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Considering the Rationality of African Ritual Behavior

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CONSIDERING THE RATIONALITY OF AFRICAN RITUAL BEHAVIOR

by

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The traditional social scientific method undervalues the role that cognitive processes play in human behavior and instead focuses on posited external causal forces, the most common of which is 'culture.' Normative models of rationality, on the other hand, often do suggest and emphasize cognitive reasoning strategies. What is lacking is a familiarity and understanding of what human beings actually do which is, ironically, something social scientists do know something about. Both assume a sort of rational normative baseline cognitive structure and then try to discover those circumstances in which this structure is compromised by the culture, the environment, learning, and emotion. This does not fit with a view of evolutionary processes that suggests that the mind is a conglomeration of adaptations rather than a refined computer. A messy Rube Goldberg device rather than a simpler update of a previous version. Understanding human behavior requires a sophisticated understanding of the way minds and the environment are intertwined not how the environment directs human behavior, thought, and reasoning. Our minds might seem to work on the perceptual level of atmospheric clouds and interstellar nebulae but what allows us to make the connection between supernova remnants and masses of condensed water droplets is really a complex aggregate of domain-specific mechanisms. The rationality of African ritual behavior is a test case that allows us to see this clearly.

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It is obvious, no doubt, to others who have either written a dissertation or have been involved in such writing that a dissertation project is rarely a straightforward one. However one might try to define it – for example in terms of time frame, subject matter, or agenda – the process remains, at least to me, indefinable. It is interesting to note now that the first glimmer of any motivation to write a dissertation came to me over a decade ago. While the length of time between then and now gives me sobering thoughts about my productivity I am also able to reflect with some satisfaction on the experiences, conversations, thought processes, interactions, and discoveries that took place, some (most) quite apart from the formal writing process.

Before doing so, some clarity is in order. Though I could produce a litany of *mea culpas* I will restrict myself to saying simply that the deficiencies, errors, blatant wrong-headedness, and unfortunate blunders are solely my responsibility. My excellent committee including Tom Lawson, Rudi Siebert, and Mike Pritchard not only went out of their way to be available when scheduling was difficult but made a valiant effort to reduce any of my blunders. They have my profound thanks.

It is with some pride that I trace my ancestry to the well known Puritan minister, founder of Rhode Island colony, and advocate for religious freedom: Roger Williams. I have always hoped to live up to what I believe to be an exemplary example of a man who lived according to strict principles. Williams was full of zeal when it came to his Christian faith. Nonetheless this zeal, however virtuous, could always be trumped by his

commitment to humanitarianism. People, no matter their race or sex or religious affiliation, were what mattered. Historians who know more about these things than I might be able show me many instances in Williams' life that contradict my musings. However for many years I've had this impression of Williams and as such have been able to appreciate the same in others. An impression and appreciation I find to be helpful and good.

Since I walked down a dark and deserted hallway at Western Michigan University toward a single patch of light coming from E. Thomas Lawson's office in December of 1996 I've been privileged to have firsthand experience of such a humanitarian. I don't mind that he might color at these words. They should be said and put down. Since I am not the only person who has had this experience with Tom I know that such words have indeed been said often and consistently. I am not, then, saying something new but rather feel compelled to add to what others have seen and said by making clear (on paper) just how profound this man and his actions are to those lucky enough to know him. I am fully aware that even this effort could never do him justice.

So I'll not go on and on with attempts to capture this essence with flowery words. At the end of the day what I, one of his students, will remember as one of the most important and indelible experiences associated with my doctoral degree is not that I was guided by one of the most able, charitable, wise, and sincerely interested advisors one could have. Tom Lawson was indeed my advisor, my professor, my committee chair *par excellence*. What I will remember, though, is that *not once* was I reminded of those facts by him. What I will remember is that by his actions and words he told me (and legions of students behind me) not that I was his subordinate but that I was his colleague and friend.

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I dedicate this dissertation to two people who were perhaps even more pleased than I that it was completed: my parents James and Judy Mort.

Joel Grant Mort

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Who Cares?

Is religion rational? The easy answer is 'no.' Believing in invisible gods who, despite the protestations of adherents, have no tangible effect on everyday events is arguably illogical. The slightly more difficult to justify answer is 'yes.' Since people are all different with different ways of speaking, thinking, eating, shopping they must also have differing reasons for performing rituals even if it is simply to make them feel better about themselves. The hardest answer, which is the one I advocate in this dissertation, is 'who cares?' The fact is that people do perform rituals. They, arguably, always have and, arguably, always will. So it doesn't matter if they are rational or not. What matters is explaining why this behavior persists and exists at all. However, saying 'who cares' when a lot of people do, is not always the easiest nor most tactful route to take in scientific inquiry. In this case it just happens to be the best.

CHAPTER ONE

Introduction

Issues about the rationality of religious behavior and thought have been a part of

our intellectual tradition for a long time. They have exercised theologians,

anthropologists, comparative religionists, and philosophers for a number of generations.

Deciding what counts as rational thought has engaged some of the greatest minds in the

history of ideas. Epictetus is just one.

> "To the rational creature that which is against reason is
> alone past bearing; the rational he can always bear. Blows[1]
> are not by nature intolerable.
>
> 'What do you mean?'
>
> Let me explain; the Lacedaemonians bear flogging, because
> they have learnt that it is in accord with reason.
>
> 'But is it not intolerable to hang oneself?'
>
> At any rate, when a man comes to feel that it is rational, he
> goes and hangs himself at once. In a word, if we look to it
> we shall see that by nothing is the rational creature so
> distressed as by the irrational, and again to nothing so much
> attracted as to the rational.
>
> But rational and irrational mean different things to different
> persons, just as good and evil, expedient and inexpedient,
> are different for different persons. That is the chief reason
> why we need education, that we may learn so to adjust our
> preconceptions[2] of rational and irrational to particular
> conditions as to be in harmony with nature. But to decide
> what is rational and irrational we not only estimate the
> value of things external, but each one of us considers what
> is in keeping with his character. For one man thinks it
> reasonable to perform the meanest office for another; for he

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[1] Beating, flogging, etc.
[2] "Primary Notions. 'They are certain general terms used commonly by men (such as good, happiness, justice), and their proper application not being reasoned out by the individual before he uses them, they are in a sense anticipations of reasoned knowledge.' (Matheson)" [footnote from quoted text]

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> looks merely to this, that if he refuses he will be beaten and
> get no food, while if he does it nothing hard or painful will
> be done to him. To another it seems intolerable not only to
> do this service himself, but even to suffer another to do it.
> If then you ask me, 'Am I to do it or not?' I shall say to
> you, to get food is worth more than to go without it, and to
> be flogged is worth less than to escape flogging: therefore,
> if you measure your affairs by this standard, go and do it."
> (Arrian's Discourses of Epictetus, Book I, Chapter II;
> p226-227)

His examples are of everyday human thought and behavior such as punishment, suffering, and decisions about work. Religious thought and the behavior that it informs have also proven to be of particular relevance for this inquiry and have accordingly provided the examples that have captured the attention of philosophers, theologians and social scientists as they have pursued the question of whether religious statements and religious behavior are in fact rational. The Rationality Debate that took place in the sixties and collected by Bryan Wilson in 1970 is simply one instance of a profound disagreement about human rationality. What I hope to contribute here in an original way is both critical and constructive. It is critical because it shows the limitations underlying the assumptions upon which the Debatists based their conclusions. It is constructive because it indicates a new set of assumptions and tools which allow us to see the Rationality Debate for what it really is: an inquiry into how the mind actually works.

Up until now the Debatists have based their discussions and conclusions on unwarranted assumptions about the role that minds play in determining what Lévy-Bruhl would call mental orientations. I want to suggest that by re-examining the foundations of the Debate – i.e. recognizing its psychologistic nature – we can then use the tools of cognitive science to dramatically change those foundations.

It is often helpful when embarking on a project to spell out what one will *not* attempt to do. First of all I will not attempt to become a debatist.

I Will Not Attempt To Become A Debatist
In writing this dissertation my hope is neither to define rationality nor even to label religious behavior as rational or irrational. In fact if any conclusion of that sort were to be attempted it would most probably be that religious behavior is possibly non-rational, a-rational, or that rationality is beside the point. This does not mean that humans are not making demonstrative and non-demonstrative inferences in their religious reasoning. It is just that definitive judgments about human reasoning as 'ends-means' rationality or 'bounded' rationality, logical rationality, communicative rationality, instrumental rationality are interesting but not necessary in order to address the, often implicit, assumptions underlying the Debate. It is more relevant to focus on the point in our intellectual history when many of the principles emerged to which the debatists are committed, whether they know it or not. In other words I do not to intend to *join* the Debate. Instead I want to explore the intellectual impetus of the Rationality Debate, which I take to be the work of Lévy-Bruhl (via Evans-Pritchard), and show that this work is flawed. Not in the way traditional social scientific critics have argued but rather from the perspective of a cognitive scientist. When doing so I will not survey all the intricacies of all the debatists' stances.

I Will Not Explain All The Intricacies Of All The Debatists' Stances
As already mentioned the Rationality Debate has drawn many scholars into the ranks of debatists. However the aim of this work is not to examine the roll of debatists and list their subtle differences. Instead I mean to identify general schools in which all the

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debatists may be placed, namely the Universalists and Relativists. By doing so I can then highlight the fundamental principles upon which they base their arguments and conclusions. Whether they know it or not, scholars in both of the schools I have identified share key intellectual commitments. The recent Sahlins-Obeyesekere discussion highlights this point.

Sahlins and Obeyesekere

A recent discussion in anthropology has garnered a high degree of interest. This discussion swirls around interpretations of Hawaiian reasoning about their contact with the British explorer, Captain Cook. Marshall Sahlins in his book *Islands of History* (1985) uses this historical event as a test case in order to argue for a "structural theory of history." Sahlins argues that the 18th century Hawaiians superimposed meaning onto the events surrounding the arrival, departure, eventual return and killing of Cook. The meaning or "cultural scheme" applied here was a myth concerning the god Lono. Since Cook's contact with the Hawaiians matched (coincidentally according to Sahlins) this cultural scheme, the Hawaiians reasoned by "encompassing the existentially unique with the conceptually familiar." (Sahlins 1985 p146) The result was that Cook was treated as Lono during his stay. The aptness of this cultural scheme was reinforced when the departure of Cook coincidentally matched the Hawaiian mythical specifications. Sahlins further argues that Cook's sudden return (due to a broken mast) did not match the Hawaiian myth and therefore violated their already activated cultural scheme. All quickly went south and Cook was killed.

This interpretation of human behavior is a good example of a scholar appealing to cultural uniqueness. He clearly is a cultural relativist since he insists that meaning

specific to a particular culture is what allows us to understand, as far as we are able, the historical acts within that culture. Sahlins at this point, however, makes no explicit claims about the rationality of the Hawaiians.

Gananath Obeyesekere quickly addressed what he sees as implicit judgments about indigenous rationality in anthropology in general and Sahlins' work in particular. Obeyesekere's expresses sharp indignation in response to the apparent relegation, once again, of indigenous peoples to pre-logical status. He believes that depicting the Hawaiians as believing Cook to be a manifestation of Lono smacks of notions of the intellectually inferior native, unable to reflect on events logically and remaining trapped within an inflexible, mythopoeic mentality. Obeyesekere, however, proceeds to speak out of both sides of his mouth. He objects to what he perceives to be Sahlins' universalist claim that the Hawaiians have inferior cognitive abilities (compared with those of Western peoples) but at the same time rejects the two-fold relativist claim of the majority of anthropology that (1) each culture can only be understood on their own terms and (2) all culture's are epistemologically equal and therefore rational. He interprets the Evans-Pritchard-like interpretation of native reasoning as relatively rational to simply be a euphemistic way of saying it is pre-logical.

He proposes to apply an universal standard for rationality to all cultures that does not appeal to logical models which entails inflexibility of thought. He draws heavily from Weber's notion of Practical Rationality and seeks to apply its ends-means, goal-orientation not only to economic and warfare scenarios but to the wider set of human reflective thought. This will, he hopes, loosen the hold of "the distinction between civilized and savage, the West and its Other" (Obeyesekere 1997 p229) on the social

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sciences. Obeyesekere, while not perhaps as sophisticated a debatist as Horton, Tambiah, or Hanson – debatists I will discuss in chapter four – he seems to fit in the group of scholars trying to find a middle way between strict universalist or relativist understandings of rationality but is, essentially, in the universalist school.

Nonetheless, closely examining subtle differences between scholars within the debate is not relevant to examining more essential theoretical and philosophical issues since what is pertinent here is an understanding of those most basic assumptions that the members of each school hold in common. My claim is that specific aspects of the work of Lévy-Bruhl and Evans-Pritchard are the basic foundations for these two divergent schools within the Rationality Debate, however these foundational principles have been misunderstood, misrepresented, and misapplied by the debatists (like Obeyesekere). That being said I will not survey the complete works of Lévy-Bruhl or Evans-Pritchard.

I Will Not Survey The Complete Works Of Lévy-Bruhl Or Evans-Pritchard
By discussing Donald Wiebe's (and Benson Saler's) views I am able to demonstrate that even Lévy-Bruhl's supporters mistake one of his fundamental points. This is ironic considering the very pointed titles of his most important works (i.e. 'How Natives Think' and 'Primitive Mentality'). These two works in particular have provided ample grist for the mills of his critics who have pilloried and denounced his claims. The focus of this dissertation is on the fact that Lévy-Bruhl, for all his unfortunate vocabulary (i.e. 'pre-logical'), was actually trying to make sense of human behavior (using religious behavior as a test case) *by proposing a psychologistic explanation.* Had Lévy-Bruhl recognized the flawed mental models he employed, had the findings of cognitive science been available to him, and assuming that he availed himself of them, the entire tenor of the

Rationality Debate would have been significantly different. As a result it would be (and in fact *is*) necessary to rethink the discussions and conclusions of the Rationality Debate that are implicitly and explicitly based on Lévy-Bruhl's work.

My reading of Lévy-Bruhl is different than that of other scholars. He certainly demonstrated the tendency to consider so-called primitive behavior and ideas as intellectually inferior to so-called modern behavior. However, I am not of the opinion that he regarded primitive societies to be behind *mentally*, in evolutionary/developmental terms. Nor do I say so in this dissertation. He instead stipulated that all humans had the same brain but that little if anything could be said about it and so if anything was to be said about human thought it had to be said about a sort of mental Cartesian plane. A person's brain and their mentality, as a result, are decidedly different things. It is this aspect of Lévy-Bruhl's work on which I will focus. For him, the social institutions of a community generated certain kinds of representations that in turn 'oriented' that community's *collective* mentality in either a prelogical or logical direction, depending on the type of institutions created. From the point of view of the cognitive science of religion, while cultural context cannot be ignored, cultural systems are not the primary mechanisms that cause individuals to behave in specific ways, recent controversies about the role of group selection notwithstanding. Instead how people behave is largely a function of how their mind/brains are constituted. As such, Lévy-Bruhl's psychologistic work, extended by Evans-Pritchard, has bequeathed primary assumptions to the Debatists. Because of the emphasis both of these scholars placed on religious behavior I have chosen to focus my discussion on a narrow test case: the arguments advanced by

social scientists who have engaged in the comparative cross-cultural study of various *religious* systems of thought.

What I DO *Intend*

As stated above, of particular importance to the study of religious behavior is the work of Lucien Lévy-Bruhl who, perhaps more than any other scholar, has proposed an account of religious thought that contrasts two types of mentalities "primitive" (or mythopoeic) and "modern". Equally important is E. E. Evans-Pritchard who was a rare careful and respectful critic of Lévy-Bruhl but still used his work as a foil in important books like "Nuer Religion," "Witchcraft, Oracles and Magic Among the Azande," and "Theories of Primitive Religion." Evans-Pritchard rejected a radical polarity of mentalities model and instead promoted an understanding of religious thought in the context of each culture's relative symbolic and cultural systems, including language; choosing to focus on the equality of peoples rather than apparent disparity. Because of the powerful views of both of these scholars their approaches came to roughly embody two sides of the Rationality Debate that has gone on between philosophers, theologians, anthropologists/sociologists, and comparative religionists for decades; each side (relativists v. universalists) arguing against the other using, ironically, many of the same fundamental assumptions about human thought.

I intend to argue that the generally accepted reasons for rejecting (1) Lévy-Bruhl's claims about primitive systems of thought (a result of a primitive mentality), (2) Evans-Pritchard's relativist claims about religious thought and behavior, and (3) corresponding arguments about the rationality or irrationality of humans are inadequate. My purpose is neither to rehabilitate Lévy-Bruhl's generally rejected thesis nor discredit Evans-

Pritchard's work but rather to show that there are more effective scholarly tools available for approaching and perhaps deconstructing, both theoretically and meta-theoretically, these psychologistic stances – tools that incorporate our present knowledge of how human minds actually work. This may suggest that scholarly preoccupation with apparent errors of reasoning that support the putative contrast between "primitive" and "modern" mentalities and behaviors (particularly ritual behavior) is misguided.

Horrifying But Is It Irrational?

Consider the following scenario: You are in Maseru, the capital city of the Kingdom of Lesotho in southern Africa. While there you become aware of two rampant problems. The first is the relatively widely publicized HIV/AIDS epidemic. The second is the rather less well known (at least outside of Africa) high number of cases of rape; specifically of extremely young girls.[3] At first glance it seems reasonable to attribute, at least in part, the cause of the former to the latter. But what explanations can be offered for the inordinate number of young rape cases? During a visit to Lesotho spanning 2000-2001 I was surprised and horrified to find that the former actually contributes to the latter. How can this be? According to those I spoke to there is a widespread belief among many Basotho[4] that having sexual intercourse with a young girl – virgins are most effective – has a curative and preventative effect; specifically in regard to HIV/AIDS. Reports on this matter suggest that rapists consider virgins to be less likely to have HIV/AIDS and/or

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[3] Multiple cases with victims as young as 3 years old have been documented. Recently the following case was reported: "10-YEAR-OLD GIRL RAPED BY 67-YEAR-OLD MAN, Leribe – A-67-year-old man has been arrested by the Leribe police charged with rape of a 10 year old girl. Senior Superintend Chakela Chakela said the community of Pela-Ts'oeu surrendered the suspect to the police on Sunday. He said, the crime was committed in December last year, but went unreported by the care taker of the victim, who is reported to be related to the suspect. He said, the care taker told the police that she did not report the matter because, she had intended to discuss the matter with the victim's parents. Senior Inspector Chakela, commended at the community's responsible act of breaking the silence against the rape of a minor."

