that domain lack. It minimally violates expected properties for its kind. A tree that can walk, or a stone that can talk, and of course person that does not die, etc. Domain specific expectations are supposedly

universal and shared among all human beings presumably because they belong far back in evolutionary history to the time in which we all share common lineage and common adaptations. Cultural differences observed, reported, and studied by anthropologists and ethnographers today are superficial variations based on underlying foundation of shared mental capacities. All of human mental capacities relevant for religious behavior and thought have developed in relatively short time and are comparatively unimportant in evolutionary scale. Boyer himself in his writings makes only passing remarks on evolutionary theory to which he seems to subscribe nominally but which takes back seat in his theoretical enterprise to psychological theories and especially to the above discussed domain specificity theories. Within the domain specificity theory religious concepts can serve as a test case for making a claim that domains do exist and as models are helpful tools in explaining a whole range of phenomena including religious thought and behavior. At the same time, within those attempts, religious phenomena get characterized primarily by using domain specificity theory. This creates a circular understanding according to which religious behavior is a proof of domain specificity in human mind and at the same time domain specificity can "explain" certain aspects of religious thought and behavior.

If we would assume that Boyer's arguments are actually directed against some particular theories of religion it would seem that in several of his published

work he chastises those theorists of religion for misconstruing of what is it that they study. Boyer, by listing what he calls "Do's and don'ts in the study of religion" practically defines what counts as religious behavior and thought (Boyer 2003, 120). Not surprisingly all theologizing and philosophizing of religion is completely left out. Any "insider" attempt at explication of what is religious behavior is also completely left out. Based on Boyer's model some went so far as to claim that theological reflection is not actually religious behavior (Slone 2004). The bizarre conclusion is reached there that religious specialists are in fact not religious. It is supposed that theorists of religion know better than religious specialists what is proper part of a certain religious tradition and what should be left out. At the same time arbitrary and anecdotal descriptions of religious behaviors are used and presented as if those are indicative and even universal religious categories. Boyer's theories can be successful in explaining what he thinks religion is, but that is not sufficient account of what is customarily called religion.

Boyer goes further by assuming that there has to be a reason for religious ideas to perpetuate and finds it in human memory. He claims that religious concepts are more memorable because they minimally violate some of the intuitive expectations of their domain. By violating those expectations those concepts became extraordinary and therefore more memorable. If they would violate their domains in too many ways they would become confusing and

therefore even more forgettable then just ordinary concepts that do not violate some of the main characteristics that constitute their domain. Human minds are susceptible to concepts that somewhat violate domain expectations. Religious behavior is a by-product of evolved mechanisms, and in this case the evolved mechanism is domain specificity, that has developed to deal with different problem facing survival and adaptation. Religious concepts piggyback on those mechanisms and create all the baroque spandrels of religious behavior and thought. Human minds do not have any specifically religious mode of operation, they have evolved capacity to recognize persons, artifacts, animals, etc., and those capacities are so entrenched that minimal violations produce salient and memorable concepts (Boyer 2004).

Boyer supplements this by explaining that in all human cultures much attention is focused on the interaction with superhuman agents and very little on their characteristics (Boyer 2004). It is not clear whose point is this claim supposedly proving. Who is arguing that characteristics of superhuman agents are the focus of religion? Is it sociologists of religion, psychologists, anthropologists, or is it theologians? It becomes clear that Boyer is dealing with his own unfounded preconceptions and he is vigorously trying to dispel them.

Boyer is certain that religious social institutions and moral rules do not depend on what he defined as religious concepts. In other words what is traditionally understood as a religious institution would be there and function

without any supernatural concepts. Supernatural concepts are a by-product of our evolved mental capacities, but those institutions that are often understood as religious, like churches etc, are not related necessarily to supernatural concepts. Same case applies to moral rules. Morality that is found within context of religious behavior would be there and would function without any supernatural concepts. Therefore, morality is completely separate phenomenon from religion and religious teachings have no effect on people's moral intuitions (Boyer 2004).

Religious teachings just "frame moral intuitions in terms that make them easier to think about" (Boyer 2004). When we do something that we "intuit" as being wrong if we were exposed to supernatural agents we are going to have expectation that a personalized agent disproves of our action (Boyer 2004). Instead of thinking about supernatural agents as moral legislators or moral exemplars human beings conceive of them as being interested parties and this is what makes supernatural concepts salient according to Boyer. Supernatural or religious concepts are invoked when explaining all kinds of misfortune could be a byproduct of a general tendency to see all significant occurrences in terms of social interaction (Boyer 2004).

Boyer uses examples of witchcraft and "evil eye" in order to illustrate his point that when some kind of explanation has to be offered then people supposedly prefer explanations that point to agents rather than explanations that would show how they did it. In other words if somebody gets ill then witchcraft or

"evil eye" can be used as explanations and how does witchcraft work or how is "evil eye" curse so effective does not have to be part of that explanation. Even in cases when there are no actual people who get accused of being witches still it can be argued, Boyer wants us to believe, that witchcraft can be used as an explanation of illness or any other misfortune. Supernatural agents, and particularly their feelings and intentions, are the focus of any religious explanation. Following those theorists who assume religion is a social phenomenon Boyer curiously states that witchcraft is not an instance of religion, but since it does use supernatural concepts, or concepts that are minimally violating their respective conceptual domains, then witches and witchcraft can be used as an instance of human behavior that is not different from religion. Human intuitions for social exchange are, according to Boyer, part of our evolved mental machinery that is responsible for our social behavior, are the real locus of evolutionary pressures and adaptations. Those intuitions for social exchange would function without supernatural concepts, and presumably they did just that long ago in our evolutionary history, but today supernatural concepts free-ride on them and use them in order to construct religious systems. Intuitions for social exchange could include a whole range of behaviors from representations of other people's beliefs and intentions, the extent to which they can be trusted, extend to which other people find us trustworthy, how to detect cheaters, to how to build alliances (Boyer 2004).

For Boyer religion consists of by-products of normal mental functioning. What that practically means is that we can examine any presumably religious behavior and those can be differentiate from all other behavior by their use of supernatural concepts, and determine on which evolved mechanisms it rests. In this case there is no religious behavior that we can point to that would be the locus of evolutionary pressures. There is no adaptive value in any religious behavior. It is clear that Boyer is trying to explain a lot from very little but it is not completely clear what exactly "it" that he is explaining is. He is repeating over and over that religion is rather natural. Boyer writes that "religious thought activates cognitive capacities that developed to handle non-religious information" (Boyer 2004).

Ritual behavior is for Boyer related to obsessions and to obsessive-compulsive disorder that results from evolutionary pressures that produced behaviors that can be protective in case of contagion by unseen substances. Much of human behavior related to death and dying is in fact a product of the fear of contagion. Concentration on purity and on pollution and ritual practices that differentiate and determine human behavior in different instances are case in point in Boyer's mind that proves that most of ritual behavior is in fact related back to avoidance of contact with pollutants and pathogens and cleansing of those once contact is established.

Boyer wrongly assumes that in order for something to be considered a product of evolutionary processes it has to be in some sense beneficial for the

organism. He states that insufficient evidence is the reason why religion cannot be considered an evolutionary adaptation.

Religion cannot be understood as some sort of suspension of reason. Religion is in a way very similar to our everyday reasoning where we do not employ all the faculties used for scientific reasoning. Religion is not devoid of reason or deferral of reason as it is sometimes argued. Religion is based fully on evolved cognitive mechanisms that are evolutionary adaptations. Instead of suspension of reason what happens when supernatural concepts are invoked in behaviors or representations is that those evolved mechanisms get used for something they can do but did not evolve for. Religion, therefore, does not constitute some separate realm of cognition. On the contrary religious behavior and reasoning is fully based on same principles of reasoning and cognitive capacities that all other reasoning is based on. This of course is true for any other type of reasoning. Boyer is vigorously arguing against any position that would give religion some sort of separate or special function or cognitive capability. Reason why religion is so ubiquitous and why religion cannot be dispelled by argument, according to Boyer, is that religion is based on the same principles that all other reasoning is based on.

This whole argument makes minimal sense because it is designed to dismiss theories that do not exist and to show and explain phenomena that are defined and presented only if we accept the argument first.

Boyer follows Barrett and Kiel in their dismissal of theologies, explicit dogmas and scholarly interpretations of religion (Boyer 2003, 119; Barrett and Kiel 1996). In their study Barrett and Kiel had set out to show that people use more than one concept of god in their everyday reasoning. Main claim of their article is very simple: when asked to theologize college students use doctrinal formulae that conceptualize god as a non-anthropomorphic entity. When asked to reason about god's action those same subjects use anthropomorphic concepts in order to represent god. This fact supposedly shows that subjects of the study use concept of god inconsistently and that in turn shows that doctrinal pronouncements do not diverge from people's actual beliefs.

This study is problematic in many ways. Most importantly we should be aware that theological sources in the study were selected for their properties by researchers and not collected in any way that would give us something that would be a representative sample. Barrett and Kiel used K. Kohler's 1918 book *Jewish Theology*, G. D. Smith's 1955 *The Teaching of the Catholic Church*, G. J. Spykman's 1992 *Reformational Theology*, and finally M. Z. Ullah's 1984 book *Islamic Concept of God.* Those books are as good as any other source of materials on what "prescribed" beliefs of Jewish, Christian, and Muslim theologians are but since those books were selected by researchers and not chosen by some random process or on the basis of wider review of the field findings of the study cannot be taken for granted. What Boyer, and several other writers in the cognitive science

of religion including above mentioned Slone, are trying to substantiate is not present in Barrett and Kiel's study. Anthropomorphism of god concepts is not absent from theological literature of above mentioned religions. Central figure of Christianity and one of the main claims of Christianity is that Jesus Christ was fully human being. Barrett and Kiel's argument cannot account for that fact and it does not take this into consideration. They lament lack of clarity in what they call the canonical texts of Western religions. They seem not to understand that theological reflections upon religious behaviors and beliefs are indeed a legitimate part of those religious traditions in question. That fact does not exclude in any way many other constitutive parts of those religious traditions including ritual practice, beliefs, social institutions, etc. All those constitutive elements of religious traditions cannot be described and included in a theory that considers as religious only that which includes supernatural concepts. Barrett and Kiel lament and regret what they call second level metaphorical texts on god. They talk about metaphors as if what is being conveyed through metaphor can be explained away in non-metaphorical terms.

Presence of anthropogenic and anthropomorphic components in religious concepts of god is well documented and it is part and parcel of most modern theologies. Some of those theologies maybe refrain from accepting those anthropomorphizations as the main constitutive element of the concept of god, but those theologies are balanced out by theologies that do build their concepts of god

from anthropomorphic images. As much as Barrett and Kiel would want biblical sources to be the only constitutive element of Christian theology, that theology contains at least equal amounts of every major philosophical tradition within which Christianity found its expression.

Supernatural and its cognomens are as good as any other similar concept if we want to differentiate between religious behavior and all other types of behavior human beings might engage in. The real question is why and on what basis do we want to differentiate that. It seems as if Boyer's main argument is that we do not have any reason to see religious behavior as in any way different from any other behavior human beings engage in because it is based on same cognitive principles, but at the same time and for some unclear reason Boyer does differentiate religious behaviors from all other behaviors. His criterion for that differentiation is category of the supernatural. Boyer takes too much for granted and is very quick in specifying what beliefs other people have and what difference these beliefs make. Belief has proven itself time over to be a very elusive phenomenon. What exactly do we mean when we say that somebody believes something, or in something? Philosophical and theological arguments abound and we have to have some clarity here before we incorporate those disagreements wholesale into any attempt to theorize cultural evolution in general and evolutionary account of religious ideas and behaviors in particular.