[4] Similar beliefs are in evidence outside of Lesotho. i.e. South Africa, Swaziland, Zimbabwe, Botswana.

have a special quality that will either prevent a rapist from contracting HIV/AIDS or cure one already infected. Viewed with this in mind the high rate of sexual assault and high percentage of HIV/AIDS cases are not surprising.[5]

Anyone to whom I related this story was, not surprisingly, shocked. At first, unreflective horror dominated. After some reflection judgments were made about why people were willing to entertain such ideas. The overwhelming consensus was that such people could not be rational or at least that particular idea was irrational. For me, however, such judgments are unsatisfying, though my initial sensibilities were shocked as much as the next person. Having spent a considerable amount of time in Lesotho I can recall that I relied, unconsciously, on behavior that does not shock me; behavior that, if I casually reflect on it, I consider compatible with my basic expectations for human behavior. For example, when speaking to a Masotho about her son she casually mentioned that she needed to take him to the clinic in Roma so the doctors could treat his recurring headaches. In Maseru, the capitol of Lesotho, multiple billboards promoting condom use as a way to prevent the spread of HIV/AIDS were in evidence. Additionally, condoms are available and move quickly off the shelves from any outpost store in the remote mountainous regions to any store in Maseru, Leribe, or Mohales Hoek to the convenience shops at the campus of the National University of Lesotho in Roma.[6] These examples are of behaviors I found to be compatible with my normal expectations of human behavior when faced with a medical crisis.

Because unexpected and expected behavior is concurrently exhibited by the Basotho, like the examples mentioned above, not only in the same country or region but

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[5] See Pinker's discussion of rape. *The Blank Slate* 2002 p359-371.
[6] These are anecdotal examples.

by the same individuals, making judgments about the nature of Basotho culture in general and Basotho religion in particular - in terms of rationality - seems exponentially thorny.

Oddities

Religions are strange; *other* religions, in particular. In a recent animated sitcom[7] episode two of the main characters discovered some native American burial mounds. They return home and the sister proceeded to do some research on culture of the people who built the mounds and found that they worshipped things like beavers, possums, and spirits of dead elk. The brother responded with relief: "Whew! Thank goodness we have come to our senses and worship a carpenter that lived two thousand years ago!" However, to say that religion is strange is insufficient when really trying to understand cross-cultural religious behavior. The justification for this shocking behavior does seem to have a religious motivation. Not surprisingly, many scholars have focused their inquiry on understanding explicit behavioral disparity between different religions. In such studies it is the kind of behavior that stands out against typical backgrounds that captures our attention and demands explanation. It seems that what religions have in common is not as interesting as where they differ especially when such differences have disturbing behavioral consequences.

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[7] The Simpson's

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CHAPTER TWO

Lucien Lévy-Bruhl

Introduction

      Lucien Lévy-Bruhl was perhaps one of the most infamous scholars who faced the

reports of puzzling religious behavior[8] with keen interest and thought that he had an

explanation for it. Though he was what some now disparagingly call an 'arm chair

theorist,' Lévy-Bruhl sincerely wanted to make some sense of the apparent dichotomy

between so-called modern and primitive man as this was revealed in cultural ideas and

practices and general and religious ideas and practices in particular. Assuming for the

moment that such statements are not merely metaphorical attributions, how, for example,

can one understand the Australian Aborigine assertion that the Sun *is* a white cockatoo; a

notion that is, in general, if taken literally, irrational at least by our common sense

standards.   As seemingly irrational is the willingness of the Zulu, Basotho, and Nuer to

entertain notions like lightning *being* a bird, tornadoes *being* invisible snake-men, and

cucumbers *being* oxen, respectively. These are the types of surprising incidences Lévy-

Bruhl wanted to explain. What struck him as particularly telling when considering these

events was what he perceived to be the incredible disparity between the modes of thought

between the West and so-called primitive cultures (i.e aborigines, zulu) Accordingly, he

posited the notion that so-called primitive man, primarily, employs a pre-logical

mentality and modern man a logical mentality.

> "When confronted by something that interests, disturbs, or
> frightens it, the primitive's mind does not follow the same

---

[8] At the very least Lévy-Bruhl is my ally in that he made no significant distinction between magic and religion. This remains somewhat of a contentious point between scholars but I'm pleased that Lévy-Bruhl got it right.

> course as ours would do. It *at once* embarks upon a
> different channel." (Lévy-Bruhl 1923 p35; my emphasis)

In order to set up his theoretical project Lévy-Bruhl first rejects the methods of

the Early Intellectualists[9] on the grounds that the explanations they propose are in fact

impositions of their own thought onto other minds. He, like Durkheim and more modern

postmodernists though in importantly different ways, was of the opinion that different

cultures had to be gauged according to their own cultural conditions and could not, then,

be explained using models of individual psychologies. In other words, minds (whether

primitive or modern) can only be explained by understanding collective representations

borne from a particular culture's social structures. In this sense each culture's mentality

can be seen as distinct.

Fiduciary Minds

Interestingly enough, Lévy-Bruhl was a contemporary of Emile Durkheim but

also took some pains *not* to be associated with the Durkheim School. I say interesting not

only because his resistance to the incredible influence of Durkheim was rare but also

because in actuality he fundamentally adhered to Durkheim's notions of sociological

theory.

Religion as a social organizing force (for good *or* bad) is perhaps one of the most

common approaches taken by scholars today. Emile Durkheim is the greatest example of

scholars who take up this functional explanation. (Lawson and McCauley 1990 p 48-49)

Pascal Boyer seems to believe this is not surprising since "scenarios that focus on *social*

needs all start from a commonsense (true) observation. Religion is not just something

that is added to social life, it very often organizes social life." (Boyer 2001 p23)

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[9] For more on the Intellectualist program see Lawson/McCauley 1990 chapter 2.

Religious ideas often help shape the way people interact with each other. Because of this basic notion, religion is deemed by many scholars to stabilize society, support particular social schemes, and uphold moral rules. These perspectives are examples of functional explanations; since religion functions in an important way that important function is therefore an explanation for why religion exists in a particular culture. The explanation for the existence/creation of religion is that it functions as a social stabilizer without which society would crumble.

It is no surprise if viewed in the context of functionalist sociological theory popular at the time that Lévy-Bruhl took the collective representations of a society to be functions of social institutions or structures. These representations are the means by which one understands the "channel" on which minds might embark; the channel taken determining the type of mentality exhibited: primitive or modern, pre-logical or logical. The distinction between these two broad characterizations of mentality is largely a matter of what Lévy-Bruhl calls "orientation." Primitive or pre-logical minds are oriented toward the supernatural or in Wiebe's terms the "mythopoeic." (Wiebe 1991)

On the other hand modern (or civilized) minds are oriented toward logical (Wiebe: scientific) thought. Logical here refers to Aristotelian logic. Lévy-Bruhl maintained that civilized minds tend toward more deductive reasoning.[10] This is not to say that Lévy-Bruhl considered primitive minds to be lacking in logic altogether. Depending on one's perspective this could mean that primitive minds operate using logic but non-Aristotelian or that the logic employed is sometimes ignored.

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[10] Scholars like Evans-Pritchard and Don Wiebe remind us that Lévy-Bruhl is speaking in terms of tendencies. Modern minds 'tend' toward deductive reasoning, he claims, but do not engage in this type of reasoning exclusively. In probabilistic terms, a modern mind is more likely to employ deductive reasoning than in another type of reasoning (i.e. abductive, inductive)

> "Prelogical does not mean alogical or antilogical.
> Prelogical, applied to primitive mentality, means simply
> that it does not go out of its way to avoid contradiction."
> (Lévy-Bruhl 1923 p21)

For example, though we in Western civilized communities would be bothered by the inherent contradiction in the assertion that the sun is in fact a white cockatoo Australian aborigines, even if they recognize the contradiction, seem to be unconcerned by it.

Critics

When reading his critics it seems that the possibly inadvisable vocabulary Lévy-Bruhl employed adversely affected their reading of him. Terms like 'pre-logical' are, to many socially conscientious scholars (among others), like a red flag to a bull. Unfortunately, like the bull, many scholars either are unable or refuse to move beyond their initial hostility before stamping their feet, snorting, and charging. As a result they miss the subtle sophistication in his theoretical project. Furthermore they misinterpret his later writings as a recantation of his thesis rather than an attempt to streamline it. Despite what are certainly knee-jerk readings of Lévy-Bruhl it is still surprising that he has been such a bullseye for anthropologists' arrows. Though his choice of theoretical labels might be ill-advised he still toed the methodological line by advocating an approach based on the same fundamentals seen in the Social Science Model. (Tooby and Cosmides 1998)

Needless to say this approach has drawn detractors like few others especially in the prevailing climate of maintaining inter-cultural equality (seemingly at all costs). There are, however, some notable exceptions. For example, Donald Wiebe positively discusses Lévy-Bruhl's work extensively in his *The Irony of Theology and the Nature of Religious Thought*. Though for a different purpose Benson Saler discusses Lévy-Bruhl in

his essay "Lévy-Bruhl, Participation, and Rationality." In each of these apologetic works

the authors admit that the vast majority of social scientists do not accept Lévy-Bruhl's

dichotic mentalities theory. The basis of this rejection is rarely, if ever, a result of a

proper criticism of his use of now defunct psychological models and faulty sociological

theories. Instead (as mentioned above) the sole impetus for Lévy-Bruhl bashing is that

the political and humanistic sensibilities of these critics have been offended by the

apparent suggestion of the word 'pre-logical' that some human groups are intellectually

inferior to us in the West. It is to many scholars, like Obeyesekere, simply another

example of an academic colonial project. Therefore I believe it is right that those like

Wiebe defend Lévy-Bruhl.

That being said, it is as unfortunate that the defenses of Lévy-Bruhl are largely

just cursory refutations of the majority view of him as "anthropology's adopted prodigal

son, worthy of a fatted calf because of his posthumously published recantation." (Saler

1997)[11] I would like to see them instead critically recognizing the worth of his

theoretical project *as well as* its psychological deficiencies. Saler does point out that

Lévy-Bruhl "prefigures some contemporary anthropological findings."(Saler 1997) He

specifically mentions Ethnopsychological research. However this project is, for the most

part, a buttress of the anthropological status quo since it is at the end of the day simply a

taxonomy of different 'feelings' and vague emotional dispositions[12] toward cultural

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[11] Saler and Wiebe reject the notion that Lévy-Bruhl saw the error of his ways and recanted in the posthumously published *Notebooks*. I find that I agree with them and Evans-Pritchard in that Lévy-Bruhl's thesis was more intricately subtle than his detractors may believe and that any so-called recantation in *Notebooks* is in actuality a refinement of his thoughts; a mark of a sophisticated theorist.
[12] This is not to say that research on human emotion is irrelevant to understanding human behavior. Quite the opposite. Indeed leaders the interdisciplinary field of the cognitive sciences have much to say on the topic of emotion. See Boyer 2001, Whitehouse 2000, McCauley/Lawson 2002.

materials. Catherine Lutz defends the status quo by appealing to the traditional

anthropological emphasis on field ethnography and meaning:

> As I listened to people speak the language of emotion in everyday
> encounters with each other on Ifaluk atoll, it became clear to me that the
> concepts of emotion can more profitably be viewed as serving complex
> communicative, moral, and cultural purposes rather than simply as labels
> for internal states whose nature or essence is presumed to be universal.
> The pragmatic and associative networks of meaning in which each
> emotion word is embedded are extremely rich ones. The complex
> meaning of each emotion word is the result of the important role those
> words play in articulating the full range of a people's cultural values,
> social relations, and economic circumstances. Talk about emotions is
> simultaneously talk about society – about power and politics, about
> kinship and marriage, about normality and deviance – as several
> anthropologists have begun to document (Abu-Lughod 1986; Fajans 1985;
> Myers 1979; Rosaldo 1980). (Lutz 1998 p 6)

I concede that there *are* inquiries within anthropology that are psychologically based.

However, quasi-psychological projects like so-called 'cognitive anthropology' are only

red herrings to those who would like to pursue viable explanations of human behavior

using actual resources from the cognitive sciences; something Saler does not note.

Wiebean Support

   Don Wiebe champions Lévy-Bruhl in a clear and straightforward manner. His

strategy focuses on four points. He first addresses the widely held notion (at least within

anthropology) that Lévy-Bruhl in fact bent and finally broke under a barrage of criticism,

noted above very poignantly by Saler. Both Saler and Wiebe reject the notion that Lévy-

Bruhl saw the error of his ways and recanted in his latest works and most

comprehensively in the posthumously published *Carnets*. While interpreting

posthumous, unedited works is potentially hazardous I find that I agree with them and

Evans-Pritchard: Lévy-Bruhl's thesis was more intricately subtle than his detractors may

believe and any perceived recantation in *Carnets* are wishful political thinking and in

actuality a refinement of his project; a mark of a sophisticated theorist and preeminent

scientist.

Second, Wiebe recognizes that critics fail to sufficiently understand Lévy-Bruhl's

project.[13] He faults them for attributing to Lévy-Bruhl a "biological-cum-psychological

theory of the primitive mind" lumping him in with the Early Intellectualist program.

Wiebe, for his part, argues for a non-psychological reading of Lévy-Bruhl.

> His theory does not concern the individual's ability to
> reason or to make use of ideas and concepts but rather
> focuses on the framework – the set of categories and
> concepts – within which such individuals reasoned. *Lévy-
> Bruhl's approach was precisely not psychologistic*; it was
> an attempt to replace the psychologistic theories of early
> English anthropologists, who tried to explain social facts in
> terms of the psychological processes of individual minds,
> with a sociological account of individual though in terms of
> collective representations." (Wiebe 1991 p 51-52; my
> emphasis)

It is indeed the case that Lévy-Bruhl both found fault with the theoretical project of the

Early Intellectualists and wanted to promote a theory that would stand in contrast. Wiebe

is correct, then, in suggesting that the critics misread Lévy-Bruhl. That this theory is "not

psychologistic," though, is not as accurate as Wiebe would have us believe. That Lévy-

Bruhl is a contextualist is certain but the bare fact that he raises issues concerning

thought, thinking, mentality, and minds certainly makes his theory 'psychologistic.'

Simply because he places a greater emphasis on external factors to explain the mental

behavior of humans does not make his endeavors non-psychologistic. If this were the

case Behavioristic Psychology would be a misnomer.

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[13] He generously attributes this to a misunderstanding or misreading; something I would agree with but add
that a willful desire to maintain the status quo is as much to blame and therefore an answerable accomplice.

Third, a large number of 'wishful thinkers' leads Wiebe to conclude that Lévy-Bruhl must be on to something. "That Lévy-Bruhl still inspires that kind of reaction ought to raise our suspicions as to the real value of his work; his critics protest overmuch." (Wiebe 1991 p 52-53) It is certainly the case that subsequent scholars have proffered similar dichotomous theories. Whitehouse makes this point well, though conspicuously leaving out any mention of Levy-Bruhl, while introducing his own dichotomous model of Imagistic and Doctrinal modes of religiosity:

> It has long been recognized that "religion" encompasses two very different sets of dynamics: Max Weber (1930, 1947) distinguished routinized and charismatic religious forms; Ruth Benedict (1935) contrasted Apollonian and Dionysian practices; Ernest Gellner (1969) explored the opposition between literate forms of Islam in urban centers and the image-based, cohesive practices of rural tribesmen; Jack Goody (1968, 1986) developed a more general dichotomy between literate and non-literate religions; Victor Turner (1974) distinguished fertility rituals and political rituals as part of an exposition of the contrasting features of what he called "communitas" and "structure"; I. M. Lewis (1971) juxtaposed central cults and peripheral cults; Richard Werbner (1977) contrasted regional cults and "cults of the little community"; Fredrik Barth (1990) distinguished "guru" regimes spread by religious leaders and "conjurer" regimes in which religious revelations inhere in collective ritual experiences. And these are just a few of the many attempts to characterize a fundamental divergence in modalities of religious experience and practice (see Whitehouse 1995: chap. 8). At the root of all such dichotomous models is a recognition that some religious practices are very intense emotionally; they may be rarely performed and highly stimulating (e.g., involving altered states of consciousness or terrible ordeals and tortures); they tend to trigger a lasting sense of revelation, and to produce powerful bonds between small groups of ritual participants. Whereas, by contrast, certain other forms of religious activity tend to be much less stimulating: they may be highly repetitive or "routinized", conducted in a relatively calm and sober atmosphere; such practices are often accompanied by the transmission of complex theology and doctrine; and these practices tend to mark out large religious communities—composed of people who cannot possibly all know each other (certainly not in any intimate way). (Whitehouse 2002 p293-294)

However, Wiebe's claim that the voluminous attacks on Lévy-Bruhl indicate some kind of persistent merit is generous. Lévy-Bruhl's detractors, as mentioned above, are generally not interested in seriously or deeply delving into his theoretical project. It is more likely that his frequent appearance in critical works is due to him unwittingly offering himself up as anthropology's favorite whipping boy.[14] The flogging of a dead horse is not necessarily a good reason to consider it a candidate for an equine Lazarus.

Finally, Wiebe suggests that there *is* a real difference between civilized and primitive thought and that this difference was correctly perceived by Lévy-Bruhl contrary to his critics' stances. He cites the acceptance of the psychic unity of humans by the vast majority of anthropologists (and the perceived rejection of this unity by Lévy-Bruhl) as a major impetus for refuting Lévy-Bruhl's thesis. As we've seen above, according to Wiebe Lévy-Bruhl's theory "does not concern the individual's ability to reason or to make use of ideas and concepts but rather focuses on the framework – the set of categories and concepts – within which such individuals reasoned." (Wiebe 1991 p 51-52) When he suggests that mentalities differ it is this framework that provides this difference and not a breach in the "logical/physiological unity of mind in humankind." (Wiebe 1991 p 63) In this Wiebe puts his finger on the essence of the dichotomous mentality thesis. Prelogical and logical thought is present in both primitive and modern groups. It is simply that the tendency to entertain mythopoeic thought is, in Lévy-Bruhl's words, "more marked and more easily observable among 'primitive' people than in our own societies" (Lévy-Bruhl 1926 p 23) due to the framework of cultural institutions (i.e. science) and resulting collective representations within which such people live.

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[14] Indeed Lévy-Bruhl has become such a pariah in any field that even those scholars who ought to know better join in the fray. See Heintz, Christophe 2004.