2.4 Doctrinal and Imagistic Mode of Religiosity—Harvey Whitehouse

Next major contribution to the present state of the cognitive science of religion that we are going to consider is that of Harvey Whitehouse. In several major publications including his *Inside the Cult* and *Arguments and Icons* Whitehouse has developed what he termed "modes of religiosity" theory (Whitehouse 1995; 2000, 2002, 2004a). He sees his theory as finally explaining a something many theorists before him have observed. Namely, he claims that all of religious expressions can be best thought of as falling almost neatly into two distinct groups: the doctrinal mode and the imagistic mode. Whitehouse further elaborates by saying that Max Weber's distinction between routinized and charismatic forms of religiosity also falls into the same pattern. Whitehouse also mentions Ruth Benedict and her contrast between Apollonian and Dionysian practices and Ernest Gellner's distinction between literate forms of Islam in urban centers and quite distinct image-based practices of rural tribesmen (Whitehouse 2002, 294). He also talks about Jack Goody's very general distinction between literate and non-literate religions, and Victor Turner's differentiation between fertility rituals and political rituals as a contrasting features between what he called "communitas" and "structure." Furthermore, Whitehouse sees the same pattern in authors like I. M. Lewis and his distinction between central cults and peripheral cults, Richard Werbner's contrast between regional cults and cults of

the little community, and Fredrik Barth's distinction between guru regimes and conjurer regimes (Whitehouse 2002, 294).

What all those approaches have in common is that they distinguish between two opposing and complementary forms of religious practices. According to Whitehouse some religious practices are very intense emotionally and those are performed rarely. Those practices cause participants to have lasting sense of revelation and powerful bonds between small groups of participants (Whitehouse 2002, 294).

In contrast to those practices there is another form of religions behavior that Whitehouse terms doctrinal. Those practices are much less stimulating and they tend to be highly repetitive. Those practices include transmission of complex theology and doctrine (Whitehouse 2002, 294).

Whitehouse points to a major shortcoming of all theories that have recognized this dichotomy up until his own theory. All previous theories fail in two aspects; first they are not comprehensive enough and second is that none of the previous theories explained why do we have those two modes of religious behavior.

Whitehouse proposes to account for both of those shortcomings by distinguishing between doctrinal and imagistic modes of religiosity and he is doing that by pointing to the underlying cognitive mechanisms that constrain if not actually produce those modes of religiosity.

The main restrictive aspect of those underlying cognitive mechanisms is memory. For any religious mode to be successful it has to be memorized and it has to be retained long enough for it to be passed on to the next generation. Whitehouse's insistence on memory as a defining and determining factor in his description of religious behaviors does take him in a particular direction. Instead of setting up a theory of religion that would open itself for possibility of accounting for social institutions and practices this theory is firmly based on what one may call a "belief" theory of religion. In simple terms: religions are about beliefs.

Whitehouse presents us with a view of memory that divides it in the first place into implicit memory and explicit memory. Explicit memory is further divided into short-term memory and long-term memory. Long-term memory is further divided into semantic memory and episodic memory.

Implicit memory deals with things we know without being aware of knowing. Explicit memory deals with things we know on conscious level. Short-term memory recalls information that was acquired in last few seconds while long-term memory enables us to recall information for hours and even the lifetime (Whitehouse 2002, 296).

Semantic memory as a sub-division of long-term memory deals with general knowledge about the world. In most cases we cannot locate the precise

source of that information. Episodic memory consists of specific events in our life (Whitehouse 2002, 296).

Whitehouse proposes that we understand the religious content of semantic memory as a product of frequent repetitions of religious teachings. Regardless of the content of those teachings and of what is it that makes religious teachings and without any account of their generation and origin Whitehouse proceeds with his theorizing by introducing the category of "repetitive sermonizing" (Whitehouse 2002, 297).

Frequent repetition can reduce motivation and there are a number of "mechanisms" devised in order to avoid dissent in such cases. Whitehouse enumerates among them supernatural sanctions including the possibility of eternal damnation or salvation. In order to be appealing such highly routineized religious behaviors develop their rhetoric and logically integrated theology conceived in a way that cannot be falsified and illustrated by narratives that can be easily related to personal experience (Whitehouse 2002, 298).

Whitehouse further postulates that in religious traditions with dominant doctrinary mode religious leaders who base their authority on oratory skills will be established. He is not differentiating between various forms of religious leadership like for example Weber does.

The main point to be raised here is that at the core of Whitehouse's proposal is his claim that he can account for some phenomenon that many

researchers have supposedly observed (in fact it is a theoretical division that some theorist have introduced) by explaining that it rests on our (evolved) cognitive mechanisms. If that is what he is claiming it seems as if all of our knowledge should be divided in that way. There is no need to study religion in order to show that we have long and short term memory and that we remember things better if we repeat them over and over. In general terms of psychological research into memory this can be, and most probably is, a very valuable research, but in terms of expanding our understanding of religious behaviors this seems as a relatively trivial statement. All forms of culture should then be susceptible to the same process of repetition if we are to preserve any kind of knowledge.

Another important point that Whitehouse wants to prove with this is that he wants to account for accurate transmission of religious teachings and practices over periods of time without what he calls mutation and extinction. It seems obvious to us that even superficial knowledge of history of religions shows enormous amount of mutation in religious teachings and practices. Whitehouse's studies described in his *Arguments and Icons* and *Inside the Cult* are not long terms studies of history and cannot really be representative of mutations that happen in religious teachings in the course of centuries. In order to show how mutations are prevented by constant repetition and "sermonizing" of religious practices and beliefs Whitehouse has proven too much. Amount of mutation, or in other words, all possible kinds of changes that happen in the process of

transmission of religious behavior is much more significant than he would allow. Many adherents of different religious traditions do not have any idea of the main ideas that they themselves would consider central in their respective traditions. Anecdotal accounts show for example that many, perhaps most, people who consider themselves Christian are unable to accurately reproduce basic teachings like for example the ten commandments.

Most importantly, Whitehouse's proposed view does not answer clearly the question of why do people "sermonize" religious knowledge. Why is it that they want it transmitted faithfully from generation to generation? Who establishes those doctrines and narratives that get transmitted and why? Why would anybody want to conceive, and then in turn teach, and also learn and transmit any religious teaching, doctrine, or behavior? Those questions would tackle the problem of the origin of religious beliefs and practices that remain hidden in Whitehouse's theory.

Whitehouse enumerates his theory of modes of religiosity by presenting a case for doctrinal and imagistic mode separately.

In the doctrinal mode important role is played by religious leaders who ensure the correct transmission of religious teachings. Semantic memory, or memory that enables us to retrieve general knowledge about the world, is reinforced by the presence of religious leaders. Where religious knowledge is transmitted through the spoken word those who are capable of successful use of

words will raise above the rest and present themselves as leaders of their respective communities. Whitehouse equates all forms of religious leadership and presents the very concept of religious leadership as something that is self-evident. Reason for the existence of religious leaders is that there is a need to protect and check the orthodox religious beliefs from possible deviations or mutations.

Frequent repetition besides affecting explicit memory has a substantial impact on implicit memory. Implicit memory enables us to perform tasks like riding a bicycle or other similar actions. Repetition of religious rituals on a daily or weekly basis and their routinization enables us to perform them automatically without much input from explicit memory. Here again Whitehouse offers anecdotal evidence of people going "through the motions" of church services without being "aware" of all of their actions. Liturgical rituals do not trigger much explicit knowledge according to Whitehouse (2002, 300).

This routinization and automatic performance of religious rituals reduces people's ability to reflect on the meaning of what is it that they are doing. Effectively implicit memory of religious rituals prevents people from questioning explicit knowledge of those actions. Whitehouse claims that this situation facilitates acceptance of what he calls official versions of significance of such religious rituals. Exegetical innovation is still possible but it is effectively reduced.

Here again Whitehouse does not give any substantial mechanism of how is it that "authoritative" versions of interpretations of meaning of religious rituals arise. It is as if some other group of people innovates and another group of people are in fact just consumers of those innovations.

Whitehouse even goes further and speculates that innovation is accepted if it can be shown to originate from authoritative sources and is accepted by loyal followers.

Because of the utilization of semantic memory for religious teachings religious communities become in some sense anonymous. Supposedly regardless of how is actually present at a religious service and what actually happens during that service the impact on an individual participant is more or less the same since the service itself is usually the same. Overall doctrinal mode of religiosity is conducive for transmission and it lasts in time precisely because of the reinforcement between its different features like repetitiveness and its dependence on religious leaders.

Imagistic mode of religiosity depends on rarely enacted and highly arousing practices. Whitehouse does not give actual examples but he does list what he calls traumatic and violent initiation rituals, ecstatic practice, possessions, altered states of consciousness, and "extreme" rituals involving homicide or cannibalism (Whitehouse 2002, 303). Actual descriptions of those practices can be found in anthropological literature according to Whitehouse.

Main hypothesis here is that "a combination of episodic distinctiveness, emotionality, and consequentiality …together result in lasting autobiographical memories" (Whitehouse 2002, 304).

According to Whitehouse imagistic mode of religiosity is based on episodic memory that in turn "triggers" what he termed "spontaneous exegetical reflection" (Whitehouse 2002, 305).

"Spontaneous exegetical reflection" (or SER in Whitehouse) is suppressed by religious leaders in the doctrinal mode of religiosity and it runs rampant in the imagistic mode.

Rituals and other religious behavior are reflected upon and because of the lack of possible frames of reference strong and lasting experiences get interpreted and elaborated upon spontaneously by participants.

Curious difference between the imagistic mode and its spontaneous exegetical reflection and the doctrinal mode and its readymade doctrines propagated by religious leaders is accounted for by Whitehouse through invoking Dan Sperber's work on symbolism. Whitehouse claims that: "all rituals have the potential to trigger SER (spontaneous exegetical reflection) by virtue of being 'symbolically motivated actions.'" (Whitehouse 2002, 305 note 15 and Sperber 1975). Whitehouse does not consider the possibility of spontaneous exegetical reflection in the doctrinal mode because supposedly there are no symbolically motivated actions there. Language of sermons and other means of verbally

passing religious content are full of symbolical language and those occasions probably give rise to the same amount of exegetical speculation that any other religious occasion gives. Here again we find a major shortcoming of Whitehouse's arbitrary distinctions.

Theologizing is as symbolical as any other religious activity is and it seems as if Whitehouse does not recognize that and he is not giving any hypothesis about what would be the proper content of theologizing if it is not symbolical.

Spontaneous exegetical reflections supposedly inhibit leadership. Whitehouse argues for this position by referring to an experiment performed by Barrett and himself in which they asked students to perform meaningless actions and while students were performing those they were reading to them arbitrary "doctrines" that are supposedly representing the meaning of those actions. The outcome of this was that students could recall the actions they were asked to perform but were mainly unable to recall meaningless explanations given for those actions.

Value of this kind of experiment aside it is important to realize that Whitehouse starts with the claim that religious behaviors are somewhat arbitrary and the only defining and determining feature of religious behaviors is the type of memory needed to perform those tasks.

As stated above, if memory is the only thing that determines religious behavior and effectively establishes what Whitehouse calls modes of religiosity then all other human behavior should be accounted for by those same mechanisms. There is nothing in Whitehouse's that would justify any separate study of religion because what is being studied here is the impact of different types of memory on human knowledge in general.

3. Socially and Ecologically Adaptive Theories of Religion

Since many authors agree that religious behaviors seem to widely spread, if not ubiquitous, both in present day and, as far as we can tell, throughout human evolutionary history. Because of that, and perhaps some other reasons, number of theoretical approaches that approach religion from methodological perspectives of ethology, sociobiology, evolutionary anthropology and others, have concluded that there could be some function that religious behaviors play that make those behaviors adaptive. Edward O. Wilson devoted a whole chapter of his 1978 book *On Human Nature* to religion. In it Wilson clearly outlined his view that religious behaviors can have a profound effect on survival and reproduction and he lists historical examples to support his view. Religious traditions are themselves locked in an evolutionary process that blindly favors those that are able to provide adaptive advantages to their practitioners. He sees religion as something undeniably unique to humans as a species and he recognizes how "the principles of behavioral evolution drawn from existing population biology and experimental studies on lower animals are unlikely to apply in any direct fashion to religion" (Wilson 1978, 175). It is clear that for E. O. Wilson religion plays a key role in understanding human beings. At the same time Wilson claims that it is hidden from our intuitive understanding just how is it that religion does that. Wilson proposed that religion can be theorized about and studied through methods of evolutionary biology on three different levels. First level would be that of

religious institutions and Wilson called it "ecclesiastical" level. On that level selection is cultural since information about those institutions is transmitted culturally. Another level at which religion is adaptive is ecological. In their interaction with environment people make decisions motivated by their religious views and those decisions have a direct impact on the way we reorganize our environments, and in turn how those reorganized environments affect us. That in turn affects human evolution in the third way on the genetic level. Gene frequencies change when cultural evolution affects population fluctuations (Wilson 1978, 177). Important aspect of this theoretical approach is that some biological constraints exist which determine how religious behaviors are going to be actualized. There are several ways in which this approach to religious behaviors developed and those are going be discussed in what follows.

3.1 Religion as a Case for Group Selection—David Sloan Wilson

The concept of altruism is well studied in evolutionary biology and theories produced in order to explain it are well established. E. O. Wilson defined altruism in his *Sociobiology: The New Synthesis* (Wilson 1975, 578) as "self-destructive behavior performed for the benefit of others." In the same book he identified altruism as a central theoretical problem of sociobiology because it seems that altruism so defined reduces personal fitness and therefore it should

have not evolved by natural selection (Wilson 1975, 3; Rosenberg 1992, 19). Besides personal fitness biological altruism is understood in terms of reproductive fitness as well. Even Charles Darwin in his *The Descent of Man, and Selection in Relation to Sex* (1981[1871], 82-4) recognized clearly that cooperation necessary for sociality plays a substantial role among human communities. One early answer to the "problem" of sociality was inter-group competition, or group selection. Instead of an individual within a population a group within a population of groups was seen as a locus of evolutionary pressures. During the 1960's a consensus was achieved that the group selection hypothesis cannot hold. It was the work of primarily G. C. Williams and J. Maynard Smith that convinced biologists to abandon imprecise "good of the species" type of arguments (Rosenberg 1992, 22). The idea that altruism might be selected because of relatedness between those who are altruistic and those who benefit from altruism received strong support. Latter on based on the work of Robert Trivers this idea was supplanted with the idea of reciprocal altruism (Trivers 1971). That idea was refined further by Richard D. Alexander in his *Biology of Moral Systems* through his concept of indirect reciprocal altruism.

Theologians and religionists interested in religion-and-science used examples of altruism for various theories as well. However, concept of group selection is seen as marginal, if not discarded, by many biologists and it is rarely introduced or used in biological theories of religion. Establishing and clarifying

concept of group selection and introducing it into the field of religious studies is precisely what David Sloan Wilson is attempting in his book *Darwin's Cathedral.*

What follows is an attempt at presentation of some of the ideas from the Wilson's book and other ideas relevant for understanding of the concept of group selection. For doing that we shall present functionalism in religious studies on the case of E. Durkheim and ideas of R. Stark, sociologist of religion, that were very influential in Wilson's book. In conclusion we shall attempt a constructive criticism of Wilson's *Darwin's Cathedral.*

Group selection as a theoretical concept within evolutionary biology attempts to point to the fact that evolution by natural selection, meaning evolution through blind variation and selective retention (Campbell 1974), happens on variety of levels, one of those levels being the level on which group selection operates.

In Wilson's words:

> To explain group-level adaptations per se, we must invoke a process of natural selection at the appropriate level—namely, that of many groups that vary in their genetic composition, some of which are more productive than others. That process is known as group selection (Wilson, 1992, p. 145).

References to group selection can be found in Darwin's own writings including *The Origin of Species*, and *Descent of Man*, but the idea gained its prominence, or infamy in 1960's through the work of V. C. Wynne-Edwards, especially his book *Animal Dispersion in Relation to Social Behavior.*

As Wilson (1992) notes, criticisms of Wynne-Edwards came from many sources, but none was more devastating than G. C. Williams' *Adaptation and Natural Selection.*

Williams writes:

> It is universally conceded by those who have seriously concerned themselves with this problem that such group-related adaptations must be attributed to the natural selection of alternative *groups* of individuals and that the natural selection of alternative alleles within populations will be opposed to this development. I am in entire agreement with the reasoning behind this conclusion. Only by a theory of between-group selection could we achieve a scientific explanation of group related adaptations. However, I would question one of the premises on which the reasoning is based. Chapters 5 to 8 will be primarily a defense of the thesis that group-related adaptations do not , in fact, exist (Williams, 1966, p. 92, as quoted in Wilson, 1992, p. 146).

Williams' criticism of group selection concentrates on understanding of groups as discrete populations relatively isolated from each other. D. S. Wilson and others changed that understanding and introduced definition of group in reference to traits that are being selected (See Wilson, 1992, p. 147). In Wilson's account of religion in his *Darwin's Cathedral*, the distinction between group as a

discrete population, and group defined in reference to an adaptive trait is essential because adherence and commitment to a certain religious tradition is understood to constitute a group. If group would be understood as a discrete population then, for example, city of Chicago would be one group. If a particular trait would be understood as a group then one religious community across Chicago is seen as a single group. Wilson carefully avoids the line of argument that would lead to the "for the good of the group" or "for the good of the species" type of group selection because this line of reasoning would be especially vulnerable to Williams' critique.

The building blocks of *Darwin's Cathedral*, besides group selection, are functionalism as a methodology of studying religion, and social-scientific studies, more precisely sociological studies of religion relying on rational-choice theories in economics. For the first group Wilson uses E. Durkheim as a representative, and for the second Wilson uses American sociologist R. Stark.

D. S. Wilson elaborates on importance of functionalism in evolutionary biology (Wilson 2002, 6-7). Functionalism in the study of religion is more controversial. According to Capps functionalism avoids dealing with the *essence* or *root cause* of religion. Rather, it is concentrated on the question of the function of religion (See Capps, 1995, pp. 157-208). E. Durkheim in his *Elementary Forms of Religious Life*, after presenting some of the theories preceding his work, presents what later became classical account of the possible function of religion.

Durkheim presents "naturism" and "animism" and other theories of the origin of religion and asks how is it possible that such phenomena would survive if they had no practical value for those who practiced it. Durkheim writes:

> No doubt, sometimes an error does indeed perpetuate itself in history. But barring an altogether unusual conjunction of circumstances, it cannot maintain itself this way unless it probes to be practically *true*—that is to say, if, while not giving us correct theoretical idea of the things to which it is related, it expresses correctly enough the manner in which those things affect us, for better or for worse (Durkheim 1995[1912],77).

Function that religion serves according to Durkheim is that of structuring and organizing social life through forming groups and regulating behavior of individuals within groups. Another important feature of Durkheim's understanding of religion is that religion is associated with a vast symbolism that enables human beings to function socially. Social realities are impossible to comprehend without symbolism. Social feelings dissolve when groups dissolve, and symbols of those groups can make them durably present. Durkheim writes: "Thus, in all aspects and at every moment of its history, social life is only possible thanks to a vast symbolism" (Durkheim 1995[1912], 233, also quoted in Wilson 2002, 54).

Functionalism of Durkheim was severely criticized by E. E. Evans-Pritchard and others (see Evans-Pritchard 1956). Wilson points to the fact that despite the severe criticism that Evans-Pritchard levels against Durkheim, especially against the details of Durkheim's ethnographic examples and against the methodology of trying to devise a comprehensive theory of religion based on arbitrary and unique religion of Australian aborigines, Evans-Pritchard's own descriptions and explanations are often functionalist.

Wilson's affinity for functionalism comes from prominence of functionalist thinking in biology. Explaining evolution of a particular trait of an organism in terms of the function that it performs is customary in biology. Without the understanding that the function of a heart is to pump blood it would be impossible to talk about the evolution of heart. In that context Wilson states "The great question in Darwin's day was not 'Is there any function in nature?' but 'What explains all the function that we see in nature?'" (Wilson 2002, 37).

Another important part of Wilson's attempt to bring study of religion closer to biology is his use of social science models developed by R. Stark and particularly Stark's account of the development of early Christianity in *The Rise of Christianity* (Stark, 1997).

Stark, known for his anti-functionalist stance and rational choice theory of religion, develops an impressive array of methods to apply social science

techniques for studying social and religious phenomena today and use them to study early Christianity. Stark is aware of possible limits that sociological methods can encounter when dealing with historical sources. Still Stark is bold in applying sociological methods to historical materials. Results are very interesting. Stark's main thesis is that rapid growth of Christianity in first three centuries can be ascribed to the way Christians organized themselves and to the way they behaved in contrast to their pagan neighbors.

Social scientific study of religion of the kind that Stark wants to do on Christianity is usually done through the analysis of census data, through questionnaires, and similar methods. It is very hard to do this kind of social science on historical material. Limits and theoretical grounding of historical works on any subject predispose any possible findings of the social scientific study. Stark goes around this problem in an amazing way by devising way to collect data that would be usable for statistical analysis and still be representative of most historical sources.

Stark's analysis concentrates on, and tries to explain the growth of Christianity from a group of about one thousand people at year 40 to more than thirty million at year 350, or from 0.0017% to about 56.5% of population according to his calculations.

Among the causes Stark identifies are the for example Christian attitude towards the sick. In the time of great epidemics that have plagued the Roman Empire Christians have behaved in a way quite different than their pagan neighbors. Most Christians stayed with the sick and most pagans fled to the secluded places. Christians who stayed back attended to the sick and risked contracting a disease (Stark 1997, 73ff). Even the famous Roman physician Galen fled to his villa in Asia Minor during one of the epidemics and relied on second hand account of the disease in his descriptions. Caring for the sick and staying back had direct consequences on those involved, but in the long run it change the way Christians were perceived by pagans and eventually it influenced the outcome of the political process for legalization of Christianity.

Another great influence on the growth of Early Christianity was its close ties with Jewish communities across the Roman Empire. Many Christian churches established themselves within or in close proximity to Jewish synagogues. One reason for the acceptance of Christians by Jews was the fact that most early Christians were Jews themselves before becoming Christian, but another maybe even stronger one, according to Stark (Stark 1997, 49ff), was that many Jews in diaspora were seeking a way to integrate more in the mainstream society and they have perceived Christianity as a way of remaining Jewish and being more open to the rest of the Roman society.