Conclusion

Stipulating for the moment that there are in fact degrees to which people tend toward religious (or mythopoeic) thought, the further idea that so-called primitive groups can readily be shown to exhibit a higher degree of mentally religious tendencies when compared to so-called modern groups is powerfully unconvincing. I will show later why it is unconvincing. WE might think this to be the case since we are habituated to the religious behavior in our own culture and therefore might naturally find the religious behavior of others to be odd. However, when re-examining the data it is *at the very least* arguable that most people, regardless of culture, exhibit such tendencies to similar degrees rather than dissimilar. Boyer notes with some incredulity the failure of people to see this point:

> Some Fang people say that witches have an animal-like, extra internal organ that flies away at night and ruins other people's crops or poisons their blood. It is also said that these witches sometimes get together for huge banquets where they devour their victims and plan future attacks. Many will tell you that a friend of a friend actually saw witches flying over the village at night, sitting on a banana leaf or throwing magical darts at various unsuspecting victims.
>
> I was mentioning these and other such exotica over dinner in a Cambridge college when one of our guests, a prominent Catholic theologian, turned to me and said: 'This is what makes anthropology so fascinating and so difficult too. You have to explain how people can believe in such nonsense.' Which left me dumbfounded. The conversation had moved on before I could find a pertinent repartee – to do with kettles and pots. For the question 'How can people possibly believe all this?' is indeed pertinent, but applies to beliefs of all hues and shades. The Fang too were quite amazed when first told that three persons really were one person while being three persons, or that all misfortune in this vale of tears stemmed from two ancestors eating exotic fruit in a garden. For each of these propositions there are lots of doctrinal explanations, but I suspect the Fang find the explanations every bit as mystifying as the original statements. (Boyer 2001 p297)

The following quote is from a column in the Public Eye newspaper in Maseru, Lesotho; a country reporting ninety nine percent of the population Roman Catholic.

> "The Archbishop of Chicago has now ventured in to a new
> line of business - blessing cars. He apparently blesses
> porches at a local dealership in return for a year's service of
> course. Don't they have sick people in Chicago?" (Atiz
> Fanana, *Public Eye*)

Blessing cars seems strange to the Basotho but we have already discussed the extremely bizarre Basotho concepts about HIV/AIDS so this author's statement is like the pot calling the kettle black, as Boyer noted.

At the end of the day Lévy-Bruhl relies on a model of the mind dominated by external influence (or stimuli in environmentalist terms); specifically the influence of external social institutions which shape a culture's collective representations. Stripped down to this central fundamental, Lévy-Bruhl's thesis is clearly dependent on both a environmentalist model of the mind and, despite his protestations, a Durkheimian view of society.

An environmentalist model of the mind (1) assumes the uniformity of all human minds (something almost universally accepted at the turn of the 20th century) and (2) necessarily relies on external stimuli for understanding human behavior. Lévy-Bruhl uses a Durkheimian model to provide a framework for the cultural material that determines a culture's collective representations which in turn determine the mental orientation or mode[16] employed by said culture. For both Durkheim and Lévy-Bruhl social institutions are self-perpetuating, but neither can offer an explanation for the

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[16] Interestingly, current anthropological scholarship by Harvey Whitehouse (modes theory) eerily echoes Lévy-Bruhl's thesis. See Whitehouse 2001.

existence of such cultural forms *except for the fact that they exist*; an example of the fallacy of affirming the consequent. Note the following description:

If A therefore B B	If Tom reaches for some biltong while driving (A) he may hit a springbok (B) Tom hits a springbok (B)
Therefore A	Therefore Tom reached for some biltong while driving (A)

The conclusion shown here does not necessarily follow from the event "hitting a springbok." It is certainly possible but not a necessary factor. Even if the it was certain that Tom would hit a springbok if he reaches for biltong while driving it is not the case that his hitting a springbok MUST be the result of only that even. Fortunately we are theoretically richer now with no need to beg the question. Hans Penner delivers a devastating and much more eloquent critique of functionalist explanations of religion in his book "Impasse and Resolution: A Critique of the Study of Religion." (Hans Penner, 1989) Because of the dominance of functional explanations as well as what Penner calls their "bankruptcy" in terms of causal explanation he comes to the following conclusion: "It is simply astonishing to discover that an academic discipline, a 'science,' of religion has little, if any, concern with theory." (Hans Penner 1989 p124)

We then have a large group (most anthropologists) arguing against Lévy-Bruhl and a small, if forceful, group (Wiebe et al.) arguing for Lévy-Bruhl. Ironically both groups seem to ignore proper bases for their respective arguments.

CHAPTER THREE

E. E. Evans-Pritchard

Prima Facia Irrationality

A *gentle* detractor to Lévy-Bruhl's attempt to explain seemingly puzzling and bizarre religious behavior is E. E. Evans-Pritchard. I say gentle because Evans-Pritchard, unlike many of his contemporaries, sought out, and I believe demonstrated, a thorough understanding (and better appreciation as a result) of Lévy-Bruhl's theoretical subtleties.[17] Even so Evans-Pritchard's task was to refute the pre-logical/logical mentality thesis while still making it possible for us to make judgments about the behavior in question. He recognized that the examples used by Lévy-Bruhl[18] are on the surface hard to understand; indeed much of Evans-Pritchard's ethnographic data was of similar behavior among the Nuer and Azande. His accounts of Nuer concepts about cucumbers *being* sacrificial oxen, twins *being* birds, and of Azande witchcraft having a hand in natural tragedies are famous Evans-Pritchard accounts of 'Lévy-Bruhlian' behavior. One needn't go far to find that similar accounts abound in ethnographic reports and texts in comparative religion. What follows are ethnographic accounts of the religious behavior of the amaZulu and Basotho in sub-Saharan Africa. I introduce these accounts in order to put the behavior within my particular area of knowledge into the context of Evans-Pritchard's approach so as to make it relevant to the discussion of Evans-Pritchard that follows.

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[17] Some scholars note that Evans-Pritchard had an excellent understanding of Lévy-Bruhl's argument; it is Evans-Pritchard's conclusions that are suspect. See D. Wiebe.

[18] Like the oft repeated aboriginal notion of the sun *being* a white cockatoo.

Becoming an amaZulu Diviner

Axel-Ivar Berglund, in his exhaustive ethnographic work *Zulu Thought-Patterns and Symbolism* (1976) gives a detailed description of the events that surround the calling and initiation of a Zulu person as a diviner (*inyanga*). According to his informants, it is not the choice of a person (most of those "chosen" are women) to be a diviner but rather the choice of the "shades" or ancestors (*amadlozi*). Shades are the initiating agents and, therefore, play a fundamental role in the process of becoming a diviner.

The Call of the Diviner

This call by the ancestors can be 'diagnosed' through many means. Strange dreams and visions, which are often vague incomprehensible and frightening to the dreamer, are interpreted by an experienced diviner[19]. One of Berglund's informant diviners related one such dream that included such things as pain from eating pork, cattle eating snakes, the vomiting of snakes, and animals with eight legs. This dream was the dream that indicated a calling by the ancestors for the informant to be a diviner. Not all dreams indicate a calling to divination by the ancestors but an experienced diviner is believed to have the knowledge necessary to make correct "diagnoses."

The Signs of the Call

Other symptoms of a calling are frequent sneezing, yawning, belching, and hiccups. These actions "come from the place of the shades [ancestors] in a man. They are caused by the shades when there has been sleep and there is no sickness (*umkhuhlane*, i.e. everyday ailments such as colds)." (Berglund, p.137) The sneezing must be excessive and of such a nature which distinguishes it from ordinary occurrences. Belching, for

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[19] This means that the experienced diviner has already gone through the process and is therefore qualified to act on behalf of the shades. It is also interesting to note that in some cases these ordinary incidences are just what they are but in other situations they are said to be something seemingly irrational i.e. lower back pain vs. dead people occupying one's gall bladder

example, creates a "sour wind" when the ancestors are present, a result of acidity because they reside and work near the gall, but is "just wind" when they are not. Shades at work in pregnant women are believed to produce this acidity as well. According to Berglund sneezing and yawning frequently occur initially followed by belching and hiccups; more advanced indications of a call. The ancestors have "sunk down deeper into him" occupying "the places of gall and the lower back."

Similar to the acidity caused by the shades working near "the gall," pain caused by the residence of shades in places ranging from the lower back to the shoulders and lower neck or *izibhopho* are even more advanced signs of a calling. Again it is important to see that *izibhopho* is present without an ordinary sickness that would indicate to the diagnosing diviner that the shades are present. Every calling by the shades will be indicated by the symptoms discussed above as well as things like an unusual wakefulness at night but this calling is not identical for all diviners. An experienced diviner is essential for an accurate interpretation of events. She can be thought of as a representative of the shades. She already has access to that special world beyond the ordinary world of day to day living.

Lightning
Like the *izinyanga zemithi* (isiZulu diviners) the role of the *izinyanga yezulu* (heaven-herds) is often connected to bizarre events that are *prima facia* evidence for Lévy-Bruhl's pre-logical mentality. In particular the heaven-herd is the person who will attempt to mitigate the effects of lightning storms by going to isolated hills and attempting to communicate directly with *Mvelinqangi* rather than, as is the case with

izinyanga zemithi, the ancestors (*amadlozi*). According to Berglund et al. this is the case because lightning is associated directly with Nkosi.[20]

Lightning is often reported to be a particular kind of bird that comes to earth from the sky at the behest of Nkosi. This bird (*inyoni yezulu*), sometimes named *iMpundulu*, is referred to as a hen that comes to earth to either lay its eggs or to fetch those people *Nkosi* wants up in the sky (*izulu*). Berglund relates the report of a man claiming to have seen "lightning" come into his house. He mentions medicines he had taken since only those who are to be fetched or those who have taken strong medicines look upon *inyoni yezulu*.

> "'We were all in the house when suddenly the door was flung open and lightning came in, taking this one and that one. All fell to the ground, but I stood up because of the medicines I had taken and desiring to defend the home with the medicines. I was holding them in my hand. So I stood up. Looking, I saw the thing. It was fearful to see and moved very quickly. But I saw it clearly. It was a bird. The feathers were white, burning. The beak and the legs were red with fire, and the tail was something else, like burning green or like the colour of the sky. It ran quickly, saying nothing, simply snatching those whom it took. Then it touched the grass with its fire. It vanished through the door again. When it had left, there was one who shouted, so we all ran out of the hut except those whom it had taken." (Berglund 1976 p 39)

In this instance it is clear that the informant is not reporting that lightning is *like* a bird but rather *is* a bird. Other informants have given similar reports about lightning perceptually resembling a bird. One heaven-herd (*inyanga yezulu*) went so far as to report that he was able to arrange a meeting, facilitated by *uMvelingqangi*, watch it lay eggs (3), kill the bird, and then take its eggs and body back to his hut. It was his intention to use the eggs and parts of the bird's body (the fat and blood especially) for his work as an *inyanga yezulu*. (Berglund 1976)

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[20] In addition to Berglund see Lawson 1984 and Lawson 1986 (narrated anecdotal material).

It is unclear whether this example actually conforms to Evans-Pritchard's

analysis.[21] While cucumbers can be oxen and cattle cannot be cucumbers, lightning is a

bird and that bird is lightning. It is not a case of one precluded from being the other since

lightning isn't just any bird but a particular bird. This observation raises questions about

Evans-Pritchard's treatment of symbolic-cultural material. With cucumbers and oxen

Evans-Pritchard asserts that the resemblance is conceptual NOT perceptual. With

lightning and the lightning bird this is not clear. Arguably reports could, and indeed do,

differ. According to Berglund while indeed some of the time lightning is considered a

bird it is not always the case.

> "Lightning is claimed to be a bird, *inyoni yezulu*, sent to the
> earth by the Lord-of-the-Sky. Others say that lightning is
> fire, but that the fire is brought to the earth by the bird. A
> third view, is that the bird is fire, but as flames of fire have
> different shapes, so 'the fire that comes from above is in the
> shape of a bird.'" (Berglund 1976 p38)

Regardless, reports that lightning is a bird does not preclude a bird from being lightning.

One of the groups that I have studied, the Basotho of sub-Saharan Africa,

entertain the ideas that snakes are sometimes birthed by humans, tornadoes *are* invisible

snake-men (Manyeli 1995 p 162-163), and mountain tremors are caused by giant snakes

burrowing through the ground.

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[21] Unfortunately it is often the case that difficult or awkward cultural reports are rarely if ever included in discussions about rationality, especially by those whose program includes maintaining the epistemological and intellectual equality of so-called primitive groups. Instances of twins being birds or cucumbers being oxen are examples of trouble free data while entertaining ideas about the inferiority of women or the rape of very young virgin girls to cure/prevent AIDS are vexing to many anthropologists, especially those who are feminists. See Slone/Mort (in press) This is true even of Evans-Pritchard though he notes that "the reports used by scholars to illustrate their theories were not only highly inadequate but…they were also highly selective." (Evans-Pritchard 1965 p8)

Accounts of Snakes

While in southern Africa I spent a year in both Lesotho and various parts of South Africa. My period of study there served two purposes: to develop further my knowledge of the Zulu language, and to learn as much as I could about the similarities and differences between Zulu and Basotho religion both by observation and by the study of texts, particularly those authored by Basotho researchers. What I found was that seemingly bizarre ideas (a la Lévy-Bruhl) were common. For example, one day I opened the English/Sesotho newspaper, The Public Eye, the mission of which is to "express popular feeling, raise awareness of public concerns, provide information regarding development plans and methods, aid the growth of literacy, report development news, successes and failures and act as a watchdog on government and public associations."[22] With such a mission statement and with my prior knowledge of the kind of material included I was surprised to note on its front page a heading one would expect from a tabloid: "Woman Gives Birth to Snake." According to the article, a woman began labor and was rushed to a Maseru hospital. [23] While there she apparently gave birth not only to a son but also to a snake. The woman was quoted in the story, as were some nurses and friends of the family. At the end of the article the attending physician was quoted as saying that there was no snake at all and the woman, anesthetized, must have mistaken one of the many tubes in the room for a snake.

Having already been alerted by my study of Zulu religion to the symbolic importance of snakes in that religious tradition, I could not help but be intrigued by this story. Was this also an example of religious symbolism in Basotho religion?

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[22] Taken from the online version: www.publiceye.co.ls

[23] Maseru is the capital city of Lesotho. The hospital in question was Queen Elizabeth II Hospital in the center of Maseru.

Furthermore, was this an example of some sort of primitive irrationality of the sort I as a

Westerner would not countenance as suggested by Lévy-Bruhl? There was little time to

ponder the questions as I was to discover that this was not the only time that snakes

would rear their symbolic head. In order to demonstrate this let me give an account of a

Water Project in Lesotho.

Lesotho Highlands Water Project

The Lesotho Highlands Water Project (LHWP), agreed upon by the Republic of

South Africa and the Kingdom of Lesotho in 1986, is one of the most ambitious dam

projects in the history of the world to date. Four proposed stages, with the 1st nearly

completed, would result in five dams, several connecting tunnels and a power station in

Muela. This construction is meant to provide Lesotho with some electric power as well

as reservoirs of water which is to be sold to South Africa and used in Lesotho as well.

Two damns, one at Katse and the other at Mohale, are either complete or nearing

completion. The power station at Muela is complete as are 3 tunnels necessary for the

diversion of water.[24]   Geologists, human rights activists, social scientists, banks,

investors, and governments hotly debate what the consequences of the project actually

are. Numerous issues such as the treatment of workers, compensation of workers and

displaced communities, geological and environmental effects, and corruption in the

LHDA (Lesotho Highlands Development Authority), World Bank, and governments of

Lesotho and South Africa have had an impact on the project.

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[24] I have visited the main three sites: Muela, Katse, and Mohale. Indeed Mohale was only a two-hour drive
from my house in Roma, the location of the National University of Lesotho.

Causes of Tremors

What concerns us here are some of the alleged geological effects of the dam project. Several fissures have been found and seen being created in the areas near to the dams in Mohale and Katse. Tremors are also common resulting in mudslides, more fissures, cracks, and destruction of property. According to those working on the project, academics studying it, and some NGO workers in Lesotho, these occurrences are due to the geological changes brought on by the construction of the massive dams and the resulting reservoirs.

When speaking with the people living in the Highlands (and elsewhere) different causes for these phenomena are cited. Several NGO workers and American academics surveying affected communities have reported that many Basothos attributed the tremors and creation of fissures to the movement of massive snakes through the ground in the mountains. Similarly, the cause of regular tornadoes and hurricanes in Lesotho during the 1950's was also attributed (by "ordinary traditional Basotho") to huge snakes moving from one place to another, their tails causing much destruction. (Manyeli 1995) When I asked various Basotho university students about this I received varying responses. Some scoffed at these accounts calling them 'superstitious' and 'primitive.' Others were inclined to agree but a bit hesitant to discount these so-called superstitious accounts too hastily. Others vigorously defended the 'snake theory'.

Interestingly enough, several of those students who rejected the 'snake theory' still gave credence to the story about the woman giving birth to a snake in the Maseru Hospital as reported by the Public Eye newspaper.

Basotho Myths

       Not only do snakes appear in everyday conversation in present-day Lesotho but

they also appear in recorded myths. Thomas Manyeli, in his rare work on Basotho

religion *Phenomenological Perspective of Basotho Religion* (1995) relates several myths

having to do with "Invisible People/Beings" including one in which Monyohe, a "snake-

man," who, in order to move about, became a tornado. Snake-men are invisible beings

that, under certain conditions (i.e. when they are hurt or provoked), are visible as snakes

or tornadoes, hurricanes or whirlwinds. When these beings die and after medicinal

ointments are applied they reappear as live human beings hence the name 'snake-man.'