Yet another great factor in the raise of Christianity was related to an interesting combination of Roman and Jewish law and tradition regarding marriage and family. Following Romans Christians looked unfavorably on divorce, and following Jews Christians did not practice abortion. Role of women was much more prominent in Roman culture than in Judaism, but compared to Christianity it was still not as important. The role of women in the movement until mid fourth century we can say with confidence was unparalleled in the ancient world.

Christianity was not a uniform monolithic movement in its early history. There were numerous variations and most of them died out in their early years. Those that survived established themselves as the only option within Christianity. Some of the views that were prominent in the beginning and have played a crucial role in the development of the early Christianity and in which women had importance that we cannot find latter on, have not been among the views that prevailed latter on.

All those factors combined can, according to Stark, account for the rapid growth of Christianity in first few centuries. Wilson points out, I think correctly, that Stark's analysis is in contrast to his stated theoretical framework, namely Starks strong anti-functionalist stance. It seems obvious that at least in the case of early Christianity we can safely say that for those who practiced Christianity certain function was fulfilled.

In his account of religion Wilson in his own analysis puts himself together with a group of somewhat unrelated theoreticians who would see religion and similar social phenomena as adaptive (Wilson 2002, 45). In the same group we can find views of religion as a group-level adaptation we can also find views that see religion as an individual-level adaptation, and theories that propose religion as a cultural "parasite" that spreads at the cost of human individuals and groups. Those who proposed views of religion as adaptive include, besides David S. Wilson, Edward O. Wilson, Richard D. Alexander, William Irons (hard-to-fake sign of commitment), Richard Dawkins, (parasite), Pascal Boyer in his earlier writings, and Susan Blackmore (parasite).

Other evolutionary views of religion that would not see religion as adaptation on any level are those that see religion as an adaptation to past environments. One example would be Stewart Guthrie's view of hyperactive agency detection as being behind many of the supernatural explanations given by those who describe religious behavior. Recent work of Pascal Boyer like his *Religion Explained* would also fall into the category of religion as non-adaptive or as a byproduct of evolution.

Above mentioned distinction between different levels at which selection can operate brings about one of the most forceful arguments for Wilson's theory of religion. Evolutionary biology has established that organisms of today were colonies of cells that have evolved to live co-dependent. One of the most famous

cases of the different levels at which evolution can operate is the claim that certain organelles within individual cells have originally been separate organisms, what is known as the serial endosymbiotic theory by Lynn Margulis. Wilson writes:

> Viewing single organisms as highly integrated social groups has vastly expanded the scope and importance of multilevel selection theory. As Robert Trivers once remarked in a lecture, those interested in the evolution of social behavior have always appreciated the need to understand genetics, but who would have guessed thirty years ago that geneticists would need to understand the evolution of social behavior? Wilson, 2002, p. 18).

In order to recognize which group can be thought of in terms of an organism Wilson introduces special conditions that need to be met. In human groups, according to Wilson, that special condition is religion. Wilson, not being religious studies scholar himself, often uses examples from biology in order to advance his argument (Wilson, 2002, p. 13).

To Wilson's great credit he did try to describe religious behavior among human beings in several chapters of *Darwin's Cathedral*. His main examples are from Calvin's Geneva of 16th and 17th century, from 20th century anthropological and economist accounts of the system of water temples at Bali, examples from history of Judaism, and from fictional writings about Judaism.

In the example of the organization of society in Calvin's day Geneva Wilson concentrates on norms, moral codes. He presents and understands all

theological finesse as decisively secondary to his argument. Wilson proposes using Calvin's catechism as data for testing of his hypothesis. He assumes that the catechism is truly a summarized form of proposed believes and practices that govern a group. Wilson even goes so far as to say that a catechism is a cultural equivalent to genome (Wilson, 2002, p. 93). Wilson then goes on to extract specific references to people-to-people relationships described in the catechism.

One of the problems that might arise within a social group organized on the principles stated in Calvin's Catechism would be how to prevent magistrates to take advantage of their privileged position. Wilson finds in his model based on Calvin's Geneva plenty of rules that prevent those in power to abuse it.

One of the issues that can be raised in relation to Wilson's account of Calvinism is that it is not clear where religion ends and everything else begins. This is not to say that this distinction is necessary, but Wilson did make the distinction. In Durkheim's examples the distinction between sacred and profane, often criticized, served such a purpose. For Durkheim it was impossible to conceptualize social realities that constitute our culture without the massive symbolism of religious system. In the case of Calvinism as portrayed by Wilson (based on A. McGrath 1990) social institutions that Wilson selects are often seen fully embedded within the wider religious system of symbols and cannot be arbitrarily selected and then discussed in terms of being the only part that is representative of a given religious system.

Wilson's selection of sources is hopelessly limited and in we can expect his depiction of religious communities like Calvin's Geneva to become much more complex if he would extend his source of data.

Wilson proceeds with establishing a list of conditions that need to be met in order for a system to be adaptive. System of believes cannot be implemented within a human group without being justified in some way (Wilson, 2002, p. 98ff).

One of the conditions that need to be met is that the consequences of the behaviors need to be well known in order to be accepted. If people are not sure what will certain behavior produce they will be reluctant to accept that behavior. Problem is that often it is not clear what are the consequences. Bitter herb can have medicinal purpose. Immediate consequence of digesting a bitter herb is unpleasant, but long term benefit is bigger than the immediate discomfort.

Another condition for behavior to be adaptive on the group level is that it should be able to cope with the problem of cheating. If some individuals can benefit at the expense of others it is impossible for such a trait to be adaptive on the group level.

Further, any adaptive belief system must be economical. If it is too cumbersome to learn a system of believes it will tend to disappear.

A fictional belief system can be more appealing and motivating than the one based on more 'realistic' belief system.

Finally, fictional belief systems can deliver and perform the same functions as externally imposed rewards and punishments at much lower cost. Instead of actually policing people it is enough for people to believe that lying or stealing will be punished and they can have strong incentives not to lie or steal.

Together with a belief system, Wilson contends, other conditions are needed in order to organize a group into a societal organism.

Wilson is right in pointing out the context-sensitive nature of religious and theological realities. In dealing with the concept of forgiveness within Christianity he realizes how misleading can certain observations be if taken out of their proper context. Wilson is explains that for it would be as if he is in some kind of hell if he would constantly have to listen to complaints about Christians who preach forgiveness and yet are judgmental about other people. Wilson is right in pointing out the relevance and necessity of a proper cultural and religious context for our understanding of such behavior.

Wilson emphasizes what he sees as the central ideas of our study of culture. (Wilson 2002, 219). Those are: study of culture is evolutionary; much of evolution in culture takes place on the group level; and human nature evolves, furthermore, it evolves at a much higher pace than our genetic evolution.

Wilson accepts Durkheim's insistence on religion performing a specific function, namely that of uniting a human group into a single moral community. This is a powerful claim and it is perhaps an assertion of Durkheim's and Wilson's hope for the future of religion. Religions could provide a way of forming one continuous moral community of humanity, and perhaps even include animals and our wider environment in it. If that would be possible it would be almost contrary to the claim that religion has evolved as a tool for intergroup competition. This is what Wilson calls a unifying system. He proceeds by elaborating on his approach to the comparative study of unifying systems.

Genetic determinism that simplifies the process by which genes produce human behavior is not sufficient to account for the feedback loop that is produced by the cultural traits that are then in turn affected by the traits that evolve as a result of that evolution.

Understanding morality among human beings and its centrality in the cultural evolution in general and evolution of religion in particular is very important for Wilson. Wilson even goes so far as to say that from biological point of view morality is what constitutes the essence of what it means to be human (Wilson 2002, 223).

Wilson discusses Terrence Deacon's hypothesis about the role of symbolism in human behavior (Deacon 1997; Wilson 2002, 226). Deacon's central claim is that language evolved as a response to symbolic thinking.

Language acquisition depends heavily on socialization and this is where human beings are distinct from most other animals. Some animals can learn symbolic behaviors but for human beings most learning is about symbolic behaviors, for example language. Wilson connects that statement with Durkheim's understanding that symbolic behavior constitutes the essential element of social behavior.

The next question for Wilson is how can symbols be incorporated into evolutionary theory and he finds the answer with Boyd and Richerson (Boyd and Richerson 1985; Wilson 2002, 227). If symbols have an effect on behaviors that in turn influence survival and reproduction then symbols have influence on evolutionary process. Religious symbols do influence behavior related to reproduction and survival and therefore have direct consequence for evolution.

At this point Wilson presents the concept of the sacred as one such symbol. It is not clear what is it that he is describing. "The sacred" is rarely, if ever, referred to by practitioners of various religious traditions and when it does get some use it is perhaps under the influence of religious scholarship. Wilson fails to recognize that what he is using is a theoretical concept and not something that religious practitioners themselves would necessarily recognize. If this conceptual confusion would be cleared Wilson's underlying point is very important. Symbols and their ability to be incorporated into narratives that motivate action is how religion gets its efficacy in the evolutionary process.

Wilson understands that much of religious behavior is not detached from reality and oriented towards other-worldly affairs; instead much of religious behavior is concerned with human behavior here and now. He goes so far as to assert that rationality is not the golden standard against everything else has to be judged. Adaptation is that golden standard and rationality has to be adaptive. This is reminiscent of H. G. Wells' *The Country of the Blind* in which the main character chooses to be blinded so that he can be socialized in the titular "country of the blind." Perhaps the single most important insight coming from Wilson's study is his recognition of the practical realism that permeates religious worldviews. Factual inaccuracy of certain religious practices, beliefs and doctrines is decidedly secondary to practical realism behind these practices, beliefs and doctrines. Wilson sees religions not as uniquely otherworldly and week-minded but as a trade-off between factuality and practical realism.

3.2 Religion as a 'Hard-to-Fake' Sign of Commitment and Human Capacity for Prosocial Behaviors—William Irons and Robert A. Hinde

Another important theoretical contribution to the understanding of religion as an adaptive response comes from evolutionary anthropologist William Irons. In his approach to religion Irons builds on various attempts to account for human culture in evolutionary terms in general and biological evolution in particular. One of the main trajectories in this approach is that of sociobiology and

sociobiological explanations of human culture and behavior. Sociobiological, ethological, and evolutionary psychological theories have much in common and their similarities outweigh their differences. One obvious and important feature of all such attempts to account for human behavior in biological terms is that various behaviors that are seen as having different ends in themselves, like eating, loving ones family, working to acquire status, are in fact explained as increasing (or decreasing) our reproduction (Irons 1996, 378). Religion is then looked upon and theorized about, as a behavior that affects human reproduction and therefore it is understood in biological terms. Religion seen in this way is furthermore understood as having adaptive role in human behavior.

Increase in reproduction is how in evolutionary biology fitness is measured. In evolutionary biological terms the concept of fitness is far from simple. It should be noted that there are several meanings of that concept that are used in literature and there is a considerable amount of discussion among philosophers of biology on how to define fitness. (Paul 1992, Beatty 1992, Keller 1992). Fitness in biology refers to evolutionary success. Problems arise when evolutionary process is seen as "survival of the fittest" and being fit is measured by survival. Those who survive are fit. In this case argument bears no explanatory value since it restates in a circular manner its original position. However, in one sense evolutionary biologists use the term "fitness" to refer to actual offspring contribution an individual organism makes, or in terms of genes that get copied to

the next generation. As Beatty (1992) points out, in a hypothetical case of identical twins one of which dies before reproducing, and the other one goes on reproducing, their fitness is either completely different or exactly the same, depending on which concept of fitness do we use. If we only measure fitness in terms of genes then their fitness is the same, and if we measure fitness in terms of an individual actual rate of reproduction their fitness is very different. Most important for evolutionary theories of religion is does religious behavior increase an individual's fitness, in other words, and individuals ability to reproduce more successfully than an individual without that kind of behavior.

Besides sociobiological approaches to human behavior and Alexander's theory of morality the most important theoretical background for Irons is the game theory. Game theory is a branch of mathematics that models behavior in strategic situations that involve more than chance or actions by just one individual, but choices made by several individuals or "players" (Gintis 2000, Brams 2008, Bicchieri and Sillari 2006). Game theory is widely used by economists, psychologists, sociologists, and biologists in order to model behavior. The advantage of game theory as a way of modeling behavior is that it can abstractly in a simplified manner represent strategic interactions that otherwise would be impossible to analyze because of the complexity of situation. There are usually two or more decision makers or players, and all of them have their own ways of acting also known as strategies. The final outcome of their interaction

depends on their decisions and their strategy choices (Bicchieri and Sillari 2006). This is done so that when the game is played, or interaction modeled, the rules are made obvious, the strategies and outcomes are known so that the whole interaction can be described and analyzed mathematically. Judging by the widespread use of game theory in the social sciences in order to model human interactions one can be under impression that most social scientists think that the game theory is adequate way of capturing and modeling relevant aspects of human behavior. When it comes to religious behaviors we have to be somewhat cautious not to predispose possible aspects of those behaviors by modeling them through game theory. If for example the economic aspects of religious behaviors is what we want to model, or perhaps the interaction of religious beliefs and ritual practices that have impact on the overall eco-systems inhabited by humans perhaps the game theoretical models are capable of simplifying and formalizing significant aspects of those systems and present them in a way that is analyzable. That would not entail that any religious behavior can therefore adequately be represented through the game theoretical approach.

Evolutionary game theory is based on population theory. Biologists take players and their strategies to be evolutionary strategies and their prevalence in population through time is interpreted as evolutionary success. Alexander's theories of morality and by extension Irons' theories about religious behaviors as

instrumental in establishing morality use that kind of game theory in order to show which behaviors represent evolutionary stable strategies over time.

Evolutionary game theory is particularly important for biological understanding of altruism. From very early on, perhaps from Darwin himself, evolutionary theorists have recognized that certain relatively widely spread behaviors actually seem to endanger organisms instead of increasing their chances of survival.

As mentioned above, in his 1976 book *Sociobiology* Edward O. Wilson famously defined altruism as: "self-destructive behavior performed for the benefit of others" (Wilson 1976, 578). In the same book Wilson also wrote that altruism is "the surrender of personal genetic fitness for the enhancement of personal genetic fitness in others" (Wilson 1976, 106). Evolutionary theory predicts that those kinds of behaviors, if they are transmitted genetically or if they are transmitted culturally, should over time, in a given population, go extinct, since organisms that benefit from those behaviors are going to become prevalent. Question is then how is it possible to account for altruism based on evolutionary theory. It is precisely from that way of understanding altruism that various theories arrive. Evolutionary accounts of religion are closely connected with theories designed to account for altruism. It is unclear what kind of actual human behaviors would count as altruism in this strict biological sense. Perhaps adopting

children who are not kin and at the same time restraining from having one's own children.

Irons builds his approach on the shoulders of previously mentioned Richard D. Alexander and the concept of indirect reciprocity, or indirect reciprocal altruism (Alexander 1987). Indirect reciprocity is "when individuals in a population observe the other members of the population interacting with each other" (Irons 1996, 384). Altruism in biology is understood as any kind of behavior that increases classical fitness of other organisms and decreases classical fitness of the organism itself. Kin altruism is such behavior among genetically related individuals, and reciprocal altruism is a form of symbiosis where one organism acts altruistically so that it can receive similar behavior in return. In indirect reciprocity is a form of such behavior and it depends on a close observation of how do other individuals behave towards a certain individual. In simple terms be nice towards those who are nice and nasty towards those who are nasty. In such interactions, if modeled in game theory, the theory predicts that one has to be aware of one's reputation. If one is observed by other individuals then if one is to interact with them in future they might use their knowledge by basing their behavior on it.

This is crucial since for success in repeated interaction knowing more about those one interacts with is advantageous.

In his writings Irons strongly correlates religion with morality (Irons 1996; 2001a; 2001b). Morality understood in terms of evolutionary biology is central for his understanding of religion. Morality is here understood as "human propensity to judge certain forms of behavior as good and deserving of admiration, encouragement and reward, and to judge other forms of behavior as bad, not to be imitated, and worthy of punishment" (Irons 1996, 375). Societies in turn develop codes of behavior based on the judgment of many individuals over long periods of time.

Irons proposes understanding of religion as a means for communicating commitments among individuals within a given group. Behaviors that seemingly stem from "blind faith" and that seem to defy reason and are costly for those involved are a very good way of making sure that everybody who knows of those behaviors can predict how is that individual going to act in a similar situation. At the same time, since those behaviors are costly, they are, as Irons calls them, hard-to-fake (Irons 2001a). This is how human beings communicate commitments. Religious systems, insofar as they are understood as constituting shared moral systems, depend on that kind of communication. If commitments are faked then repeated interactions become harder. If certain hard-to-fake commitments are signaled then the rest of that individual's worldview can be deduced if those commitments are a part of a moral or religious system that calls for other behaviors besides those costly signals. If an individual spends significant amounts

of time dedicated to religious activities those who are familiar with moral codes inherent in those religious systems are going to be able to anticipate certain reactions of that individual. If someone is ready to publicly acknowledge potentially embarrassing beliefs then we can expect that that individual is going to be willing to follow intricate moral prescriptions inherent in that religious system.

Another important theoretical contribution from ethological-sociobiological approach to culture and religion comes from Robert A. Hinde. In his 1999 book *Why Gods Persist: A Scientific Approach to Religion* he comprehensively presents his views on why religious behavior persists because it has some value for survival. Interestingly Hinde also asks questions about saving potentially valuable aspects of religious behavior from being dismissed because they are tied up with "dogmas" that are unacceptable and incompatible with more recent descriptions of reality based mainly on modern science (Hinde 1999, 233). For Hinde the fact that people behave religiously in what he calls "the post-Darwinian West" is what has to be explained (Hinde 1999, 1). His hypothesis is that since there is such a widespread propensity for religious behavior there has to be some sort of set of underlying "pan-human psychological characteristics" that are responsible for shaping of various religious traditions (Hinde 1999, 1). Very important for Hinde is what he describes as scientific approaches to religion that end up explaining religion away are not desirable. The main reason for Hinde not

accepting dismissal of religion is his general attitude that religion might be adaptive in evolutionary sense. Hinde notes a possible ambiguity between potential benefits of religious behaviors and some obvious shortcomings. Among potential benefits of religious behavior Hinde lists ability to face injustice, suffering, pain, and death (Hinde 1999, 1). Among definite shortcomings of religious behaviors he notes religions potential to perpetuate injustice within human societies where certain structures are either maintained or supported by religious behaviors. Ambiguity is contained in the ability of religious behaviors to produce purpose in human lives and at the same time that religious purpose can serve as a motivation for destruction of lives of other human beings. For Hinde it is clear that in the modern world most people prefer scientific explanations to religious ones. At the same time that does not mean that religious and scientific explanations are necessarily in conflict. However, since religious behavior is clearly costly according to Hinde, it has to provide some sort of benefit to those who engage in it. That benefit has to then in turn be reflected in the amount and viability of offspring in order to have an impact on evolution of human beings. Robert Hinde brings his expertise on animal behavior and with it ways of establishing evolutionary relevance of those behaviors. Much in the same venue with Irons, Hinde holds the central dogma of evolutionary biology, namely that selection acts to maximize fitness, and that fitness for genes is the number of

offspring, and for cultural traits the efficacy with which a trait propagates itself (Hinde 1999, 15; Similar formulation can be found in Boyd and Richerson 1976).

Hinde resists those theoretical approaches to religion that find religion destructive for human beings and based purely on useless deceptions. For Hinde there has to be some evolutionary benefit to religious behavior. Next question for Hinde is how much of religious behavior can be explained by referring to the underlying psychological mechanisms. Insofar as religious beliefs and behaviors refer to some possible transcendental reality any study of those realities would be hidden from science. But insofar as by religion we understand human behaviors in interaction with other human beings and the world around them this is accessible and explainable by scientific means.

In order to do that Hinde approaches religious behavior by tracing what he sees as characteristics that all human beings have in common because of their shared biology. Hinde's recognition of complexity of religion and inability of narrow concepts and definitions of it to capture various phenomena that are important for describing religious behavior is a great asset for his theoretical approach. As opposed to those approaches that take religion to be only about "supernatural" concepts, e. g. Boyer, or other attempts to reduce religion, Hinde's concept of religion is reductive, as stated above, because it does not take religious concepts in the same way adherents of those religious traditions do, but it is not reductive in attempting to narrow down how much religious behavior can be

scientifically described and explained through only one method. For Hinde "religion involves feeling, thinking, acting, and relating, and there are tremendous individual differences in their relative importance" (Hinde 1999, 11).

In Hinde's description religious behaviors include in the first place structural beliefs like those that postulate realities that transcend our world and are improbable and described in counter-intuitive terms. Second is narratives and stories that include the teachings and experiences of major and lesser figures in that religious tradition. Third aspect of religious behaviors is rituals, prayers, sacrifice and other religious practices. Fourth aspect is codes of personal and group conduct and contact, including conventions, norms and ideology. Fifth is religious experience, and sixth are social aspects of religious behaviors.

Separating biological basis for human behavior and experiential or culturally determined cannot be done, Hinde rightfully acknowledges, because all those factors are mutually dependant (Hinde 1999, 14). Underlying biology enables cultural behavior, but that cultural behavior has a substantial impact on biology and genetics. Developmental systems theory and other approaches to nature-nurture debate and evolution of culture have shown that to be the case (Oyama 2000a; Oyama 2000b; Richerson and Boyd 2005).

A major part of Hinde's approach is that there are underlying human characteristics that religious behavior rests on. This is very important because those underlying characteristics determine and define what religious behavior is

and what are the limitations of any theoretical approach to religious behaviors and perhaps all other complex symbolical behaviors that make up human cultures. Characteristics of various religious systems cannot be seen as determined by those underlying human characteristics that produce various kinds of religious behaviors. In order for this approach to work certain pan-cultural characteristics, various cultural traits that can be identified in a diverse selection of human cultures, have to be identified. This is by no means an easy task and Hinde is aware of that. Various underlying biological characteristics can be adaptive in biological sense, namely by affecting reproductive success of individual human beings, or they might be just affecting the survival and wellbeing of individual human beings and therefore indirectly affecting their inclusive fitness. Another part to this theory is that if those underlying biological and psychological characteristics that produce religious behavior in individual human beings determine and help reproduce various characteristics of religious systems from generation to generation then those processes of transmission and replication could be described in Darwinian evolutionary terms. In short, religious behaviors themselves could be adaptive in evolutionary biological sense, and various religious behaviors could be transmitted and reproduced from generation to generation by processes governed through Darwinian natural selection. Important point to note here is that besides those characteristics of religious behaviors that are the product of cultural evolutionary processes and biological evolutionary

processes and a combination of the two, there can be religious behaviors that are not products of cultural evolutionary processes and do not contribute to biological evolutionary processes. Instead those features of human religious behavior just dwell on human biology but do not contribute to inclusive fitness of individual human beings.