>   "*Monyohe* is one of these mythical snake-men who occupied the lofty part
> of the marital hut. His mother, perchance found a suitable wife for him at the
> river bank. Monyohe's mother strictly forbade her daughter-in-law to kindle
> the fire in that particular hut. This poor girl was also ordered to bring a large
> amount of bread, meat and a similar quantity of butter-milk to that hut. To her
> surprise, that incredible quantity of food was daily devoured within a very
> short time by some unknown and invisible being. In the evening, however,
> she was ordered to sleep alone in that hut. During the night, Monyohe would
> stroke her gently with his tail. In addition Monyohe would say: 'I am
> smoking. I am changing places.'
>   The regular blow and the words puzzled and frightened her. Apart from
> that, neighbours informed her that many girls did not stay long at Monyohe's
> place. Such observations, the mysterious events and the words spoken by the
> invisible person encouraged her to run away. Monyohe was so offended by
> her desertion that "he" pursued her. He was enveloped in a tornado. Once the
> villagers of the fugitive woman were alerted, they built a barrier made of
> blades and knives across the path of Monyohe, who was eventually sliced and
> cut to death. His mother by telepathy learned of his death and came hastily to
> his rescue. On arrival, she collected what was left of the snake and burned it.
> She then collected the ashes, covered them with a skin of a slaughtered black
> ox and then threw them into a lake. After several rounds around the lake,
> Monyohe came back to life as a human being." (Manyeli 1995 p 161-2)

Twins, Cucumber, and Termites

       In all the examples given so far the surprising element is that some 'thing' is

regarded by a group of people to actually *be* something else and not simply represent or

symbolize that something else, at least some of the time. (i.e. pain *is* the ancestors living in the gall bladder; hurricanes *are* invisible snake-men) Like Lévy-Bruhl, Evans-Pritchard notes that it is difficult enough to understand these ideas especially when one of the entities is not an observable one (ancestors, snake-men, giant snakes). He mentions the association of crocodiles and Spirit. Crocodiles are, of course, observable whereas Spirit is not. Accordingly he introduces reports of such behavior where "both the subject term and the predicate term refer to observable phenomena." (Evans-Pritchard 1956 p 128)[25]

An example of associative thought in which the subject and predicate are observable phenomena is Evans-Pritchard's report of a sacrifice scenario when oxen are unavailable. The Nuer, with perhaps some difficulty, act in such a way so that they perform the sacrificial rite as they would if an ox was present.[26] In the case of funerary rites an animal (i.e. goat) is the prescribed sacrifice however "If the family have no animal to sacrifice the master of ceremonies sacrifices by cutting in two a wild cucumber." (Evans-Pritchard 1956 p146) One half, representing the living, is placed in the hut's thatched roof. The other half, representing the dead person, is thrown out of the village taking with it the 'contagion of death.'

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[25] It is interesting to note that the work of Evans-Pritchard and legions of subsequent anthropologists often hinges on the meaning of the word 'is.' When, therefore, Nuer say that the pied crow is the spirit *buk* or that a snake is Spirit, the word 'is' has a different sense from what it has in the statement that rain is Spirit. I can't help but humorously think that for similar convictions and testimonial statements former President of the United States Bill Clinton was impeached.

[26] What is not explored by Evans-Pritchard is whether something other than a cucumber may be considered an ox. If, for example, cucumbers are in short supply or simply unavailable as well might a pumpkin be a suitable substitution? He does mention that when a sacrifice is deemed necessary in the case of the consequences of 'small incest' (rual ma tot) the sacrifice can be either a cucumber or the fruit from a sausage tree. However this is not a case where the cucumber (or sausage tree fruit) is considered an ox. Theorists in the cognitive sciences may shed some light on this issue. Lawson and McCauley claim that their Ritual Form Hypothesis does predictive work in terms of the substitutability of ritual components. (Lawson/McCauley 1990, McCauley/Lawson 2002)

Another associative concept of the Nuer is that of twins and birds. The Nuer assert that twins are, in fact, birds. Twins are regarded, first of all, as a single personality instead of two. Evans-Pritchard notes "it is significant that *in speaking of the unity of twins* they only use the word *ran*, which, like our word 'person', leaves sex, age, and other distinguishing qualities of individuals undefined." (Evans-Pritchard 1956 p 128; my emphasis) Importantly, as indicated by my emphasis in the above quote, this notion of the unity of twins is only in acknowledged/employed/used during certain ritual (or symbolic) situations. In so-called normal social situations the duality of twins "is evident to the senses and is indicated by the plural form used when speaking of twins and by their treatment in all respects in ordinary social life as two quite distinct individuals." (Evans-Pritchard 1956 p128) So twins are not referred to as *dhol* (boy) or *nyal* (girl) but *ran* (person) and in the singular form only in special ritual situations such as marriage or death; in other words situations that resemble Van Gennep's notion of rites of passage. Rituals or ceremonies in which the participants (patients in Lawson and McCauley's terms) change in some way: social status, die, are born. According to Evans-Pritchard, not only are twins referred to as being one in personality with each other but both twins take part in the ritual process even when it is apparent that only one of them is to be changing status. For example when one twin gets married the other will take part. In fact, Evans-Pritchard reports that the Nuer desire that "female twins ought to be married on the same day." (Evans-Pritchard 1956 p 129) Additionally, funerary rites are not performed when the first twin dies.

The Nuer possess concepts of a high god, *Kwoth Nhial* (Spirit of the Sky), *orisa-*like[27] *kuth nhial* (spirits of the above) and totemic *kuth piny* (spirits of the below) which are more like the amaZulu concept of *amadlozi* or Basotho *bolimo* who do not reside in the sky but rather in the earth and in much closer proximity to people. For the Nuer, ordinary people (as opposed to special people like twins) are *ran piny* (a person of below). Twins are considered to be *ran nhial*; a person of the sky. As such funerary rites are not performed for *either* twin much like lightning strike victims in amaZulu communities do not have *ukubuyisa* peformed during their death rituals. When twins, in Nuer communities, die and when a Zulu is struck by lightning it is an extraordinary circumstance. Ordinary people (Nuer *ran piny* and Zulu who die in other ways) are called home to dwell with the ancestors in the earth and in close proximity to living people.

The *ukubuyisa* ritual is specifically performed for this purpose. In isiZulu *ukubuyisa* is, literally, the verb "to call." In the ritual the shade of the dead person is "brought home" to live with the rest of the ancestors. Along with feasting and various other activities, a trail is marked from the grave site to the appropriate *umsamo* (special space in amaZulu residences for ritual activities and *amadlozi* related materials). In essence, then, an amaZulu killed (or taken home to the sky) by *iNkosi* does not become an ancestor and does not live with them in the kraal (earth) but instead in the sky with *iNkosi*.

Similarly *ran nhial* (i.e. twins, or birds for that matter) do not finally reside with others who have died but since they are "associated with Spirit" (Evans-Pritchard 1956 p

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[27] For the Yoruba *orisa* are ancestors, and "deified" ancestors that reside in the realm of the sky near the high god *Olorun*.

131) their souls go up into the sky and therefore, like in the amaZulu rituals, their dead

bodies are not treated in the ordinary manner. The association with birds can be

particularly noted when infant twins die.

> "When an infant twin dies people say 'ce par', 'he has
> flown away', using the word denoting the flight of birds.
> Infant twins who die, as so often happens, are not buried, as
> other infants are, but are covered in a reed basket or
> winnowing-tray and placed in the fork of a tree, because
> birds rest in trees. I was told that birds which feed on
> carrion would not molest the bodies but would look at their
> dead kinsmen – twins and birds are also said to be kin,
> though the usage may be regarded as metaphorical – and
> fly away again." (Evans-Pritchard 1956 p129-130)

Importantly, Evans-Pritchard does not regard the Nuer assertion that twins are, in fact,

birds to be metaphorical in the sense he uses the term above.

So, we may examine reports of the amaZulu, Azande, Basotho, or the Nuer and in

all cases find ourselves in territory rife with incidents that prompt us to ask the same

questions posed by Evans-Pritchard and Lévy-Bruhl.

Berglund

Where Axel-Ivar Berglund fits in terms of his scholarly perspective is not entirely

clear. He is, no doubt, intensely interested in the ideas entertained by the amaZulu in

general and, in the above case, amaZulu diviners in particular. This is not surprising.

Many scholars with varying theoretical premises are interested in such cultural material.

Symbolists, according to Lawson and McCauley (1990), though they might differ in

some ways, agree on at least two points. First, all humans tend to employ encoded

concepts in order to express important values and ideas. The second point is that these

encoded concepts should not be taken as literal representations of the world. They have

hidden meanings which require decoding. The method of decoding symbols varies

greatly.

When confronted with the data (or symbols) concerning amaZulu diviners,

Berglund's perspective is that of a Symbolist. It is, of course, not surprising that

Berglund uses as his informants those people he deems to be extraordinarily

knowledgeable about these symbols.

> "It is natural that the knowledge which the persons have pertaining to the
> symbols and their interpretations varies. This allows for the experts in any
> given context who have a fuller knowledge of the symbols of that context and
> their use, as well as the experiences and sensations they are expected to
> arouse." (Berglund 1976 p 29)

We have already determined that snakes are prominent in the process of becoming a

diviner.[28] To a Symbolist understanding the amaZulu depends largely upon the decoding

of the symbol 'snakes.' For Berglund, his informants hold the key to the hidden meaning

behind the symbols. Over and over Berglund is told that snakes are 'associated' with

fertility, the shades, danger, and strength among other things. What is important here is

that Berglund accepts the associations that his informants attach to symbols such as

snakes. He is careful to describe the context for symbolic meaning since "the role of the

symbol in relation to the particular context requires attention" (Berglund 1976 p 29) but

the meanings of symbols are provided by the informants themselves.[29] While informant

reports should be taken seriously they are not, however, determinative of why people say

the things that they do and engage in the actions that they do.

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[28] The connection between snakes and ancestors in amaZulu mythology has been noted many times (i.e.
Krige, 1936; Lawson, 1984; Kohler, 1941).

[29] It is perhaps important to note that frequently in Berglund's reports he often presses his informants to
elaborate about the symbolic associations of various symbols (i.e. snakes, vertebrae) even to the surprise of
those informants.

Manyeli

A particularly interesting case can be found in the work of Manyeli who attempts to devise an explanatory understanding of symbolic thought from a "native" perspective which is, nevertheless informed by a "modern" intellectualist form of analysis. Before laying out the many Basotho myths he collected, Manyeli first lays out the fundamental premises under which he will interpret the data.

> "Myths constitute the expression of human understanding during the early stages of human intellect. Such expressions and understanding is arrived at in the pre-scientific, pre-technological, uncritical and naïve stage of consciousness and intellectual development." (Manyeli 1995 p 147)

Since myths are 'primitive' forms of explanation one need only determine: 1) what constitutes a myth and 2) what a myth, once identified, attempts to explain. A narrative qualifies as a myth when "They have a particular and unique form and style which distinguish them from pure fiction and history." (Manyeli 1995 p 149) The introduction and conclusion of myths are nearly always the same. There is no known author. In analyzing narratives one can see what a myth is as opposed to a "simple legend." (Manyeli 1995 p 152) In the case of the invisible snake-man, the story is an explanation of seismic and weather related events (among other things). Snakes are employed in such explanations not only in the myths Manyeli relates but also in everyday anecdotes; stories which do not necessarily conform to the specific structure of myths yet include many of the same important concepts preserved in myths.

Unlike Berglund, Manyeli (and other Intellectualists) takes myths and other religious ideas to be literal explanations of the world, not encoded expressions. (Lawson and McCauley 1990) When hearing the Basotho narratives "One must be open enough to listen to what is narrated as it is narrated, without leaving any room for interpretation."

(Manyeli 1995 p 148) Similarly, despite somewhat obvious feelings of incredulity, when examining the notions of the aborigines, Nuer, and Azande Lévy-Bruhl and Evans-Pritchard both take what is reported literally. When an aborigine says the sun is a white cockatoo Lévy-Bruhl considered this to be literal reporting. It is the same with Evans-Pritchard when hearing reports about twins. "It seems odd, if not absurd, to a European when he is told that a twin is a bird as though it were an obvious fact, for Nuer are not saying that a twin is like a bird but that he *is* a bird." (Evans-Pritchard 1956 p131; my emphasis)

It is not surprisingly, then, that the refutation of Lévy-Bruhl by Evans-Pritchard is not comprehensive. Both, for example, placed huge emphasis on analyzing human behavior, in the words of Evans-Pritchard, "…within their system of religious thought." Indeed for Lévy-Bruhl this is absolutely necessary since the driving force behind human mentality lies in culturally-specific social institutions determining a community's shared mental orientation. Evans-Pritchard relies just as heavily on culturally specific material. Systems of thought and particular languages demarcate mentality, indeed rationality, from others. This is noted in the full quote mentioned above: "But, in fact, no contradiction is involved in the statement ['a twin is a bird'], which, on the contrary, appears quite sensible, and even true, to one who presents the idea to himself *in the Nuer language* and *within their system of religious thought*." (Evans-Pritchard 1956 p 131; my emphasis; my addition)

Despite these similarities the differences, perhaps not in number but in being more fundamental, outweigh the similarities. Instead of considering behavior exhibited by groups such as the Nuer to be examples of an irrational mentality or one allowing

contradiction, Evans-Pritchard suggested that such behavior is in fact just as rational, logical, and empirical as that exhibited by any other group, including so called modern civilizations (i.e. European). He rebukes Lévy-Bruhl because he "excluded the mystical in our own culture as rigorously as he excluded the empirical in savage cultures." (Evans-Pritchard 1965 p91)

In those instances that the Nuer or the Azande or other such groups are willing to entertain seemingly irrational ideas, Evans-Pritchard argued that they are in fact engaging in culturally specific symbolic thought completely intelligible and rational to that group.

In essence, Evans-Pritchard argued for culturally relative standards of rationality in order to emphasize the basic similarities of all human mentality, despite the *prima facia* evidence that seems to support Lévy-Bruhl's dichotomous stance. Evans-Pritchard recognized that Lévy-Bruhl's work had clear implications for discussions about human rationality. While he sometimes hedged a little, Lévy-Bruhl argues throughout his works that primitive mentalities, oriented by external social institutions toward mystical channels, are indeed irrational and alogical though perhaps not illogical since, as Spiro notes, irrational behavior "makes sense in terms of emotion." (Spiro 1984 p338) For Evans-Pritchard, on the other hand, different mentalities (by which he means different societies) should be judged by their own standards not solely in terms of logic but also of his view of rationality. Because of this difference Lévy-Bruhl makes a perfect foil for Evans-Pritchard. For example are the so-called primitives mentioned by Lévy-Bruhl, Berglund, Manyeli, Evans-Pritchard et al. irrational compared with us in the West based on a universal standard or should their behavior be judged using standards relative to the people or society being judged? Benson Saler gives us a starting point of sorts in his

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article "Lévy-Bruhl, Participation, and Rationality" (Jensen and Martin eds. 1997) in which he orients a discussion of Lévy-Bruhl to reflect issues concerning rationality. Saler specifically addresses Lévy-Bruhl's understanding of *participation* and how it might inform discussions about types of mentalities and, by extension, rationality.

CHAPTER FOUR

Rationality

In this chapter I will provide a broad characterization of the general stances that
have emerged from the Rationality debate in order to give a 'state of the art' of the
human sciences which I will criticize later.

Participation and Affectivity of Thought

Participation, according to Saler (working from Plato), is "an ancient construct in
Western philosophy and theology" used to relate the realm of Being and the realm of
Becoming. (Saler p49) The realm of Being is that realm which includes "transcendant
Forms or Ideas" which are "incorporeal, unchanging, and eternal." (Saler p49) The
realm of Becoming is that realm which includes those things that are "apprehended by the
senses" and are "finite, mutable, contingent, and dependent." (Saler p49) Participation
then is a notion used to describe the relation of the supernatural and the natural.

> "The sensibles, the entities of the realm of Becoming, exist
> and have their apparent qualities because they participate, if
> only for a brief time, in the realm of Being, the realm of the
> intelligibles. And the realm of Being exists independently;
> it does not presuppose the realm of Becoming. If we deem
> a flower beautiful, it is because it participates fleetingly in
> Absolute Beauty. And although our flower will fade and
> wither, the Idea of Beauty will remain." (Saler p50)

Lévy-Bruhl asserts that in lower primitive mentality participation "is not
represented but felt." (Lévy-Bruhl 1949 p 158). Groups exhibiting this type of mentality
may seem to have lives that are wholly religious "yet we do not really find what we
understand by religion." (Saler p51) Examples are the Arunta of Australia and Bororo of
Paraguay. "The Arunta who feels that he *is* both himself and the ancestor whose

churinga was entrusted to him at the time of his initiation, knows nothing of ancestor-worship [or anything else we would deem 'religion'].” (Lévy-Bruhl 1910 p 368; my addition) For the Arunta participation is direct; a sort of affective participation. In other primitive groups, however, participation becomes realized and indirect. As such an apparent transition can be noted to higher mental types.

> “It is among peoples such as the Huichol, Zuni, and Maori,
> who have made such a transition, Lévy-Bruhl claims, that
> we find such things as ancestor-worship, hero cults, gods,
> sacred animals, and so forth.” (Saler 1997 p52)

Even so, affectivity of thought (or the role of emotion) plays a large role even for groups that have made this transition. The orientation of both lower and higher primitive mentality toward the mystical, according to Lévy-Bruhl, is a result of the prominence of an 'affectivity of thought.' (Saler 1997 p54-56) It is this aspect of primitive mentality that Saler promotes as a potential avenue of study when it comes to issues of rationality; especially since he agrees with Evans-Pritchard (to some extent at least) that Lévy-Bruhl, despite his assertion that it is “present in every human mind,” (Saler 1997 p55) neglected the mystical in civilized mentality and therefore “scholars should attempt to explore the *affective* as well as cognitive significance of beliefs for those who affirm them” (Saler 1997 p55) in order to inform judgments about human rationality in *all* societies and within *all* minds/mentalities not just primitive ones. Evidently his suggested methodology is that of Ethnopsychology which, up to this point, is really the only field within anthropology that specifically targets the psychology of emotion as an object of study in relation to human behavior.[30] (Saler 1997 p52-54) But a key point Saler makes,

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[30] Interestingly, much of Ethnopsychology focuses on claims that many non-Western peoples do not make a distinction between emotion and cognition (feeling and belief) which may bolster notions about *lower*

whatever the methodology, is one that is easily overlooked and seemingly simple but crucial. Drawing on sociologists Barnes and Bloor, Saler suggests that "inquiries into why something is 'believed' may prove more rewarding that a focus on whether or not the purported belief is true." (Saler 1997 p55). This is, I must note, a particularly strong aspect of the cognitive science program. In fact it is not surprising that Saler has been open to cognitive theorizing.

The Power of the Hyphenated

Saler's discussion of participation, while it introduces more complexity into Lévy-Bruhl's work and indeed possible new areas of inquiry, for our purposes serves to focus attention on the basics of Lévy-Bruhl's thesis: the dichotomy between primitive and modern mentalities. Lévy-Bruhl downplayed the role of affectivity in modern minds and emphasized their empirical orientation. Careful readers of Lévy-Bruhl will note that he was well aware of his exaggeration of polar mentalities and indeed was consciously using the exaggeration as a heuristic. Evans-Pritchard, clearly one of the most careful readers of Lévy-Bruhl makes this clear.

> "The criticism often brought against him, that he did not perceive how very like primitives we are in many respects, loses much of its force, once we recognize his intention: he wanted to stress the differences, and in order to bring them out more clearly, he spotlighted them and left the similarities in shadow. He knew that he was making a distortion – what some people like to call an ideal construct – but he never pretended to be doing anything else, and his procedure is methodologically justifiable." (Evans-Pritchard 1965 p80)

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primitive mentality but may also complicate arguments about affectivity 'coloring' both Western and non-Western minds.