Hinde describes what he calls "relatively stable human behavioral characteristics" (Hinde 1999, 17). Those are the characteristics of human behavior that can be found to be "pan-cultural," that is characteristics of human behavior that can be found in any culture and that are going to be as similar among different individuals as those individuals are different among themselves. Methodologically it is important to recognize how different levels of phenomena described require different approaches. For example psychological neural processes within individuals who are by themselves and when they interact with other individuals and engage in religious behaviors might be rather different. Even interactions can be very different if individuals involved interact unexpectedly and occasionally and when individuals interact repeatedly and predictably. All those levels of interactions are interconnected and interdependent. Any description of religious behavior that would focus on a particular level of abstraction has to acknowledge this. Since any interactions between individuals affect those individuals neural/psychological states and those interactions are affected by individuals behaviors abstract categories like "beliefs," "norms,"

"values" and similar are constructed in order to account for what many individuals have in common across any given population.

Similarly to Boyer and Lawson and McCauley, Hinde also assumes that religion depends on certain propensities such as ability to understand and learn, and those propensities themselves develop within each individual in interaction with the environment.

Another important feature of Hinde's theoretical approach is what he calls "the self-system" (Hinde 1999, 29-30). In order to maintain continuity human cognitive apparatus postulates a self. The self is based on our own self perceptions and very importantly on how we perceive that others perceive us. The self is where our perceptions and relationships with others are integrated into a wider socio-cultural structure. Hinde claims that "for the firm believer, the religious system becomes part of the self" (Hinde 1999, 32).

Religious behaviors described in terms of underlying biological and psychological systems leaves little place for any distinction between what number of religionists would see as the dichotomy between the sacred and the profane. There is no place for anything supernatural either if everything can be accounted in terms of those underlying biological and psychological phenomena. At first this might seem as a bit of a problem for any theory of religious behavior that sees religion as distinctive from other forms of human behavior. At the same time it gives a great freedom to those who theorize religious behaviors to propose various

methodological possibilities for religious phenomena being emergent in a sense that they are fully based on those underlying biological phenomena and at the same time those biological phenomena obviously give rise to cultural systems that in turn influence those underlying biological phenomena. Any approach to theorizing religious behaviors that maintains a possibility of religious behaviors being emergent on underlying biological phenomena, and by being emergent it is understood that they have their own inherent organization that cannot be fully reduced back to those underlying processes that make those behaviors possible, maintains a possibility of those religious behaviors being maintained even in the light of various possible critiques that render them superfluous.

Interesting dynamics develops, and Hinde recognizes that, when those who were not acculturated into a particular religious system and whose concept of a self did not develop by interacting socially with a given religious system, see that system as arbitrary, frivolous, and in many cases downright wrong. Religious thought is 'seen as incompatible with what non-believers see as established 'truth.'" (Hinde 1999, 233).

One can be acculturated into a worldview that includes what Hinde calls modern science. In that case certain beliefs are held by individuals but those beliefs are not seen as something as arbitrary as religious beliefs are seen by those who appropriate 'scientific' outlook. Hinde is afraid that with the demise of traditional religious worldviews we might expunge those traits of religious

behaviors that were established through our long evolutionary history and are in some sense adaptive. Not all religious behaviors are in position to be considered adaptive in biological terns. Those religious behaviors that might affect human beings survival and reproduction can often actually be maladaptive. Number of religious behaviors can be seen as potentially maladaptive. Some of those behaviors that might be adaptive for individuals are not socially desirable. This adds another layer of complexity to the evolutionary landscape of religion. Together with some other cultural phenomena, religious behaviors might be seen as promoting kinds of behaviors that modulate other behaviors which do not promote social integration, collaboration, and eventually altruism.

Any claim that religious behaviors might be adaptive in groups of individuals in order to provide social cohesion, as for Emile Durkheim and William Irons, has to be judged also from the point of view that sees religious behaviors as limiting group cohesion because of its internets and conservation of status quo impulses. Religious behaviors might preserve and transmit various behaviors that either adaptive in different circumstances or arbitrary behaviors that serve as identifiers and enable groups to demark themselves and exclude those who are undesirable or do not belong to the group. In order to facilitate greater social cohesion it seems as if religious behaviors have some limits and all-inclusive religious traditions do not seem to be a norm. Religious behaviors that maintain social cohesion are seen as adaptive, but at the same time they seem to

promote group to group competition and not social cohesion on a scale of a species. This is very important because it means that altruistic behaviors promoted by religious worldviews are limited to within group altruism. As stated earlier, kin altruism, reciprocal altruism and indirect reciprocity do not require any additional explanation according to number of theorists in biology. Only a genuine trans-kin altruism would be something different since it would have to either go extinct in a population over time, or it would have to be explained through some additional biological theory. Various studies quoted by Hinde do not seem to leave much space for that kind of altruism (Hinde 1999, 234). Only kind of altruism and social cohesion that religious behaviors do seem to contribute is within group competition. Religious behaviors promote within group cooperation and altruism, but they do not promote absolute cooperation and altruism as often as it might seem possible. Even that part is a great contribution to the understanding how religious behaviors enable large group formations that are possible only with a highly developed moral systems and those systems are very often, if not all the time, except perhaps in very recent history, transmitted through religious traditions and those traditions are closely related to those moral codes of behavior. In the case of Robert Hinde's theoretical contribution other religious behaviors besides those that transmit and encode for morality are found to be important and hard if not impossible to replace with non-religious equivalents. One such behavior according to Hinde is ability to cope with death and dying. It seems that

religious attitudes, especially those that insist on transcendence in general, enable human beings to conceive of possibilities that are not immediate. Otherwise practically useless behaviors, like for example ability to imagine state of affairs very different from that in which one finds oneself, enable human beings to persist in the face of impossible odds and undesirable circumstances. That motivation cannot be taken easily, since it takes some sort of organizing principle that goes beyond what is apparent and enables religious believers to be motivated not only to preserve themselves, but to remain positive towards their own moral and social systems even when confronted with obvious defeat. Boyer in most of his writings downplays that part of religious systems and explains how religious behaviors can cause as many problems related to motivations as they can address positively (Boyer 2001, 5). Hinde disagrees with that kind of assessment and refers to numerous studies that seem to suggest that religious behaviors can indeed improve motivations under severely adverse circumstances.

Religious behaviors establish and maintain hierarchical structures that according to Hinde can be found in practically every human society ever described. This is a point where religious studies scholars can contribute greatly to theoretical approaches that build on evolutionary biology. Number of studies show in great detail how religious behaviors make societies possible and maintain hierarchical structures of power in those societies (Lincoln 1989, Burkert 1996, Benavides 2000). Hierarchical structures are often questioned and eventually

dismantled by religious behaviors. If religious behaviors both establish and dismantle hierarchical structures of societal power then it cannot be said that religious behaviors are enable human beings to build social groups. It seems that religious behaviors serve as control mechanisms also and do not allow for any kind of society to be built. This would support Irons' approach since for him religious behaviors do promote morality and morality enables in-group cooperation. In-group cooperation and between group competition is what D. S. Wilson has suggested in his theoretical approach. Within group cooperation is definitely a very complex system of social interaction based in many cases on hierarchical structures established and maintained by religious traditions. At the same time those very structures often are dismantled and replaced by other structures of power based on religious traditions as well.

For any theoretical approach to religious behaviors one methodological point stands out, namely, what is it that all religious behaviors across cultures and individuals share. If religious behaviors are adaptive than what makes them adaptive should be shared among different religious traditions. Another important issue is how much of what is shared among various religious traditions is in fact something that can be shared by those behaviors that are not understood as religious behaviors. Morality can be based on and promoted by a religious tradition. There are moral systems that are not based on any explicitly religious norms and behaviors. In that case religious behaviors are not adaptive by enabling

humans to build large social cooperative groups where their inter group behaviors are determined by their morality promoted by religious behaviors since those moral behaviors can be transmitted by some other means. Various theoretical approaches might see religious behavior as inherently being about morality. This would be in line with a number of theological views developed within Christianity especially in its modern forms. Those theological views would have very different roots of morality as their presuppositions. For example in Kant's philosophical system morality is not determined by what we know about the natural world. In evolutionary theories of religion quite the opposite is the case. Moral codes that get expressed in religious behaviors are deeply rooted in human biology. Main reason for claims of universality of religion would be the fact that religious behavior somehow is a product of those underlying biological and bio-cultural processes that are shared across the species. Those underlying bio-cultural processes have limits and those limits determine our religious behaviors as well. If evolutionary theories of religion are to be taken seriously then not all cultural forms of religious behaviors are possible. Complete cultural relativism in which any set of values can be accepted does not seem to be possible if in any way those values rest on the underlying shared biology and by extension underlying shared cognitive systems. Religious behaviors that are a part of cultural systems and at least in part are responsible for articulation and transmission of those systems of values therefore cannot be absolutely relative across different cultures. It is not

possible to assume that the same set of cognitive and biological predispositions can produce any possible set of values. By implication there can be some shared traits among various religious behaviors across cultures. Virtually all behaviors related to values are determined by a very complex interaction between genes and environment and depend to a great extent on cognitive and social circumstances under which individual ontogeny takes place (Boyd and Richerson 1976; 1985; Oyama 2000a; 2000b). It is safe to say that this is the case with religious behaviors as well. Number of variations in religious behaviors can be expected to be at least as much all other variations in biological and cultural features that constitute each individual human being.

Hinde postulates four different consequences of his theoretical approach to religious behaviors (Hinde 1999, 238-9). First consequence of his approach is that there has to be inevitably some conflict between individual and societal norms and that can be extended, in my opinion, on religious behaviors as well. Second consequence is very interesting because it corresponds to a considerable degree with some theoretical approaches proposed by various religious studies scholars and it is that various norms produced by religious systems do not reflect all individuals in a group (Lincoln 1989; 1999). Many religious systems promote particular groups of people and maintain their wellbeing and power at the expense of other groups and individuals. Third consequence is that it is practically impossible that there can be some sort of moral code that would work under all

circumstances and for all individuals. Variations that are possible under constrains of biology and cognition and shape them and are shaped by them are accommodating enough to produce moral systems and religious behaviors that can be molded in order to fit different situations. Fourth consequence is that societies face new contexts both in terms of the environment and in terms of their own internal cultural changes. Besides maintaining continuity and ensuring access to the tried and tested wisdom of previous ages religious traditions have to accommodate to the ever changing situation they are in. What was seen as beneficial in the past, like moral codes that promote giving preference to one's kin group and leaving as many descendants as possible, and morality encoded in religious behaviors that constitute and promote those, have to be reinterpreted in the light of social harmony under very different set of circumstances. If those rules were establishing social cohesion in the past, now under a new set of circumstances a new set of rules is needed in order to promote social cohesion. Any religious tradition that has its rules set in terms of absolutes is going to be more successful in promoting itself, but at the same time it is going to have harder time accommodating to that new set of circumstances. Religious behaviors produce social cohesion necessary for large scale cooperation among individuals. Cooperation makes various projects possible that would be out of reach of individuals and small groups. In order to achieve cohesion some individualistic tendencies have to be limited and at the same time there can be no benefit of

social cohesion for individuals if their needs are not met. Religious behaviors can provide necessary social context for resistance of those structures of social power that are established through religious behaviors too. Religious behaviors are both, the fabric of societal cohesion and its own dialectical undoing and remaking.

Hinde suggests, and rightfully so, that if we would do away with religious bases for moral behaviors we would have to replace the mechanism through which morality gets transmitted and that would amount to a new set of rules that would be indistinguishable from religious behaviors that encode for moral rules that promote social cohesion and control mechanism that, hopefully, prevent abuse within those social entities that enforce them (Hinde 1999, 240). Moral rules are transmitted successfully by religious systems because of the nature of their sources. If supernatural concepts are used in order to justify certain moral codes it seems that it is easier to assume their necessity and absoluteness. If there are no supernatural agents that enforce moral behaviors then the rules that encode moral, and by extension religious, behaviors seem somewhat arbitrary and dependant on human agents. But if those rules promote social cohesion and enable individuals to participate and be protected from social institutions then those rules are in effect one and the same as any rules based on supernatural concepts. Possible alternatives to religious behaviors, like for example a view of morality based on scientific descriptions, at the end do include similar constitutive elements to those based on transcendental views. Perhaps some religious

behaviors are not as prominent today as they were throughout human history, but at the same time they are nowhere close to be extinct or even eclipsed with other ways of establishing morality. At the same time any attempts to base morality without religious behavior that encode for it, seems to include behaviors that cannot be distinguished from religious behaviors except by invoking dubious distinction between natural and supernatural explanations and sources.

3.3 Shaping of Humanity Through Ritual and Religion—Roy A. Rappaport

Another important theoretical approach that treats religious behaviors as socially and ecologically adaptive is that of anthropologist Roy A. Rappaport (Rappaport 1999). In a series of writings on the subject of interrelatedness of religious behaviors and ecological balance that cultural forms maintain in various parts of the world Rappaport has proposed a comprehensive view of what culture is and what role do religious behaviors including rituals play in making of humanity (Rappaport 1979; 1984). For Rappaport it is clear that we live in a world where meanings are not intrinsic and unrelated to human beings. We create meanings in order to cope with the world. Religious behaviors are meaning creating activities we engage in order to survive. Central category under which Rappaport subsumes all of religious behaviors is that of "The Holy" which for him is composed of "The Sacred," "The Numinous," "The Occult," and "The Divine" as they are

fused together in ritual (Rappaport 1999, 1). The Sacred is discursive and it can be expressed in language since it is logical, while the Numinous cannot. The Numinous is non-discursive, non-logical, affective component and it is experienced inarticulately (Rappaport 1999, 371). Examples of the sacred for Rappaport would be various creedal statements. An example of the numinous would be community of fellow human beings itself. Here Rappaport builds heavily on Emile Durkheim's concept of the sacred as a reification of the social (Durkheim 1995 [1912]).

Most importantly, Rappaport explores the role religious behaviors play in human evolution and what role do humans play in the evolution of the world. Humanity as it is shaped by evolutionary processes could not have emerged without religious behaviors playing immensely important role. Human beings, just like any other organism, are embedded in their environment and that environment shapes them and it is shaped by them. That important relationship is modeled in human ritual behavior (Rappaport 1984). Religious behaviors encode and transmit human beings ideas about their environment and their actions towards it. In order to avoid what he calls "a comprehensive tautology" Rappaport does not offer a simple reduction of religious behaviors on either their utilitarian function or something else that would discount the meaning ascribed to religious behaviors by those who practice them (Rappaport 1999, 2). At the same time he is aware that religious traditions do make universal claims and that understanding

religious traditions 'in their own terms' must necessarily multiply beyond what can be accounted for. Certain 'universal claims' have to be found across various religious traditions in order to talk about the impact religious behaviors had on human evolution. The concept of "humanity" proposed by Rappaport is the key for understanding his approach to religions adaptive role in evolution of human beings. For him "humanity" is what sets human beings apart from all other animals. It might look odd at first since so much of evolutionary biology is concerned with relatedness of all living beings on the planet Earth. Rappaport affirms that but at the same time he goes a step further and presents humanity as that which sets us apart, namely language and symbols.

Another complementary view to that of Rappaport's "humanity" might be Philip Hefner's "human becoming" (Hefner 2003). Instead of 'becoming human' Hefner talks about 'human becoming' as a process that "expresses the idea that we are *always in process*, we are a becoming, and being human means that journey is the reality" (Hefner 2003, 5).

It is through language as a particular form of communication, where signs are bound by conventions and not by their ontological relatedness to what they stand for, that human beings entered another and distinct phase in their evolution. Ability to represent realities by something that is not related in any way to them is the strength of symbolical mind. Religious behaviors are those kinds of behaviors that can go beyond what is obvious and construct and maintain structures of

meaning that model other structures of the world and propose novel relationships between those structures. Symbolic communication was instrumental in human evolution and it is inextricably related to religious behaviors. Religious behaviors are possible only with symbolical communication because those behaviors are about establishment and rearrangement of possibilities that are not obvious in a given environment. Symbolical communication and religious behaviors are inextricably connected and they cannot be thought apart. In some sense all symbolical communication is religious behavior because it is about those "worlds" that are only accessible through symbols, and that are in fact created by those symbols.

Adaptive role religious behavior plays in human evolution depends on what do we mean by adaptation. In Rappaport's sense adaptive behaviors are such that they enable organisms to maintain themselves and change their environment that itself always changes regardless of any input from living organisms. He says about adaptation:

> [T]he term designates the processes through which living systems of all sorts—organisms, populations, societies, possibly ecosystems or even the biosphere as a whole—maintain themselves in the face of perturbations continuously threatening them with disruption, death or extinction (Rappaport 1999, 6).

Here we see that for him adaptation is much more than what that term sometimes refers to in biological texts. What is central to his understanding of adaptation is that there is an amount of information that is being preserved through the process of change. When it comes to symbols they represent a qualitatively different kind of information and not just another innovation within the process of evolution. Language and symbols have arisen from those biological evolutionary processes and are fully dependant on them, but they also constitute a completely different level of innovation and information. Besides information contained in the systems themselves, like in the case of genes, with symbols information that is only potential and not actual and it refers to possibilities (and impossibilities) and meanings can also be stored in the system.

What happened in human evolution is that those same concepts that emerged in human beings are now in turn driving their evolution. Perhaps Rappaport would agree that this is the Baldwin effect at work (Deacon 1997). Baldwinian evolution is not in conflict with Darwinian evolution by natural selection through variation and selective retention. James Mark Baldwin proposed a mechanism though which "learning and behavioral flexibility" play a role in biasing and effecting natural selection (Deacon 1997, 322-3).

Not all such concepts that are about possibilities and meanings can be said to be adaptive. Meanings we ascribe to the world around us have to in some sense enhance and guide our transformations. Number of concepts that refer to

meanings and potentialities are the ones that caused enormous amount of pain and suffering throughout human history. Just in recent history, various totalitarianisms and ideologies produced political systems full of meaning that was about destruction of various groups of people or opposing ideologies. Those ideologies share the same set of cognitive and cultural tools like all other features of our cultures and in many ways are indistinguishable from various religious behaviors. It is not clear how and if we can promote potentialities that symbolic communication opens for us and still have safeguards against such powerful influences.

Another important question is to which extent we can rely on biological evolutionary processes in our descriptions of cultural phenomena including religious behaviors. Can concepts like "kin selection" and "inclusive fitness" account for cultural phenomena and religious behaviors, Rappaport asks. Those concepts are valuable for our descriptions of culture, but at the same time in the case of cultural evolution those concepts do get affected with cultural evolution too. It is perhaps precisely religious behaviors that affect those processes and alter them in comparison to all other organisms that do not have culture dependant on symbols that can express meanings and potentialities through imagination. Without religious behaviors that can affect arise from biological systems and that can affect those systems through their ability to go beyond kin altruism and inclusive fitness culture as it is would not be possible (Burhoe 1981, 201-33).

Symbols and symbolical behaviors that constitute religious behaviors are determined by the underlying biology only to a certain extent. Those behaviors would not strictly be possible without the underlying biological mechanisms. But at the same time those behaviors are based on cultural conventions and those conventions are not fully determined by their underlying mechanisms. Once cultural conventions are established they might "evolve" in a manner somewhat resembling the biological evolution. There are many models of cultural evolution currently proposed but they do differ significantly among themselves and it remains to be seen which model, if any of the proposed ones, can be found to be based on actual observable features of human cultures.

Interestingly Rappaport includes the concept of "lie" in his considerations and he insists that the very possibility of symbols that are based on conventions opens up the possibility for stating and transmitting something that it thought by those who transmit it that it is a falsehood. Lying depends on a relationship of trust and in most cases it is possible only within ones cultural and social group and not outside of it where that relationship of trust is not presupposed. Other animals are capable of deceit in one form or another, like in the example of mimicry, but at the same time those and some other behaviors observed among different animals are always by necessity limited to here and now and cannot go beyond to potentialities and imagination.

Religious behaviors did not arise in order to combat lies. Both of those capacities come with language and as such they are as old as humanity in Rappaport's sense (Rappaport 1999, 16). Here Rappaport comes close to Irons' understanding of religion as a "hard-to-fake" sign of commitment because religious behaviors can indeed serve the purpose of combating possibility of lying and deceit. But in order to do that religious behaviors can also be far removed from what is obvious and immediate and based solely on meanings and what is possible for human imagination.

Falsehoods are not unambiguously evil according to Rappaport. There are numerous occasions where deceit is preferred to telling the truth. Examples include simple situation where a child is gravely sick and others are telling it that everything is going to be all right. Lies are sometimes meant to be protective, and in numerous occasions a certain amount of deceit is a sign of "civility." Religious behaviors and common lie are not opposed and religious behaviors are not meant to exclude the possibility of lying.

Some meanings transmitted through symbols are about immutable persistent experiences and their meanings cannot be rejected easily. Our ideas about physical laws are that kind of information. Much that can be said about observable properties of matter cannot be doubted easily. At the same time enormous amount of socially significant information is not of that nature. It is

easily possible to doubt a number of things that can be asserted about our social environments.

Besides the possibility of lying the language opens up the possibility of other possible interpretations. Whatever can be said an alternative to that can be spoken as well. We can conceive of alternative worlds and alternative ways of organizing reality (Rappaport 1999, 17). Within the world of symbolic references that are based on conventions meanings are constructed that exclude alternatives, but cannot exclude the possibility for those alternatives. Certainty in knowledge can be achieved only if that knowledge is such that we have constructed it without the possibility of alternatives. We invent logical systems, like mathematics, that are specifically made to exclude most cases of ambiguity. Here Rappaport alludes to Giambattista Vico and his concept of "maker's knowledge." Unlike with the most of the world that can seem distant and hard to understand and interpret those structures that we as human beings have created we can know intimately, as their makers. So it is with meanings and symbols that make religious behaviors possible. Truth of those systems of meaning created by us is as fabricated as it is that of a deliberately deceptive lie, but importantly, these systems of meaning are created with a different purpose. Religious behaviors establish truths that then in turn establish meanings. The world we inhabit is therefore a chimera of something that precedes meanings and it cannot be sufficient for our lives, and meanings we create in order to survive. Religion fabricates meanings in order to create the

possibility for truth. Rappaport suggests that of all religious behaviors it is ritual behavior that is religious *par excellence* and it is through ritual behaviors that the truth of religious meanings is established. Ritual is for Rappaport "the performance of more or less invariant sequences of formal acts and utterances not entirely encoded by the performers" (Rappaport 1999, 24).