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By taking up such scholarship as a foil in his own work Evans-Pritchard

legitimatized the position of Lévy-Bruhl as a relevant voice[31] and brought to the attention

of scholars the issue of 'rationality' and sparked the discussion, in the philosophy of

Social Science and in comparative religion, we now refer to as the 'Rationality Debate.'

The philosophers, anthropologists and comparative religionists participating in the debate

responded to the state of rationality suggested by Evans-Pritchard (explicitly or implicitly

in the context of Lévy-Bruhl), namely the relative rationality of all cultures including

those displaying apparent *pre-logical* thought.[32] What transpired in the Debate is worth

summarizing here.

Two main camps emerged in the Debate: Universalists and Relativists. Simply

put, Universalists argue by various means for a single standard which can determine

rationality among humans. We have already met one such universalist in the person of

Obeyesekere. Universalists argue in the same as as Lévy-Bruhl[33] but with an added eye

toward negating the so-called elitist provocations in his work. The Relativist position

follows Evans-Pritchard's lead and advocates standards for determining rationality that

necessarily vary from culture to culture. Sahlins' understanding of distinct cultures by

positing culturally specific "schemas" that inform (or in fact cause) the behavior of the

people in that culture is an example of a relativists position. While Sahlins made his case

using ethnographic data from Hawaii, Evans-Pritchard made his by appealing to the

behavior of the Azande and the Nuer. The Nuer understand Nuer ideas and find them

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[31] This is true even though, as Bryan Wilson notes in his introduction to Rationality: "The ghost of Lévy-Bruhl, who sought to distinguish modern man's logicality from the 'pre-logical' mentality of primitive man, is, for several writers in this book, the thing to be exorcised." (Wilson 1974 pxiii)
[32] á la Lévy-Bruhl
[33] Though few Universalists (excepting those such as D. Wiebe) would count themselves in Lévy-Bruhl's camp.

completely rational, not due to a relaxation of logical standards,[34] but rather because they

alone can know their own system of thought well enough to make such judgments. For

example designating Nuer religious thought as irrational, based on translations of Nuer

reports, is problematic since translations may be erroneous and distort what is reported.

Lack of transparency between languages is a huge obstacle to applying Western

'experience' "to the experience of primitives, which is predominantly 'affective.'"

(Whitehead 1972 p173) Language is one cultural form that, in Lévy-Bruhl's terms,

orients mentalities toward either the mystical or the empirical. For Relativists (and

Evans-Pritchard) language is a cultural form unique to the society in which it is used for

speech and thought. Thus the similarities of languages pale before the differences since

we must "take into account the impossibility of achieving utter transparency in language

and the complexities and vagaries of our categories." (Saler p59) Vernacular language,

therefore, is often an important issue when taking sides in the rationality debate.

Michal Buchowski manages to succinctly outline the makeup of the players and

schools of though participating in the rationality debate and as a result I will follow his

organizational scheme in laying out the story.

Buchowski's Outline of Rationality Debate Story
Buchowski does an admirable job of restating what he calls the genealogy of the

Rationality Debate. His grasp of the issues ad knowledge of the particular schools within

the Debate is comprehensive and thorough. He divides the debatists into three groups:

(1) universalists and (2) particularists, and (3) an interesting and seemingly more

compromising group of "heterodox" theorists who purport to be searching for a so-called

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[34] Obeyesekere does not buy this argument. Relative rationality models, he believes, imply the pre-logical
orientation of those cultures to which it is applied; most notably native or indigenous cultures.

'middle way.' After clearly laying out the playing field and players, Buchowski criticizes assumptions of each group with an eye toward suggesting "a relativized, non-foundationalist, pragmatic and limited understanding of rationality…" (Buchowski 1997a p14)

Whereas I have rightly noted that the current debate on the application of rational standards in the social sciences was primarily driven by the work of Lévy-Bruhl and Evans-Pritchard, Buchowski recognizes that inquiry into issues concerning rationality have not been limited to the anthropological realm. Indeed, he places as the 'godfathers' of the first two groups Karl Popper and Ludwig Wittgenstein, respectively.

For Popper "there are some universal rules of reasoning, and these can be spelled out within modern European (scientific) discourse." (Buchowski 1997b p24-25) Universalism, then, stipulates that there are, in varying forms, universal principles of reasoning in humans. This is necessary since "if we did not share some common principles of reasoning, alien meanings would remain inaccessible and incomprehensible for us." (Buchowski 1997b p 25) The players associated with the Universalist camp are Hollis, Lukes, Gellner, Jarvie, and Agassi. (Buchowski 1997b p25-27; Wilson ed. 1977) Buchowski discusses several actors on the Universalist stage; many of whom are not in agreement as to the type or scope of these universal principles. For our purposes it is helpful to note that most of the players stipulate *logical* universals such as "the laws of identity, non-contradiction, and negation." (Buchowski 1997 p25) Other Universalists, such as Sperber, are more interested in biological and cognitive universals.

Wittgenstein's contribution to the Rationality Debate lies in his "ideas of 'forms of life' and 'language games." (Buchowski 1997b p 25). These notions give rise to the

belief that there are many 'games,' as it were, through which humans may attempt to

make sense of the world. Each of these 'games,' including Western science, has its own

rules; rules that can not be applied to other 'games.' In this case the 'games' to which I

refer are the contexts of discrete cultures. Since Popper's notion of 'rationality' is

developed within the European scientific discourse, particularists do not accept it as

applicable to other contexts or 'games.'

Buchowski argues that each of these groups are represented, particularly in

anthropology and comparative religion, in two "fashions:" Modern and Postmodern.

Modern Fashion

In the modern fashion universalism and particularism generally fall along the

lines of Intellectualist[35] and Symbolist arguments respectively.

> In anthropology and religious studies the philosophical
> controversies about rationality usually translate into
> conflict between intellectualist and symbolic approaches;
> quite often it takes the form of an argument concerning the
> rationality of science versus the rationality of magic."
> (Buchowski 1997b p26)

To illustrate this conflict Buchowski takes up the work of John Beattie (symbolist) and

Ian C. Jarvie and Joseph Agassi (intellectualists). For Beattie scientific thought applies

only to "the practical aspects of culture" and not the symbolic. Since in primitive

societies "symbolic and pragmatic domains are meshed" applying logical universals fails

to "unravel the complex activities of this twofold sort." (Buchowski 1997b p26)

Buchowski suggests that a symbolic approach such as Beattie's (and Leach, Turner, and

Evans-Pritchard) provides a good way of understanding magical/religious behavior by

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[35] Buchowski cites Skorupski's analysis of Intellectualists and Symbolists and lauds his accuracy. See
Buchowski 1997a p37. Lawson/McCauley also cite Skorupski but have criticized his description of
Intellectualism by pointing out certain fundamental omissions. See Lawson/McCauley 1990 p35-37

means of a "synthesis of instrumental *and* symbolic values" (Buchowski 1997b p27; my emphasis) rather than what he perceives as a faulty universalist emphasis on the instrumental or practical. Instrumental values being the "technical effectiveness" (Buchowski 1997b p27) of magico-religious behavior that puts it, at least partially, into a section of the practical realm to which science does not apply.[36]

Jarvie and Agassi forcefully disagree with Beattie's symbolic approach. They argue that symbolism itself is simply a convenient substitution for rationality when it suits symbolists; especially those symbolists whose goal it is to "convince their public that there is something worthy in alien cultures." (Buchowski 1997 p42) Instead of applying standards of rationality to primitive behavior symbolists instead arbitrarily label certain aspects of that behavior 'symbolic.' For example, Evans-Pritchard is keen to support the equal worth of Nuer and Azande cultures. Jarvie and Agassi would take the periodic waxing of the symbolic to be simply a convenient label of Evans-Pritchard's when he encounters that which would unsuccessfully stand up to rationality standards. For intellectualists like Jarvie and Agassi symbolism is "merely an ersatz version of the Frazerian category of irrationality." (Buchowski 1997 p38)

Their alternative is, according to Buchowski, an extreme version of universalism. To them the notion of human psychic unity is key. Since "cognition is univocal" (Jarvie 1987 p197) there can be a universal standard for rationality that does not depend on respective contexts. This is not to say that intellectualists deny the employment of what they call "different discourses." (Buchowski 1997 p 39) What they insist upon though is that these discourses are still all governed by the same cognition. They consider it quite

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[36] It is here that notions of different *kinds* of rationality are often considered. Communicative rationality, for example, is a large aspect of the Critical Theory (see R. Siebert, Habermas).

mad to be "excusing 'absurd' beliefs by arbitrary invented stories about symbolic associations." (Buchowski 1997 p38) Instead they believe that functional analysis of behavior will produce better results than appealing to the somewhat mysterious notion of hidden meanings.

Though the rationality standards they espouse are universal, Jarvie and Agassi recognize two levels of rationality: relatively strong rationality and very strong rationality. The former is the result of an "assumption of rationality" that depends on situational logic. The assumption being that people will attempt to attain their goals according to "particular cultural standards." (Buchowski 1997 p39) This rationality is informed by cultural knowledge but the standards by which behavior is deemed rational are universal. Very strong rationality is characterized by critical thinking. Whereas relatively strong rationality is goal oriented and perhaps would not stand up to "the highest standards of rationality known anywhere" (Jarvie and Agassi 1987 p392) very strong rationality does.

> "Strong rationality implies skepticism in regards to
> dominant beliefs. The emergence of critical thinking is
> determined by sociological factors. Because traditional
> beliefs constitute generally closed systems which lack
> alternatives to the dominant way of thinking, an individual
> is unable to break out of the vicious circle of group
> images." (Buchowski 1997 p39)

This goes well with Lévy-Bruhl's notion of social representations determining a community's mental orientation and suggests, like Wiebe, that the emergence of critical or scientific thinking creates, or at the very least, widens "a chasm that separates the savage from the modern mind." (Wiebe 1991 p84) What the mechanism is that allows for or instigates this emergence is not clear but the absence of this factor results in

cultures to continue to be mired in mythopoeic thought (Wiebe) or a primitive mentality (Lévy-Bruhl) which tends to precludes critical thinking.

Buchowski questions the application of the "epistemology of science" to anthropology. Furthermore and perhaps more on point he suggests that the intellectualist stance epitomized by Jarvie and Agassi does not recognize the "innovations" produced by primitive societies. This is a rather barbed criticism in light of the intellectualists' chastising of symbolists for not recognizing (or perhaps excusing) the absurd or irrational in the same societies. Both, it seems, have blinders on. Beyond the symbolists and intellectualists of the modern fashion, though, are the extreme relativists of the postmodern fashion who also reject the application of science (or indeed the notion of rationality) to the cultural or anthropological realm.

Postmodern Fashion

Clifford Geertz – famous, often referenced, and perhaps revered anthropologist – is not "a postmodernist *sensu stricto*," (Buchowski 1997 p40) according to Buchowski by way of Marcus and Fisher (Marcus and Fisher 1986 p25-33), but he certainly points the way. Against rationalism, he is therefore placed in the relativist camp by Buchowski. Because the relativism of ethnography is self-evident due to the obvious variability of cultures it is "implicit in anthropological materials." (Buchowski 1997 p41) Since this is the case, to Geertz, rationalists' arguments using psychological or biological facts are really a way to "preach their own gospel of rationalism" (Buchowski 1997 p41) the motivation for which is a fear of relativism. He suggests that this fear prompts universalists to preserve the verity of human psychic unity. "[T]hey have to deconstruct the diversity" (Buchowski 1997 p41) of cultures into some kind of foundationalistic

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universals. This is perhaps due to the attractiveness of such magic bullet explanations.

(See Boyer 2000) For Geertz, though, cultures simply are relative, including their

thought, and so "a choice of relativist or rationalist option is a philosophical decision."

(Buchowski 1997 p41)

Jarvie, in characteristic fashion, chides Geertz's style by describing his arguments

as "a striptease performed by a transvestite" (Jarvie 1987 p174) and recent criticism of

postmodernist style is much the same if less colorful. (Slone 2004; Slone/Mort 2004)

Buchowski, in a somewhat milder tone, calls them winding but thoughtful. (Buchowski

1997 p40) Unwittingly or not Geertz's arguments seem to make the notion of rationality

irrelevant in anthropology; a stance in which he is most heartily joined by true

postmodernists.

Postmodernists take for granted Geertz's strong anti-rationalism to the point of

making it a central tenet of their program. They "connect the concept of rationality not

only with the fundamentalist menace, but with Western dominance and colonialism as

well. This 'ethical' commitment has led to the abomination of the notion." (Buchowski

1997 p42). Jason Slone and Joel Mort take note of this ethical commitment and refer to it

in their discussion of the heavy literal reliance by ethnographers on informant data. Slone

and Mort point out that this stance is problematic since it fails to recognize the need to

explain informant reports. Furthermore,

> "What is even more troubling about the theoretical
> commitment to informant data as epistemologically
> accurate is that it commits one to a position of
> 'epistemological equality.' This now mainstream stance is
> a relatively new development in anthropology which
> emerged as part of 'post colonial' criticisms of modernistic
> social scientific scholarship." (Slone and Mort 2004 p154)

Ironically this stance "also perpetuates a different kind of colonial project: it insists that 'they' are radically different from 'us,' not in terms of intellectual standing but rather in terms of the *sui generis* nature of every culture." (Slone and Mort 2004 p155)

Joining in the dissent is Ernst Gellner. For him postmodernism is (or should be) "a transitory fashion" that can not be tolerated by anthropology for long since the postmodernist extreme relativism or negation of rationalism undercuts the practical aspects of anthropology. Though the vast majority of anthropologists are relativists it is also true that in actuality anthropology is interested in studies across cultures. This is an obvious paradox since "the acceptance of extreme relativism undermines the possibility of cross-cultural studies since it assumes that we are not able to grasp alien meanings." (Buchowski 1997 p44) Furthermore, Gellner accuses postmodernists of fearing the very meanings they both attempt to puzzle out and that they claim cannot be understood. The result is a preoccupation with "themselves and the inaccessibility of the Other." (Buchowski 1997 p43) Gellner advocates a strong rationalism based on its apparent success in the West. "The fact that other cultures must subscribe to this vision of the world, under the threat of perishing, confirms the pre-eminence of Western Rationalism." (Buchowski 1997 p43; see also McCauley and Lawson 1996) .

Though these two groups, universalists and relativists, are quite obviously contentious, there have been recent contributions to the Rationality Debate that are made up of arguments attempting to facilitate a compromise between the two, affectively making the camps ends of a spectrum rather than two disconnected poles.

Via Media

These scholars of compromise interested in rationality have attempted to find a middle way or *via media* amid the strife between the radical universalists and relativists. Buchowski notes three motivations for this attempt at compromise:

(1) Conciliatory Motivations – the extreme stances of the universalists and relativists are so radical that the middle-way scholars recognize that they cannot "sustain critique." (Buchowski 1997 p44).

(2) Practical Motivations – As mentioned above, anthropology as it is actually done cannot support the radical relativism of postmodern philosopher's of social science. Similarly, radical rationalism or universalism "excludes the possibility of cross-cultural understanding, coexistence, and, as Rorty (cf. 1991: 208) put it, weaving strands taken from the web of beliefs of another culture into our own web." (Buchowski 1991 p44)

(3) Ethical Motivations – This is perhaps better called 'self-preservation motivation.' Buchowski notes that rationalists superbly represented by Lévy-Bruhl are accused of having contempt for 'the Other.' In seeking a middle way rationalists are trying to rid themselves of such stigmas.

Examples of *via media* attempts are (1) Horton's parallelism, (2) Tambiah's dualism, and (3) Hanson's contextualism.

(1) Buchowski labels Horton's neo-intellectualism parallelist because he considers Western scientific concepts to be parallel to primitive beliefs. Both strands of thought have the same function, namely to explain the world, they simply employ different idioms to do so. Scientific idioms are missing the agents that characterize "magico-religious" idioms. Scientific idioms are made possible

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by the openness of a given culture. Horton considers primitive cultures to be

closed and therefore unavailable for an infusion of intellectual stimuli. This

stance suggests that all cultures are at some point in their history primitive and the

more successful ones (a la Gellner) are those lucky enough to be 'opened' sooner

rather than later.[37] Those cultures that remain tightly closed do not have the

advantage of choosing non-naturalistic, "depersonified" concepts as explanatory

idioms.

(2) Tambiah is dualistic in the sense that he, like Evans-Pritchard, divides

primitive behavior into two sets: practical and symbolic. Only the practical set is

subject to analysis using standards for rationality.

> "According to Tambiah nothing prevents us from
> reconciling relativism in regard to culturally
> regulated facts with a 'unitary philosophy of science
> which holds that in a certain core sense there can be
> only a <single science.>' (ibid., 130) The latter
> pertains to domains such as physics, biology,
> medicine, mathematics, etc. This way of reasoning
> enables Tambiah to declare that he is 'neither a
> relativist nor an anti-relativist in an absolutist or
> blanket sense' (ibid., 129)." (Buchowski 1997 p46)

This division of behavior follows what much of what is currently practical

anthropology.

(3) The compromising scholars are, of course very aware of radical universalist

and relativist positions. Hanson's contextualism "mediates these positions and

avoids their pitfalls." (Buchowski 1997 p47) He suggests that people all

conceptualize the same world but the way they do so is framed by their particular

"cultural description of it." (Buchowski 1997 p47) By distinguishing between

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[37] Wiebe's account of the Milenesians is one example. (Wiebe 1991)

intentional and implicational meaning, Hanson is able to make his compromise.

Since intentional meaning is a result of situational logic (whereas implicational

meaning is a result of the influence of social institutions) he is conceding that

there *are* some universal logical principles at work in all cultures.[38]

Remarks

Interestingly, Buchowski's ordering of debate 'schools' follows much the same

structure as Lawson and McCauley's ordering of the metatheoretical positions of

theorists of religion/ritual. (Lawson and McCauley 1990 Ch1) Buchowski's universalists

and particularists are roughly analogous to Lawson and McCauley's explanatory

exclusivists and interpretive exclusivists/inclusivists. Both Buchowski and Lawson and

McCauley offer alternative approaches to their respective objects; in the case of

Buchowski a relativistic, pragmatic rationality and for Lawson and McCauley a general,

Interactionist approach to understanding human behavior. Buchowski aims to remain in

the *via media* since he is reluctant to hand anthropological concerns over to an objective

standard.[39] "A view which at least does not contradict the declaration that meanings are

culturally constructed is possible." (Buchowski 1997 p51) Lawson and McCauley,

however argue for a truly scientific approach to studying human behavior. By scientific

they mean an approach that operates "by means of systematically related, general

principles" which "are empirically culpable beyond their initial domain of application."

(Lawson and McCauley 1990 p27)

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[38] Buchowski questions the implication that due to this division of meanings "we have several truths and rationality criteria." (Buchowski 1997 p49)

[39] This is exactly what the cognitive science program is advocating; applying the best standards of natural science to and interacting with the concerns and data of the social sciences.

Unintentional Lacunas

It is not the aim of this work to make definitive judgments about what standards scholars *ought* to employ when it comes to determining the rationality of human behavior. The 'gaps' alluded to in my title are those potentially erroneous assumptions, hypotheses, and conditionals underlying the means by which participants on both sides of the debate *form* their arguments and conclusions. Accordingly my aim is not to necessarily bring these conclusions into question but rather to provide new and more accurate tools with which debatists might themselves use to construct new and better conclusions. Both the Relativists and Universalists rely on assumptions that, I want to suggest, result in gaps or holes in their arguments. Furthermore, methods employed by social scientists intentionally limit the use of many kinds of theoretical caulk, as it were. Theoretical and meta-theoretical complacency has resulted in arguments based on outdated and arguably fallacious models of the human mind and methods requiring an abandonment of causal explanations for hermeneutical exclusivism.

Evans-Pritchard's position represents the beginning of a trend in the social sciences to emphasize political and cultural issues that impinge on scholarly method and theory. Political correctness (PC), notions of cultural relativism, and anti-colonialist projects were hardly en vogue when Evans-Pritchard began his refutation of Lévy-Bruhl but such notions were certainly in evidence enough to make Lévy-Bruhl's positions already rather unpopular *among his contemporaries*. Currently, the social sciences are in under a strangle hold by these, noble if misguided, concerns. Commitments by social scientists to epistemological equality seriously hinder effective attempts at increasing

knowledge.[40] In the next chapter I will make the case for adjusting the philosophical and

methodological foci in the social sciences so as to facilitate a more production study of

human behavior in general and religious/ritual behavior in particular.

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[40] See Slone, D. Jason and Mort, Joel, 2004.

CHAPTER FIVE

Mistaking Heuristics for Causes

Introduction

After several long decades of denial that humans possess a repertoire of

behavioral capacities that recur across cultures and eras with regularity, some scholars in

the human sciences are now beginning to accept that some things are simply 'natural' to

our species. (Pinker 2002; McCauley 2000b) As such, the question is no longer "if?" but

"why?" In other words, *why* do members of our species do what they do so regularly and

persistently?

Many human behaviors are explainable in terms of the evolutionary benefits they

provided in our ancestral past (specifically the Upper Paleolithic era), such as our

preferences for foods high in fats and sugars and our preferences for acquiring mates that

show signs of fitness. (Buss 2003) Other features of human behavior, however, are

seemingly less 'rational.' In other words, humans also engage in behaviors that provide

little or no obvious and direct benefits to individuals and/or their kin. One obvious set of

such behavior is that of religious rituals or, more specifically, actions appealing to

superhuman agency (not necessarily explicit) in order to accomplish a task or achieve a

goal.[41] These actions involve: commitments to counterfactual worlds, de-coupled means

and ends, and infinitely varied goals. They also appear not to be genetically advantageous

and are therefore evolutionarily puzzling.[42] (Atran 2002,) A significant challenge for

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[41] Although evolutionary biologists such as David Sloane Wilson (2002) and psychologists such as Jesse
Bering dissent (2006).

[42] This puzzlement has been primarily lessened through the use of an epidemiological model of cultural
transmission. Cultural epidemiologists like Scott Atran (2002) and Pascal Boyer (2001) are firm in their

naturalistic approaches to human behavior is therefore to explain why people engage in *seemingly irrational* ritual behavior.

Summary

Given the characteristics described above, engagement in ritual acts is, from a scientific point of view, a rather surprising feature of persistent human behavior.[43] For that matter anything 'religious' or appealing to or making reference to superhuman agency is surprising (at the very least if it is persistent). As such, the question 'why do such concepts and behaviors persist' has preoccupied some of the more recognizable names in the history of anthropology, like Lucien Lévy-Bruhl and E. E. Evans-Pritchard. Why do aborigines insist that the sun is a particular type of bird? Why do the Nuer consider a cucumber to be an ox in a sacrificial ritual? Why do the Azande assert the cause of a collapsed canopy to be sorcery despite alternate (and accepted!) explanations having to do with termites? Interestingly neither gave a very satisfactory answer to his own questions; instead they focused on issues surrounding the rationality of such ideas.

The anthropological research tradition has followed suit. Responding primarily to the work of Evans-Pritchard (who makes his points using Lévy-Bruhl as a foil) many scholars have engaged in what is popularly known as the Rationality Debate; the goal of which was/is to determine what kind of standard should be used to judge human thought

assessment of religious ideas as non-adaptive and rather parasitic on evolved cognitive architecture. The epidemiological model and its implications which are generally accepted by most scholars interested in the cognitive science of religion have recently been given a critical evaluation by Jesse Bering who suggests: "Although the explanatory utility of cultural epidemiology theory has been unrivaled among recent attempts to explain the evolutionary basis of religion, it has problems of its own." And further "In short, any theorist who asks whether religion is an adaptation asks the wrong question. Rather, to explain this important domain of human psychology, the question to ask may be whether its quintessential trait – the self's view that it is something more than a material body subject to the mindless and amoral laws of nature – is a product of natural selection." (Bering In Press)

[43] Lienard and Boyer (forthcoming 2006) have recently developed a model of ritualized acts that takes into consideration a wider range of acts to include those acts that conform to their definition of ritualized but have no reference to superhuman agents. This is because they analyze individual rather than cultural rituals and distinguish between proximate and ultimate causes.

and behavior as rational or not. Two main camps emerged in the Debate: Universalists and Relativists. Simply put, Universalists argue by various means for a single standard which can determine rationality among humans. This is the same as that for which Lévy-Bruhl argued. The Relativist position follows Evans-Pritchard's lead and advocates relative standards for determining rationality that, from their point of view, necessarily vary from culture to culture. The Nuer understand Nuer ideas and find them completely reasonable, not due to a relaxation of logical standards, but rather because they alone can know their own system of thought well enough to make such judgments. For example designating Nuer religious thought as irrational based on translations of Nuer reports is problematic since translations may be erroneous and distort what is reported. The apparent lack of transparency between languages is, then, a huge obstacle to applying Western experience "to the experience of primitives, which is predominantly 'affective.'" (Needham 1972:173)

For Universalists language is one cultural form (social institution, collective representation) that, in Lévy-Bruhl's terms, orients mentalities toward either the mystical or the empirical, the irrational or the rational. For Relativists (like Evans-Pritchard) language is a cultural form unique to the society in which it is used for speech and thought. The similarities of languages pale before the differences since we must "take into account the impossibility of achieving utter transparency in language and the complexities and vagaries of our categories." (Saler 1997:59) External institutions, like vernacular language, therefore are often key considerations when developing standards for rationality. So the question addressed is really whether the principles of rationality are universal or relative to particular communities.

Interestingly enough Relativists and Universalists both accept the psychic unity of human beings. They do so, however, with little explicit understanding of this commitment, perhaps due to a dearth of accepted psychological models beyond behaviorism. As such both consider external 'forces' to be instrumental/central in judging human behavior. Vaguely construed social institutions such as language or religion cause community specific behavior. How this is done is yet to be determined.[44] The real difference is that Universalists are happy to judge this behavior as rational or irrational while Relativists insist on the rationality of all behaviors (the reasons vary depending on their particular agenda).

Pillars Toppled

That the impetus for much anthropological inquiry is noticing seemingly novel and perhaps unreasonable behavior, such as actions appealing to superhuman agency in order to accomplish a task, should come as no surprise. The cases and analyses of such behavior are not limited to the observations cited by Lévy-Bruhl and those recorded by Evans-Pritchard. Religious rituals have fascinated scholars like few other human behaviors. Part of the reason anthropologists can get so much scholarly mileage from such behavior is that its occurrence is (1) geographically and ethnically widespread and (2) frequent. In addition, it could hardly be expected that any trained anthropologist would not be able to report his or her own personal encounter with behavior that might fit in the category described above, considering the emphasis placed on ethnographic

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[44] Some cognitive scientists have begun to investigate notions of extended or situated cognition (O'Connor and Glenberg 2002 p19-25). These investigations have, unsurprisingly, been warmly welcomed by scholars in the human sciences. (Day 2005)

fieldwork. Even I, though not an anthropologist proper, have been touched[45] by this

emphasis. Seemingly bizarre behaviors, though so obviously attention grabbing, can be

found in so many places around the world that it verges on the commonplace. This is the

point Lévy-Bruhl missed.[46] An anthropologist considering an amaZulu diviner tying goat

gall bladders in her hair to be irrational but the preservation of a human tongue in a gold

reliquary rational is a rather curious double standard for which orienting, collective

representations cannot account.

Lévy-Bruhl was handicapped because though he accepted the psychic unity of

humans he was working on the assumption that context and cognition (as we know it

now) must be studied separately, if human psychology could be studied at all. 'Psychic

unity' was merely a reference to a behavioristic black box. While behavioristic models

of the mind have been generally discarded by cognitive psychologists, Lévy-Bruhl's

'mentalities' have refused to go away. Subsequent social scientists have continued to use

this idea, though morphing it into notions of higher order, contextual cognition.

Anthropologists such as Harvey Whitehouse have been particularly insistent on this

point. In their view the fundamental capacities of the human mind studied by cognitive

scientists and that make up more basic non-contextual mechanisms are considered lower

order cognition and are a relatively minor component to understanding human behavior.

(Whitehouse 2005) However, with the advance of new models of the mind, this neo-

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[45] I have done 'field work' in sub-Saharan Africa. I lived in various areas for a significant length of time and did my best to look about me during our stay. Seemingly bizarre behavior is rampant much like the upper Nile valley (Nuer) and aboriginal Australia. What should not escape our notice, though, is the equally bizarre behavior exhibited in Padua - Italy, Canterbury - England, and Indian River – MI - USA.
[46] Evans-Pritchard defends Levy-Bruhl's sharp distinctions saying "The criticism often brought against him, that he did not perceive how very like primitives we are in many respects, loses much of its force, once we recognize his intention: he wanted to stress the differences, and in order to bring them out more clearly, he spotlighted them and left the similarities in shadow." (Evans-Pritchard 1965:80) I agree with this reading of Levy-Bruhl. However the differences exaggerated are not clearly the differences L-B makes them out to be.

Lévy-Bruhlian model faces a stiff challenge. Since it is increasingly evident that lower

level cognitive processes inform, influence, and undergird higher level and reflective

processing[47] it is in our view critically important that, if nothing else, debaters move

away from the Weberian understanding of rationality, which is that rationality stems from

reflective thought. It is perhaps a good idea to be generally more forward thinking about

our anthropological predecessors.

  With that in mind I believe that considering the past intellectual history of

anthropology should give newly forged scholars some insights into the reasons for why

their forgers and mentors, generally more seasoned scholars, do the work they do and

make the claims they make. It will not specifically shed light on why notions like

Hebbian Synaptic Plasticity, Long Term Potentiation (LTP), connectionist modeling,[48] or

many other component entities resulting from the deflation of other vague, unwieldy

concepts, do not figure prominently in the traditional approaches to understanding human

behavior in general, and ritual behavior in particular, that are situated within

anthropological studies. It may, however, be useful for instructing students and scholars

on the pitfalls of undue complacency in accepting what often only appear to be answers

to problems.

  That being said, in my view all the mainstays, the pillars of anthropological study,

however much they are *fashionably* maligned by subsequent generations of scholars[49],

are taken far too seriously and their work given too much consequence. It is true that one

can cite in works by these scholars instances of thought that, far from contradicting the

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[47] Dual processing theories, on the other hand, make a clear separation between lower level cognitive
reasoning processes and higher level, reflective decision-making processes. (Stanovich 1999)
[48] These terms refer to a variety of notions in cognitive psychology and cognitive neuroscience.
[49] See "The Debated Mind: Evolutionary Psychology Versus Ethnography" (2001) for an example.

tenets of our field, seem to eerily and accurately reflect the theoretical constructs

cognitive scientists of culture espouse. Consider Boas:

> "There is no doubt that for each individual there exists a
> certain biological, genetically determined basis of mental
> behavior." (Boas 1938:119)

> "If regular cultural sequences could be found, these would
> represent an orderly historical cycle. If laws of sequence
> and of social dynamics could be found, these would be
> sociological laws. It is one of the important tasks of
> anthropology to determine how far such regular sequences
> and sociological laws exist.
>   When this task has been achieved the principal
> problem remains, that of understanding a culture as a
> whole. Neither history nor sociological laws are of
> considerable help in its solution. History may tell us the
> sources from which bodily form, customs, and beliefs have
> been derived, but it does not convey any information
> regarding the way in which a people will behave owing to
> the transmitted characteristics. Sociology may teach us the
> morphology and general dynamics of society; it will give us
> only a partial insight into the complex interaction of forces,
> so that it is not possible to predict the behavior resulting
> from the historical events that made the people what they
> are. *This problem is essentially a psychological one* and
> beset with all the difficulties inherent in the investigation of
> complex mental phenomena of the lives of individuals."
> (Boas 1938:5-6; emphasis added)

Consider also Malinowski:

> "By placing thus each of these strange and queer customs
> within its proper psychological and cultural settings, we can
> bring it near to us, we can perceive in it the universally
> human substratum. In other words, we have to carry out
> our analysis of primitive belief or superstition by means of
> universally valid concepts and thus make it amenable to
> scientific treatment." (Malinowski 1937:188)

And remember once again Lévy-Bruhl:

> "…there are features which are common to all aggregates
> of human beings, by which they may be distinguished from
> the rest of the animal world. Language is spoken,

traditions, are transmitted, and institutions maintained. The
higher mental operations, therefore, have everywhere a
basis of homogeneity." (Lévy-Bruhl 1938:667)

But if we are forced to revisit the past we must realize that it is the coupling of

these seemingly complementary statements with the inevitable (it seems) contradictory

statements that should attract our attention. They are not simply less-than-

complementary claims but outright and crucial, though often subtle, contradictions. Let

us (again) consider Boas:

> "The Zulu of Chaka's time and the one who is assiduously
> studying arts and sciences are of the same blood, but their
> minds run in different channels." (Boas 1938:667)

> "The socio-psychological study, more than any other aspect
> of anthropological investigation, requires that freedom from
> cultural prejudice which itself can be attained only by the
> *intensive study of foreign cultures of fundamentally*
> *distinctive types that make clear to us which among our*
> *own concepts are determined by our modern culture and*
> *which may be generally valid, because based on human*
> *nature*." (Boas 1938:685; emphasis added)

Malinowski:

> "To understand why certain people indulge in head-hunting
> and others practice cannibalism, why in certain cultures
> valuable objects are produced only in order to be destroyed,
> would obviously require consideration of the formation of
> cultural value, of legal principle, as well as the native
> conceptions of wealth, social rankings, and the realities of
> magical or religious belief." (Malinowski 1963:201)

Lévy-Bruhl:

> "The real object of my researches, therefore, is the study,
> by means of the collective representations of primitives, of
> the mental processes which regulate them." (Lévy-Bruhl
> 1926:30)

What is meant, exactly, by "the collective representations of primitives?"

Here we get a clue:

"The social milieu which surrounds them differs from ours, and precisely because it is different, the external world they perceive differs from that which we apprehend. Undoubtedly they have the same senses as ours – rather more acute than ours in a general way, in spite of our persuasion to the contrary – and their cerebral structure is like our own. *But we have to bear in mind that which their collective representations instil into all their perceptions*." (Lévy-Bruhl 1926:42; emphasis added)

Further:

"When confronted by something that interests, disturbs, or frightens it, the primitive's mind does not follow the same course as ours would do. It *at once* embarks upon a different channel." (Lévy -Bruhl 1926:35; emphasis added)

Sørensen (forthcoming) argues that Malinowski is *not* a cultural relativist:

…Malinowski argued that two major factors determine human behaviour: (a) biology determines a bottom-line range of specific behaviours necessarily present in all cultures in order to ensure the survival of the organism; (b) cultural institutions determine actions by imposing a customary instrumental format on these behaviours thereby imposing secondary needs and goals to guide human action. (Sørensen forthcoming; emphasis added)

To Sørensen this is an indication of Malinowski's commitment to a

psychologically universal stance. I argue, however, that this is a clear, though subtle

indication of Malinowski's appeal to culture – here in the form of cultural institutions –

as a *causal* entity and only marginally modifying a behavioristic, psychic unity model by

allowing for biologically determined 'bottom-line' behaviors. Boas, Lévy-Bruhl, and

other anthropologists ultimately take a stance similar to Malinowski's. So it is

appropriate to consider that in their writings which seems complementary to new stances

(e.g. a cognitive approach) as well as that which is relativistic, behavioristic, or in other

ways contrary to the standard cognitive science of culture model[50] in order to uncover

[50] Pascal Boyer gives a brief account of what he believes this standard model to be. (Boyer 2005)

systematic contradictions where any may exist. *Their* context is (or should be) the value

of justifiable argumentation. Beyond an acceptance of the 'psychic unity' of humans

these scholars ultimately depend on such postulates as social institutions (Malinowski) or

collective representations (Lévy-Bruhl) as the causal variable governing patterned human

behavior and consequently circle back and affirm a fallacious Durkheimian description of

ritual behavior.

Accordingly one might suggest that a sound change in methodological policy in

anthropology might be one of 'what have you done for us lately?' Instead of merely

rethinking or attempting to recast figures (and their ideas) from the past, I argue that

contemporary scholars should move on by building on that work rather than repeating it

in various forms. This move would be justifiable both in terms of scientific methodology

and in evaluation. In scientific endeavors it behooves us to follow a more productive path

for the gaining of scientific knowledge. It is arguable that a methodological pluralist may

voice objections to this statement. However, even with the acceptance of a radical

methodological pluralism (and therefore an appreciation of nearly *any* form of inquiry)

one must also accept a necessarily protracted forum for discussion and collaboration.

Whereas those on the same philosophical bedrock (or what Laudan [1977] calls 'research

traditions') may naturally communicate with tangible benefit, those separated by

methodological chasms as a result of fundamental philosophical differences may

converse but will, at the end of the day, have little to show for it. Acknowledging the

intellectual history of anthropology and appreciating it for its role as a scientific stepping

stone is one thing, but becoming obsessed with it to the extent that we hobble ourselves is

another.