A number of meanings encoded by religion are in fact detrimental for those involved. Various cases of religious exclusivity that incites violence and wars justified by religious ideologies are just some examples of the complex way in which religious behaviors affect humanity. What meaning can be established through religious behaviors can also be broken and co-opted for various purposes. There is no guarantee that realities established through religious meanings are not going to turn against those who are in their domain. We as human beings thoroughly depend on meanings that we ourselves create. We imagine into being states of affairs that then in turn drive our imagination and that can effectively impede and limit that very imagination that brought it into being. Moral codes and various other systems of values established by convention through symbols have the potential of being taken to be natural kinds and for all practical purposes they are indistinguishable from all other forms of knowledge we have. In those cases any attempt to adjust those norms because of some change in the environment, like in the case of possibility of global climate change, becomes very difficult. In the case of social change due to inter-cultural contact same set of difficulties arise.

Social norms are taken to be given and immutable and this is precisely why they are sacred and valuable. But at the same time without the ability to change and adjust to a novel set of circumstances and social realities those sacred norms that are taken to be immutable prevent or at least have a potential to obstruct constructive interaction that would enable greater social integration. Various kinds of behaviors have the potential to be deemed "un-natural" and therefore undesirable while at the same time those behaviors might be the ones that are needed in order to accommodate to the new emerging way of interacting with the social and physical environment.

4. The Role of Evolutionary Theories of Religion in Religious Studies and Theology

Evolutionary theoretical approaches to religion are by definition reductionist. They reduce religious phenomena to something that can be theorized through evolutionary biology and related disciplines. Reductionism is both the strength and a potential weakness of those approaches. This study presents an attempt to reap the benefits of those approaches and to interpret them in such a way as to leave some space for additional input from religious studies and theology. The main contribution of this study is its insistence on relevance of evolutionary studies of religion for religious studies including theology and the need for theologians to take evolutionary studies of religion as a necessary precondition for their constructive reinterpretations.

From above arguments it is clear that a whole range of tools was developed and successfully used by evolutionary theorists in order to theorize and study religious behaviors. Some of those tools were criticized throughout this study, e. g. the assumption that religion is only about the supernatural, and at the same time some other tools were found to be very useful when applied to religious studies and theology, e. g. domain specificity and domain violation in minimally counterintuitive concepts and religion as costly signaling that enables humans to develop and maintain large groups trough morality.

The first part of the dissertation presents evolutionary theories of religious behaviors proposed by cognitive scientists and cognitive anthropologists. One distinct feature of those theories is that they see religious behaviors as a byproduct of human cognitive capacities that have evolved for different purposes but are co-opted for religion. Proposals from Dan Sperber and his theory of symbolism as epidemiology of representations are used in order to introduce the work of religious studies scholar E. Thomas Lawson and philosopher and cognitive scientist Robert N. McCauley on ritual religious behaviors and their cognitive interpretation of religious rituals. Cognitive mechanisms used to represent and account for any action are also used in representation of religious rituals by those involved. Approaches to religious behaviors that insist on interpretation rather than explanation are criticized and brought into relation with those that insist on explanations. The Lawson and McCauley approach is paradigmatic in its insistence that there is no religious *sui generis* that can be studied in any way. This study takes their starting point very seriously but it argues for allowing some possibility for appropriating some insights into religious behaviors from studies that do treat religious behaviors as *sui generis*. Culturally postulated superhuman agents are used in this theoretical approach without ever giving an account for how cultures actually postulate superhuman agents.

The next theoretical approach is that of cognitive anthropologist Pascal Boyer; his proposal concentrates on concepts of supernatural and superhuman as

central in religious behavior. Boyer bases his theories on the assumption that one of the main features of human cognition is that all knowledge is categorized into certain relatively discrete domains. Religious concepts are created when expected qualities for certain domains are mixed with those from other domains. This proposal is presented as a constructive contribution with certain limitations and a critique that points at the fact that not all religious behaviors can be reduced to beliefs about the supernatural.

A third proposal is the theoretical approach devised by anthropologist Harvey Whitehouse in which he divides all religious behaviors between those based on doctrinal mode and those based on imagistic mode. Certain religious behaviors are repeated throughout one's life and are cognitively distinct from those that take place only once in an individual's life. Whitehouse traces this distinction to a particular way human memory works. It is proposed in this study that some features of Whitehouse's theory might be useful for theology, but at the same time a critique of the adequacy of his approach is leveled, especially of its insistence that those distinctions in modes of religiosity are actually evolved mechanisms. The main weakness of all approaches that base their understanding of religion on various concepts of the 'supernatural' is that they by necessity leave out what is central in so many religious traditions. Supernatural concepts do play a role in various religious behaviors but it is impossible to claim that they play a central role in all religious behaviors.

The second part of this dissertation deals with theoretical approaches that see religious behaviors as socially and/or ecologically adaptive. The first of those is by evolutionary biologist David Sloan Wilson and his attempt to present religious behaviors as an adaptation in group-to-group selection among different cultural groups. Critique of Wilson's selection of materials is offered together with a constructive interpretation of biological concept of altruism and its relevance for theology. Evolutionary anthropologist William Irons proposes a view of religion as instrumental for how morality is constituted and transmitted in human groups. Morality is what enables human groups to become exceptionally large compared to other non-human primates. Religion is seen as biologically adaptive in the sense that it makes those large human groups more competitive when compared with smaller groups. Ethologist Robert A. Hinde extends this approach and theorizes religion as a necessary yet endangered way of human social organization that has to be somehow revived in order to maintain human groups of today. Hinde's approach has major theological assumptions in it and this study brings out those latent assumptions. Main examples are a clear view of what is negative in human social behavior. Without some external concept of what is to be desired and what not it would be impossible to assume that these distinctions are just based on scientific descriptions of reality. It takes religious imagination to produce possible states of human sociability in order to compare those with states we find ourselves in.

Finally a proposal by anthropologist Roy A. Rappaport is presented and interpreted. Rappaport postulates a category that he calls "humanity" and this category is at the core of his theological relevance. It is religious behavior that arose out of our ability to represent what is not the case—our ability to lie—that enables human beings to be creative and to interact with each other and with their environment through possibilities as well as trough fully deterministic set of physical characteristics of reality.

Most attempts to study religious behaviors through evolutionary biology and related disciplines are still very fragmentary. This study presents an attempt at bringing those theoretical approaches in dialogue with religious studies and theology through interpretation and critique that centers on revealing hidden theological assumptions and interpreting theoretical leaps of those approaches to religion.

Evolutionary theories of religion in their cognitive mode and in their ecologically and socially adaptive mode give us new insights into preliminary constraints that any theoretical approach to religious behavior and any theological approach that sees itself as related to our scientific self-descriptions have to take as their starting point.

Theological reconstructions that restate origin myths in terms of what is sometimes called "the epic of evolution" have to include those features of evolutionary theories of religion that provide constitutive elements of human

experience. Tools provided by evolutionary theories of religion are impressive even though they are still being formulated. Motivations and explanations for religious behaviors that by definition have to be hidden from those engaged in them could now enter into a new light. The religious contribution to evolutionary studies of religion is to ask questions of taking responsibility for crossing of the apparent boundary between what religious studies scholars and theologians study and what evolutionary approaches help to elucidate.

The same cognitive processes that govern religious beliefs and behaviors universally across different cultures also guide theological reflections even in their most particular form. It is only in that particular form that we encounter religious beliefs and behaviors. Theorists of religious behaviors should give closest possible attention to those particular forms that religious behaviors are embodied in. Religious behaviors are associated with a specific set of biological processes that are in turn affected by those religious behaviors. Together they make up a unified system that is, at least in part, and possibly fundamentally, responsible for how we understand ourselves and how we relate to the rest of the world. Most attempts to study religious behaviors are still fragmented and a number of examples is given above. Overcoming that fragmentation with great care for details and contributions from various sides is of immense importance. Religious behaviors, just like the rest of culture, are interdependent with underlying biological processes that can be studied through evolutionary biology.

The history of various attempts to study religion by explaining it away has shown that religious views just get replaced with other religious views. Instead of attempting to defend some irreducible core of religion theologians and religionists should embrace evolutionary studies of religion and find them complementary to their approaches. At the same time any attempt to study religious behaviors has to take a religious point of view seriously. Only by allowing ourselves to go beyond modern dualisms between religious and naturalistic explanations and by understanding that those two actually are harmonious with each other can we advance our understanding of those processes that made us and still shape us and our understanding of those processes.

The main contribution of this study is to present various theoretical approaches to religion that approach religion as a human phenomenon based on natural propensities and cognitive mechanisms that can be studied by evolutionary anthropology and cognitive sciences and offer a critique that makes these findings and theoretical approaches comparable to those of religious studies and theology. This was done by presenting various, at times unrelated, theoretical approaches in an organized way, and by offering a critique of those approaches by raising questions of their completeness and adequacy when applied to various examples from religious studies. The apparent dissonance between "scientific" studies of religion based on purely naturalistic assumptions and religious studies that do take a religious point of view as a valid source of data for theorizing religious

behaviors is one of the main methodological problems addressed here. Ideas presented here are meant to be preliminary considerations to be included into theoretical approaches designed to bridge the gap between naturalistic approaches to religion and religious studies and theology. That cognitive dissonance cannot be eliminated but it can be cast in such a light that presents religious and naturalistic approaches as complementary and mutually inclusive.

This study makes a contribution to the discussion of evolutionary adaptiveness of religion. If religion is adaptive in an evolutionary sense then it is shaped by those same processes that have determined everything else in human biology and culture. In that case we have a lot to gain from evolutionary studies of religion and this study concentrates on such contributions. Certain aspects of religious behaviors, like altruism, can be best understood in such terms. However, it is argued here that religious behaviors do expand what biological views of such phenomena like altruism are.

Another contribution of this study is its treatment of that part of religious behavior that is not directly a product of evolutionary adaptation but instead it depends on evolved cognitive mechanisms that are co-opted for religious use. It is very common in evolution that some traits of organisms that are used for one purpose, or apparently serve no purpose at all, have originally been used for something completely different. Our fingers did not evolve in order to for us to type on computer keyboards. If we understand religious behaviors as being

dependant on cognitive processes that have evolved for different purposes that does not automatically render those religious behaviors useless. This study contributes to our understanding of religion as a complex interplay of various capacities arising from and influencing our biological and cultural makeup. Our religious behaviors can influence our relationship towards each other and towards our environment in significant ways. Religious behaviors are a product of a complex interplay between human beings and their environment. This study shows how some aspects of complex religious behaviors can be understood better in light of human cognition and evolutionary biology. At the same time it interprets that knowledge as being preliminary and at times inadequate in its claims of completeness and exhaustiveness because religious behaviors are niched within other religious behaviors and dependant on factors that various mono-causal theoretical approaches cannot fully conceptualize.

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