Recasting Realism

Perhaps the strong emphasis on observational research in anthropological studies

contributes to or is a result of what I see as a sort of radical scientific realism inherent in

anthropology.[51] Bas Van Fraassen provides us with a quick-and-dirty definition of

scientific realism:

> Naïvely stated, [scientific realism] is the view that the
> picture science gives us of the world is true, and the entities
> postulated really exist. (Historically, it added that there are
> real necessities in nature; I shall ignore that aspect here.)
> But that statement is too naïve; it attributes to the scientific
> realist the belief that today's scientific theories are
> (essentially) right. (Van Fraassen 1976:623)

The radical realism I believe is present in anthropology is of this strong, naïve type. To

illustrate further Van Fraassen quotes Wilfred Sellars: "'To have *good reason* to accept a

theory is to have *good reason* to believe that the entities it postulates are real.'" (Van

Fraassen 1976:623; emphases added)

'Memory' is one postulated entity for which there may be good reason to accept

since there may be good reason to believe it is real. However, in actuality, is 'memory'

an identifiable entity at all? Memory, broadly speaking, is that mental capacity allowing

organisms to learn, transmit information, among other crucial functions. As such

memory is a useful heuristic and often used in theoretical works concerning ritual

behavior and its stable transmission (McCauley and Lawson 2002, Whitehouse 2004).

As a postulated entity, though, it requires fractionation in order to give reasonable

accounts of mental processing. By fractionating I mean reducing notions like 'memory'

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[51] Theories in cognitive science (as in any science) are generally (I hope) empirically adequate but not
necessarily true or real. It could be argued that, at its core, cognitive science is concerned solely with
postulated unobservables and of these, two types: (1) the implementation of algorithms (processes) and (2)
those constructed data structures (mental representations) upon which these algorithms work. Neither of
which may be real, potentially observable entities.

into empirically tractable components so as to offer a chance to analyse them profitably. At the cognitive level 'memory' is cut up into various types – working, long-term, semantic, episodic. It is in fact a model of a system of information storage, its parts more or less connected but the degree to which they are integrated is unclear. At the neuronal level it is even more clear that 'memory' is made up of pieces of pieces of pieces of a neuronal system. Therefore cognitive neuroscientists (Kim et al. 2005) conduct studies which are designed to incrementally investigate those neural states like late Long Term Potentiation (late LTP) that may[52] correspond to components of long-term memory models constructed by cognitive psychologists.

Like 'memory,' notions of 'rationality,' 'ritual,' 'culture,' 'religion,' magic,' and 'religiosity'. are used as heuristic devices by anthropologists to potentially organize observed regularities in a helpful way. But these are mere empirical generalizations and are insufficient for gaining knowledge on their own; they are not *explanatory*. Ordering observations with the help of heuristic labels, while often part of theorizing/explanation, does not in itself allow for an understanding of events "by linking familiar observed events to the less familiar, perhaps very strange, reality behind appearances." (Trusted 1979:84) Even when anthropologists are ambitious enough to postulate entities in order to actually produce an explanation, these postulates are suspect. The heuristic terms used often *become* those postulates, remolded into causal entities for which there apparently must be not only good reason to believe they are real but reasons that are often considered self-evident and taken for granted. 'Culture' as a causal entity is the best and most appealed to example (though 'culture' comes in many guises, like 'social

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[52] It is important to note the care that must be taken when conducting studies that potentially cross levels of analysis. In this case neural and cognitive levels.

institutions' or 'collective representations'). However, despite a rigid adherence to realism, it is yet to be the case that such entities are specified to the degree that they can be said to be "direct images of the structures described in measurement reports." (Van Fraassen 1996:90)

The recasting of such a heuristic as a causal entity is undesirable for at least two reasons. First it results in the undermining of the original organizational benefits of the heuristic. As a mere empirical generalization induced through observation, the possibility exists for it to be deduced from a corresponding theory's propositions. As a postulated causal entity the entity itself is required to explain the related heuristic but the type of entity it is renders impossible directly and specifically relating it to observations. In Van Fraassen's terms, such theories cannot be judged as empirically adequate because they are unable to specify the direct connections between modeled empirical substructures and appearances (structures in measurement reports). (Van Fraassen 1996)

Second, the re-cast entities become a homogeneous whole, making the deflation of them impossible, at least within the confines of the pertinent research tradition.   In anthropological research traditions they remain intact and vague rather than fractionated and specified. Hence notions like rationality, ritual, culture, magic, and religion are intra-theoretically irreducible. (McCauley 1998) It is impossible to relate them to observables and therefore equally impossible to specify the mechanisms by which these postulated entities do their causal work. They are effectively 'superhuman agents' themselves (!), replacing those religious entities that are deemed unsuitable for scientific explanation.[53]

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[53] Boyer rightly notes that the introduction of such entities into descriptions of the world, including ritual behavior, far from explaining the world in fact add to that which needs explaining. (Boyer 2001:13-14)

Ironically, like theologians, scholars within anthropological studies construct descriptive orderings of human behavior through the use of design inferences. This 'scientific creationism'[54] elevates vague concepts like ritual, religion, culture, social institutions, or collective representations to causal status. Their vagueness also results in models within anthropology in which these concepts are employed with alarming flexibility. Such theories are empirically equivalent in that none is empirically stronger than another,[55] but Van Fraassen notes that "each is empirically *adequate* if and only if the other is," (Van Fraassen 1996:90; emphasis added) a determination I have argued is impossible to make. Likewise it is difficult, if not impossible, to link instances of human behavior to traditional models of what constitute rational behavior since a major component (or empirical substructure) of such models is a vague, ill-defined notion of rationality that cannot be specifically shown to link to appearances.

Rationality Outside the Rationality Debate

"One of the most fundamental questions in philosophy concerns the nature of rationality: what conditions must be met for an inference or a decision to be rational?" (Samuels and Stich 2002 p830) This question also faces anthropologists and cognitive scientists. On this point cognitive scientists have been more specific. As discussed above, the concept of rationality as it is used in the anthropological research tradition is vague. It seems to be invoked as a synonym to 'acceptable' or 'normative' but the specific principles that make it so are unclear. Cognitive scientists, on the other hand,

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[54] Personal communication with Professor E. Thomas Lawson at the Institute of Cognition and Culture, Queen's University – Belfast.
[55] Empirically equivalent theories that lack empirical adequacy, or at least lack the possibility of judging their adequacy, have the further problem of being difficult to evaluate. Ranking theories by means of criteria suggested by philosophers of science like Peter Lipton and Paul Thagard is then difficult if not impossible.

work from a more specified notion of what rational reasoning is. While there is not

complete agreement in the field, Edward Stein's 'standard picture' at least demonstrates

that such principles are in place.

> According to this picture, to be rational is to reason in
> accordance with principles of reasoning that are based on
> rules of logic, probability theory and so forth. If the
> standard picture of reasoning is right, principles of
> reasoning that are based on such rules are normative
> principles of reasoning, namely they are the principles we
> ought to reason in accordance with. (Stein 1996 p4)

Samuels and Stich cite several studies within what they call the "heuristics and biases

tradition" that point toward a "pessimistic view" of the capability of humans to reason

rationally. (Wason 1966, Tversky and Kahneman 1982 and 1973 and 1981, Nisbett and

Ross 1980, Nisbett and Borgida 1975) The challenges to the pessimistic view include

arguments (1) from 'bounded rationality' theorists (Gigerenzer 1999, 2000, 2001; Simon

1957, 1979, 1996; Cosmides and Tooby 1996) who suggest that the modular, specialized

reasoning mechanisms gotten through natural selection are manifested "most clearly

when probabilistic information is presented in a format that would have been common in

ancestral environments" (Samuels and Stich 2002 p834) and (2) dual processing theorists

(Stanovich 1999) who suggest that cognitive reasoning systems are distinct from

cognitive decision-making systems.
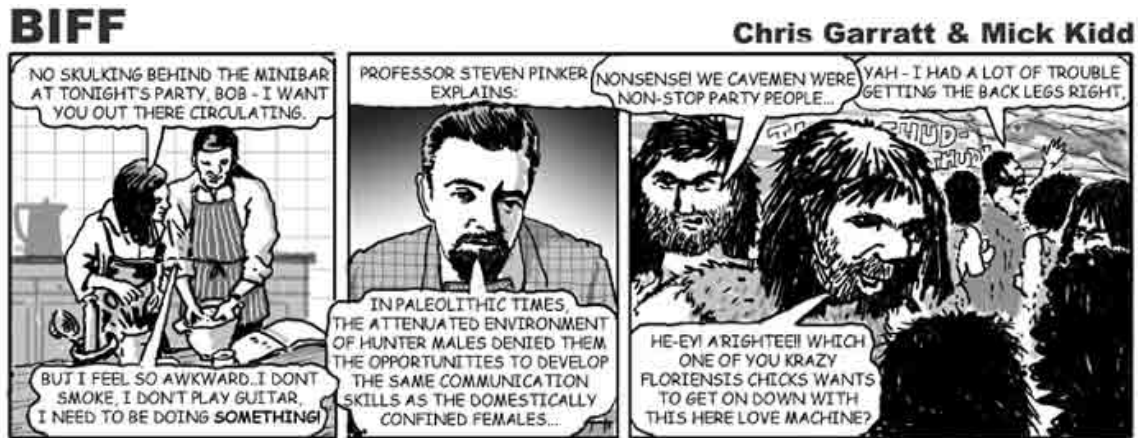
Figure 1 - Ancestral Environment

This apparently allows for individual differences in cognitive capacities since slower reflective thought "is more heavily influenced by culture and formal education, and is more adept at dealing with many of the problems posed by a modern, technologically advanced, and highly bureaucratized society." (Samuels and Stich 2002 p835)

There have also been challenges to the deontological account of rationality described by Stein under the 'standard picture.' One challenge comes from the idea that just because we *should* reason in particular ways according to the standard picture, that doesn't mean that we are capable of doing so. Cherniak (1986) has argued that the principles of reasoning in the standard picture are principles that we are incapable of applying. Another challenge resides in the various forms of consequentialism (reliablism, pragmatism), a view that maintains that "what it is to reason correctly is to reason in such a way that you are likely to attain certain goals or outcomes." (Samuels and Stich 2002 p836) The emphasis here is not on the application of rules of reasoning as a means to an end but rather whether the reasoning process is in fact an *effective* method of bringing about that end. Samuels and Stich suggest that "one reason for adopting a consequentialist rather than a deontological account of rationality is that it explains why

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it is worth worrying about rationality – why reasoning in a normatively correct fashion *matters*." (Samuels and Stich 2002 p386)

To illustrate this point we can easily take the case of ritual behavior. Sørensen puzzles over the apparent lack of effectiveness of ritual acts especially when coupled with the performance of ordinary acts with the same attached goal. (Whitehouse & Laidlaw, forthcoming) Under a consequentialist view we would be required to judge much ritual behavior, if not all, due to its ineffectiveness as irrational. This seems to me to be a mistake since a large part of common and persistent human behavior would have to be, in turn, deemed irrational and though I've already argued that rationality or irrationality is not what should concern us most, these kinds of claims paint a negative, value-judged picture. On the other hand, Boyer (Boyer 2001) and to a certain extent Lawson/McCauley (Lawson and McCauley 1990, McCauley and Lawson 2002) argue that ritual behavior is the result of an aggregate of cognitive tendencies acquired through evolution by natural selection, rather than an application of reasoning principles per se. While ritual behavior might be ineffective for the achievement of reported goals and fail to conform to principles of reasoning based on rules of logic, the simple fact that this behavior is widespread (i.e. transmitted in a stable fashion) and the result (at least indirectly) of evolutionary processes suggest that considering its rationality or lack thereof is largely irrelevant (or at least that yet another more representative view of normative reasoning needs to be developed). The Rationality Debate within the anthropological research tradition has been more about the extent to which human behavior (most notably ritual behavior) is rational rather than what in fact is the nature of

rationality.[56] Especially for relativists like Evans-Pritchard the nature of rationality is a

flexible one that will allow for the unreserved acceptance of 'culturally specific'

behaviors and reasoning within the set of rational behaviors.

My view is that the real challenge is to explain human behavior rather than

attempt to make judgments about its rationality, even if questions about the same

behavior's rationality – according to whichever scale (i.e. utility) – help to direct such

explanation. To do so requires that both psychologists and anthropologists shift their

analytical foci and that scholars in the human sciences in particular consider radical

changes in their philosophical commitments. Part of this realignment is to remove the, to

this observer, puzzling rejection of reductionistic pursuits.

Oh My God! He's a Reductionist!
It seems uncontroversial to me to state that there is at least one stance that both

theologians and religious studies scholars take. Both are (purportedly) committed to *non-*

reductionistic accounts of religion. Being committed to this stance, I believe, is the

primary reason many have been critical of the cognitive science of religion (though,

interestingly, theologians have not always). (Brelsford 2005; Lawson 2005) Since the

cognitive science of religion is committed to a reductionistic approach, the argument

goes, it is not welcome in religious studies.[57]

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[56] Jarvie and Agassi (1970) have made arguments about the nature of rationality including distinguishing
between strong and weak rationality. However this distinction (somewhat akin to dual processing theories)
does not negate their universalist leanings nor their primary concern with judging behavior rational or not.
[57] This can depend upon whether one is talking about inter- or intra-theoretic reduction. The former is a
reduction between levels of analysis, the latter is reduction within the same level but consists of competing
theories, such as behaviorist versus cognitive theories. Cognitivists argue that they have successfully
reduced behaviorist theory to cognitivist—without eliminating the categories that behaviorists employ thus
remaining on the same level of analysis. However this distinction would hardly placate most critics in the
human sciences.

Arguing about the nature and scope of reduction, especially within the context of the methodologies of the human sciences, is awkward for a few reasons. First, the philosophical and scientific literature on reduction is vast. Anyone who would like to know about it has ample resources. Because of this availability of resources, acknowledging and remedying the dearth of understanding about reduction in the human sciences is embarrassing, redundant, and can seem condescending. Second, because the foundation upon which proper reduction sits is so far removed from the traditional methodology of the human sciences it is difficult to discuss reduction in relation to that methodology in a way that isn't perceived as negative (in terms of its productivity) and arrogant (in terms of the language and assumptions required). Furthermore, many within the human sciences, including many of those who have shown an interest in embracing extradisciplinary methods, (a) do not have or (b) will not accept (or both) an accurate understanding of reduction. The former case is simply because of the absence of any philosophy of science training in the human sciences and the latter because it is an obvious threat to the status quo and because 'reduction' has become a fashionable back to flog (though the reasons for such flogging are rarely clear, even to the floggers).

I will nonetheless proceed by noting briefly some points made and faced by philosophers of science regarding reduction:

1. *Reduction is a relation between THEORIES not DATA.*

One theory (the reducing theory) "captures" another theory (the reduced theory). The former explains everything that is explained in the latter and more, or it explains everything more precisely. (Richardson 2002)

2. *Consistency between theories is necessary for reduction to be possible.*

For example, Richardson notes that kin selection theory explains the data that is also

explained by group selection but does not reduce group selection theory because the two

are inconsistent. Kin selection theory does not "capture" the explanations of group

selection theory even though it explains the same data. (Richardson 2002 p899)

3. *In at least one sense I AM an eliminativists.*

I do want to abandon inconsistency. I determine consistency or lack thereof using specific

criteria. One possibility is Nagel's account wherein there are two general conditions for

reduction to be possible. (Nagel 1961) I do not necessarily want to commit to

eliminativism. Particular scholars may; others, however, may not. To be fair to scholars

of religion, though, few graduate programs in religious studies incorporate training in the

philosophy of science and therefore I can understand how one might easily conflate

reductionism with eliminativism.

There is a complicated debate in the philosophy of science about reductionism

that is not reflected in the typical charges made by those in religious studies. In short, I

believe that when 'charged' with being reductionists by scholars of religion, what is

really meant by this criticism is that cognitive scientists are *eliminativists*. In

contemporary philosophy of science, reductionism and eliminativism are actually two

different frameworks. As already mentioned reductionism is merely the attempt to

specify lower-level conditions sufficient for upper-level patterns. A meteorologist might

reduce the phenomenon of a storm to the workings of its various causes, i.e. the various

atmospheric variables that come to produce what we call a storm. In contrast, an

eliminativist position is one that *eliminates* a phenomenon altogether by means of lower-

level replacement theories. An example of (attempted) eliminativism is the attempt by

some (e.g. Churchland 1979) to eliminate psychological theories (e.g. about postulated entities like "beliefs" or "desires") by replacing them with biologically-tractable theories (e.g. neuronal functioning). In short, eliminativists seek to construct explanations denying the necessity of 'higher' levels of analysis as well as the existence of higher level phenomena (i.e. beliefs, desires).[58]

<p style="text-align:center">*</p>

Making sense of multiplicity criticisms (of realization and of function). The strong argument is that reduction is impossible because one-to-many relationships between levels (i.e. one neural state corresponds to many psychological states) make bridge laws – something required, at least by Nagel, for reduction to be possible – impossible. The weak argument is that while reduction is possible in some domains it is not in others (i.e. the social or cultural domain) because of the above. This is not a done-and-dusted argument by any means. Identity theory is questioned from many quarters and since bridge laws are, according to Richardson, often assumed to be expressing identities, reduction must be questioned as well. Richardson notes, however, that expression of identity "is not part of Nagel's account and is not typical of actual reductions." (Richardson p900) McCauley defends integrative modeling, saying:

> "Multiple realizability does not necessarily present intractable problems
> for integrative models. Alternative realizations of psychological states
> raise neither barriers to cross-scientific connections nor grounds for
> declaring disciplinary autonomy but opportunities for further empirical
> research about the complexity of the interface between the psychological
> and the neural. If something like the identity theory were to prove
> plausible even for some extremely limited cognitive domain, the
> possibility of alternative realizations will certainly not deter scientists
> from exploring and exploiting all of the resulting cross-scientific

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[58] See footnote 57 above.

connections! If multiple instantiation of psychological functions proves the rule, it does not follow that--and in many cases there is little reason to expect that--neuroscientists face an unmanageably large number of alternatives. Even if token physicalism is basically correct, the important question for integrative models is whether it might sustain some cross-scientific connections that advance research in cognitive science. Unlike most reductionists and many of their prominent critics, integrative modelers do not presume that the answer to that question can be determined on principled grounds." (McCauley 1998)

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The above points should, of course, be heeded by theoreticians.

I now turn to some practical issues faced by such reductionists in the human sciences (i.e. me). They are:

1. *The inconsistency between theories within cognitive psychology and 'theories' within the human sciences.*

Nagle's first condition is not met (Richardson p900) and therefore the second condition cannot be met due to the lack of bridge laws. A thorough and precise analysis of Whitehouse's most recent attempt (Whitehouse 2004; but all of Whitehouse's work actually) demonstrates the current futility of attempting any kind of reduction wherein hermeneutic/cultural postulates make up the 'secondary theory' (reduced theory) and psychological postulates make up the 'primary theory' (reducing theory). Moreover, as demonstrated by Boyer (2005), Whitehouse's work is an example of organizational empirical generalizations. Important and helpful but in many cases, not merely limited to Whitehouse's work but across the human sciences, difficult to employ due to the confusion of heuristics and causal entities. (see above) Since postulates in the human sciences are often irreducible, homogeneous entities the theories that do the postulating are themselves irreducible, a fact that suits many in the human sciences but *cannot* be satisfactory to those who are serious about producing significant results from their work.

2. *The urge to prematurely move to lower levels of organization.*

"...there is often no explanatory gain in moving to a lower level and in some cases a substantial explanatory loss." (Richardson p901) We may aspire to be eliminativists but must rein ourselves in and wait until it is appropriate to embrace Churchland et al. (Churchland 1979, Bickle 1998) It is important to remember that correlations, for example between fMRI scans and concurrent mental behavior, are just that: correlations. I am very much in favor of exploring those correlations in order to construct better explanations and, eventually, reducing theories (see proposed study in last chapter) but at the same time insist on a conservative approach to making reductionistic claims based on such correlations.

The discussion in the philosophy of science about reduction is important. However that which scholars in our field must be most concerned is not whether reduction in general is a productive endeavor. We simply MUST acknowledge that an emphatic 'yes' to that question is the only sensible one *outside of philosophy*. I think we can (or should) all agree that precision – the goal of reduction – is desirable. What must engage our minds instead is how this desirable reduction can be effectively and productively attempted. The suggestion that we accept a reductionistic paradigm as a fundamental necessity may seem arrogant. It is arrogant insofar as accepting that a provisional assumption such as gravity is arrogant. As such I will be arrogant.

Criticisms of reduction that are motivated by the decried personal agendas of atheists who allegedly want to rid the world of religion are irrelevant. To the extent that these personages engage in justifiable reduction they are exempt from disdain. I, personally, have little patience for such agendas as a motivating force. But I have less patience for

the casual rejection of reduction or the sloppy implementation of reduction, whatever the motivation.

So a 'charge' of reductionism is seriously problematic on at least three grounds. First, and simplest, I argue that the charge of being reductionistic is a red herring—unless one *is* a theologian. By definition, if a scholarly account of religion is not theological it is reductionistic. One can reduce religion to culture, or to power, or to colonialism, or to gender, or to mind; all such non-theological accounts of religion are reductionistic.

Secondly, though there might be exceptions to the rule (though I know of none), cognitive scientists of religion are generally committed to "intertheoretic reductionism" (McCauley 1998) not eliminativism. They seek to *consolidate* phenomena at different levels of analysis through explanatory theories or bridge laws. (McCauley 1998) Thus, to return to the example of a storm, we can understand a storm well by knowing something about the dynamics of the entities involved in a storm—water, electricity, temperature — and thus come to explain storms without explaining them away. In other words, we can understand the upper-level phenomenon of a storm by appealing to its lower-level causes *without being committed to the eliminativist position that storms per se don't exist.*

Third, despite the often alarming-sounding criticisms of the cognitive science of religion, in actual practice, research in cognitive science of religion is rather innocuous. For example, whenever someone asks me what field I am in and I answer by saying the cognitive science of religion, that answer is often met with a frown. However, if someone asks what I do, and I respond by saying "lately I've been exploring what people actually remember when they hear religious stories," the reaction is often enthusiastic. In the next chapter of the paper, I review some issues and methods that contribute to a fruitful

construction of explanations of human behavior that may indeed be the caulk we are

looking for.

CHAPTER SIX

Caulk

Nativism vs. Empiricism

Extending from - or perhaps that which allows for - the preoccupation with

epistemological equality is the psychological model assumed – generally implicitly – by

the debatists. An environmentalist model of the mind necessarily emphasizes external

stimuli (i.e. cultural information) as that which must be considered to make

determinations about human behavior including that of rationality and irrationality.

Incredibly, scholars specifically interested in studying human minds (i.e. psychologists)

have largely relegated contextualist, blank slate models of the mind to historical curiosity

status. (Steven Pinker 2002) As such the most current credible approach to

understanding the mind is that of the cognitive sciences; an approach that emphasizes

internal mental processes/capacities, the mechanisms employing them, and the resulting

cultural consequences.

This approach to how the mind works acknowledges the role of external (or

cultural) stimuli/cues but adds to this the crucial importance of a robust internal, native

mental architecture including multiple domain-specific inference systems triggered by

these cues culminating in an aggregate relevance processing model (Boyer 2001). Such a

rich model has allowed scholars to posit alternative models of the transmission of cultural

materials. (Sperber 1996) Accordingly, mnemonic issues are also established avenues for

exploring the cognitive influences on cultural forms i.e. the relative stability of religious

ritual systems through time. (McCauley and Lawson 2002, Whitehouse 2004) Because

standards of rationality are necessarily based on the actual behavior of people,

understanding the underpinnings of that behavior is crucial to developing such standards.

Rational mental processing is 'normative' processing; the product of a *set of processes* which *may* include logical processes. What set of processes are those that form the conglomerate necessary to be called rational is the question before us. By using the tools and discoveries of cognitive science we will have a clearer picture of what processes are at work and therefore, at the very least, the potential opportunity to understand what processes are those that specifically belong to the set of processes necessary to be labeled 'rational.' The entry of cognitive scientists into at least the sub-basement of the Rationality Debate may result in a very altered and hopefully more sophisticated understanding of what, at the very least, we should consider to be fundamental to rationality in general and how these relate to religious behavior in particular.

Paul Thagard, in his book <u>Mind</u> (1996), states the central hypothesis of cognitive science in general:

> *Thinking can best be understood in terms of representational structures in the mind and computational procedures that operate on those structures.*

While the specifics concerning the representations and processes involved in mental operations are disputed among those interested in cognitive science, most if not all agree on this basic premise. Most significantly this Computational-Representational Understanding of Mind (or CRUM; Thagard 1996) is a definite break from contextualist perspectives of what constrains human actions. Cognitive scientists consider what goes on 'in' or is done by our minds to be of extreme importance for explaining human behavior. In other words external stimuli *by itself* can not be sufficient data for

explaining why humans do what they do. Instead the biases, constraints, and built in

tendencies of the human mind *in relation to external data*[59] must be understood in order

to develop better notions of human behavior across cultures.[60]

How minds relate to external data (or not) depends in part, according to cognitive

scientists, on a distinction between intuitive and counterintuitive (natural vs. unnatural,

online vs. offline) processing. Intuitive processing is that which depends very slightly (if

at all) on cultural input; processing for which built in abilities, biases, and constraints

play a large role. Examples include face recognition, language acquisition, and abilities

to recognize agency. (McCauley 2000) Counterintuitive processing, on the other hand,

has a much larger dependence on external factors. While this processing is also

constrained by innate mechanisms, the principles underlying it are not our default

intuitive principles but instead learned external principles. Examples include, scientific

theorizing and theological thought. It is not surprising, then, that theology and science

are more difficult to understand, acquire, and transmit than simple everyday inferences.

(i.e. the sun *rising*)

Built in constraints and biases (that characterize intuitive processing) play a much

more prominent role in shaping religious ideas and practices than previously thought and

therefore our reliance on external information or institutions is much less. (Lawson and

McCauley 1990; Boyer 1994, 2001) In other words intuitive thought is largely a non-

cultural process.[61] (McCauley 2000) And because our intuitive representations are our

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[59] This data being all that occurs outside of the mind and taken in by our senses.
[60] Hence the subtitle for Lawson-McCauley's 1991 book, <u>Rethinking Religion: Connecting Cognition and Culture</u>.
[61] See my concluding remarks for further discussion on the roles played by cognitive mechanisms and cultural cues. Much like Lawson/McCauley's call for an integrated understanding of interpretation and explanation the cognitive approach to explaining human behavior includes a call for and understanding of how context and default cognitive capacities dovetail.

defaults, their influence is vast. For example, the way humans tend to mentally represent

religious rituals (and therefore transmit them) is constrained by built in cognitive

mechanisms that generate intuitive representations of actions. Lawson and McCauley's

ritual form hypothesis predicts that this will effect ritual form, centrality, repeatability,

and likelihood of transmission, among other things. (Lawson and McCauley 1990, 2002)

[62] Religious ideas require little *explicit* assistance to persist since our minds have

predisposed tendencies to generate, attend to, and transmit these kinds of ideas. (Boyer

1994) Since an understanding of these predispositions should increase our knowledge of

religion and since the methods of cognitive science have been specifically developed in

order to understand this utilization, predisposition, and persistence it follows that a

cognitive science of religion could be a fruitful endeavor. The alternative is to follow the

generally accepted model of the mind as a "blank slate;" a radically contextualist

program that, while not usually *explicitly* invoked in the social sciences, lives on through

implicit metatheoretical residue.[63] I suggest we instead continue on the route upon which

the earliest cognitive scientists of religion[64] have started us.

Cognitive Science of Religion Standard Model
      Let us examine the primary aspects of what has become known as the standard

model among scholars working in the cognitive science of religion.

    1. A Cognitive Approach De-Centralizes the Religious Domain

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[62] Some of the claims of the hypothesis have been experimentally tested by Barrett and Lawson (2001).
The argument with Whitehouse, however, appeals to ethnographic and not experimental information. It is
empirical but not experimental. And that is a good thing.

[63] Steven Pinker points out that "The doctrine of the Blank Slate became entrenched in intellectual life in a
form that has been called the Standard Social Science Model or social constructionism" by Tooby and
Cosmides (1992) and Mallon and Stich (2002) respectively.

[64] E. Thomas Lawson is clearly the founder of this field, despite protestations by some critics. His earliest
work in this vein dates back to the 1970s. The cognitive science of religion became more mainstream when
he began to collaborate with Robert N. McCauley; their earliest seminal work being "Rethinking Religion:
Connecting Cognition and Culture" (1990).

Ironically, approaching religion from a cognitive perspective removes a homogeneous domain of religion from the discussion. Different cognitive mechanisms inform different aspects or domains of religious systems. Some examples are theological thought, religious rituals, moral systems, and group cohesion. Metaphysical and theological reasoning is informed by cognitive mechanisms underlying cognitive principles of off-line reasoning and theological (in)correctness (Barrett & Keil, Barrett, Slone). Religious ritual behavior is informed by cognitive systems responsible for the representation of ordinary actions, ordinary ontological intuitions about agency and intentionality. Moral systems associated with religious traditions are the result of evolved mechanisms that inform general moral judgments not religious judgments per se. Similarly, group cohesion, traditionally explained as an effect caused by religion, is the result of cognitive principles of human coalitional and essentialistic capacities. Religious concepts and associated behavior are freeloaders of sorts, riding on the coat tails of cognitive mechanisms that inform all human behavior but providing no discernible selective advantages.

2. **A Cognitive Approach Deflates Religion**

The domains informed by specific cognitive mechanisms are not religious domains. The cognitive mechanisms involved are in place for reasons of natural selection and have been selected not for the sake of preserving a religious adaptive advantage but because of more general and fundamental selective pressures. The mechanisms discussed above that account for aspects of religious systems are not special mechanisms in place solely for the processing of religious concepts and undergirding religious behavior but rather ordinary mechanisms that play a part in cognition in general. Representations of

superhuman agents (i.e. gods, spirits) can be explained in terms of ordinary representations of agents, a religious ontology can be explained in terms of ordinary ontologies, and religious narratives and conceptual schemes are understood in terms of ordinary mnemonic constraints. Another example of a concept traditionally associated with religion that appeals to non-religious cognitive principles is the concept of death. Principles of danger, contagion, predation as well as animacy and theory of mind systems inform concepts about people that are biologically dead but mentally alive. A large part of religious conceptual systems function to make sense of these naturally occurring concepts.

3. A Cognitive Approach is a Selectionist Approach

Universal religious concepts are universal because they are of a sort that thrive in a transmission model that involves many kinds of inference systems and mnemonic constraints. An epidemiological model of transmission reveals the plethora of inference, perceptual, and memory systems that make up a sort of reconstruction system resulting in very similar (as opposed to replicated memes) concepts in individual minds. (Sperber 1996) These cognitive systems have proven to be evolutionarily advantageous and preserved through natural selection. Religious concepts (or religion) are not evolutionarily selected for but rather are particularly relevant products of our evolved mechanisms more susceptible to be similarly reconstructed. Accordingly an understanding of these mechanisms is what will ultimately allow us to construct a better understanding of religious systems and religious behavior as a test case for understanding human behavior in general.

4. A Cognitive Approach Appeals to Intentional Agents' Fundamental Role

Intentional agents are afforded particular importance for religious systems and reasoning. Supernatural concepts are mnemonically optimal because they both (a) attract cognitive attention by virtue of having features that minimally violate default ontological expectations and (b) match most default expectations resulting in easy activation of tacit inference systems triggered by specific ontological domains. This is particularly true of supernatural agent concepts since human cognitive capacities are hypersensitive to attributing and making inferences about agency.

Using this model cognitive scientists of religion attempt to use recurring religious concepts and behavior as a test case for describing the cognitive mechanisms that make up our general cognitive architecture and demonstrate how this evolved architecture, with its varied, distinct, but integrated systems, works to produce context-sensitive judgments. What follows is a more in-depth description of the mechanisms and capacities cognitive scientists have identified.

Cultural Transmission

Perhaps one of the most obvious concerns for social scientists is making sense of the way cultural material is transmitted from generation to generation. When taking note of cultural data – supplied by able ethnographers like Evans-Pritchard – social scientists have long been struck by the incredible stability of many kinds of cultural forms. Lévy-Buhl – who emphasized cultural forms as providing the collective representations which orient a group's mentality toward one of two poles: mystical or logical – relegated those representations to Plato's 'Realm of Being.' In a sense Lévy-Bruhl got it right. Cultural forms, as the data suggests, *do* persist. Intellectualists like Frazer might expect peoples

like the Azande or Nuer to, in time, develop mentally and thereby resist the tendency to entertain ideas like cucumbers being oxen, or the sun being a white cockatoo and embrace more modern, logical ideas. Scholars like Lévy-Bruhl, Evans-Pritchard and Robin Horton, however, recognized that this was simply not the case even when extraordinary external pressures were brought to bear on such communities, i.e. colonialism, slavery. The ethnographic data I briefly mentioned indicates that cultural forms of this sort do in fact remain stable over time, despite many potential obstacles. One particularly telling example can be found in Frederick Barth's ethnography of the Baktaman (a Melanesian community). In it Barth reports the fact that though this is a non-literate community they still manage to maintain a very stable ritual system; a system that is dominated by infrequently performed (appx every 7 years) initiation rituals. So Lévy-Bruhl's suggestion that cultural forms persist was correct. However, he never provided an explanation for this (relative) stability.

This is not to say that the issue of transmission has not been addressed at all. Quite the contrary. The dominant Blank Slate view of human nature necessitates that external mechanisms are responsible for the stable transmission of cultural material much like external representations are responsible for a group's patterns of thought. On this point Evans-Pritchard is in agreement with Lévy-Bruhl:

> "For Tylor and Frazer primitive man believes in magic because he reasons incorrectly from his observations. For Lévy-Bruhl he reasons incorrectly because his reasoning is determined by the mystical representations of his society. The first is an explanation in terms of individual psychology, the second a sociological explanation. Lévy-Bruhl is certainly correct in so far as any given individual is concerned, for the individual learns the patterns of thought in which, and by which, mystical connexions are

> established. He does not deduce them from his own
> observations." (Evans-Pritchard 1965 p 86)

Issues of deduction, induction or abduction aside it is clear that for at least Lévy-Bruhl

and Evans-Pritchard the universal mind is dominated by external information, be it

symbolic or otherwise. Accordingly the mind/brain is not the crucial aspect of cultural

transmission.[65]

So how do cognitive scientists propose to make sense of cultural transmission?

One proposed way is through a memetic model of transmission; analogous to the

biological model of genetic inheritance. This model is attractive, first of all, since

because it is similar to a model of transmission of genetic information it may allow for a

mathematical understanding of how memes are transmitted like we have a mathematical

understanding of how genes are dispersed throughout a population. Memes, then, are

analogous to genes and are, according to Richard Dawkins, units of culture. These units,

following the genetic model, are replicated and transmitted between individuals. The

replication of memes arguably accounts for the stability of cultural forms. Daniel Dennett

in "Breaking the Spell: Religion as a Natural Phenomenon" (2006) opts for a memetic

approach.

While memes may seem on the surface to be simply more fundamental examples

of Lévy-Bruhl's 'collective representations' or another way to think of culture "as some

abstract object, independent from individual concepts and norms, that we somehow

'share'" (Pascal Boyer 2001 p35) they are in fact quite different. In fact the memetic

model underlines this difference. Pascal Boyer points out (1) that memes, like genes, are

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[65] Interestingly the early Intellectualists (i.e. Frazer) were attempting to make sense of human behavior by making inferences that, to a great extent, emphasized the internal workings of the mind, though they thought that primitive minds were flawed or at the very least developmentally slowed relative to modern minds.

not shared and therefore are not part of a collective 'Realm of Being.' Instead they exist within each individual as pieces of memory. (2) Culture is labeled as a similarity between people. However similarity does not *cause* anything; minds do. It is the pieces of memory (memes) that lead to behavior and to one person acting similar to another. (3) Since there is no natural grouping for human beings the labels used (i.e. Zulu culture, Basotho Culture, Nuer Culture) are in fact "historical, purposeful constructions. They are not the effect of some natural similarity." As such we social scientists can not allow ourselves to be fooled by these, admittedly helpful in some instances, largely political labels. (Pascal Boyer 2001 p 36) (4) Quantitative models of transmission describe a "measurable process of transmission." (Pascal Boyer 2001 p37) Explaining cultural stability is dependent on understanding how people communicate. To do so "we have to explain how this concept is represented in individual minds, in such a way that they can recall it and transmit it better than other concepts." (Pascal Boyer 2001 p37) So "what matters is…acquisition, memory and communication" of memes by individual minds.[66] (Pascal Boyer 2001 p37)

An advantage of cognitive science is that its tenets allow for and its adherents welcome sincere theoretical resistance. Unsurprisingly the memetic model of transmission is not the only one proposed by cognitive scientists. Dan Sperber has proposed a model for the transmission of cultural information analogous to infectious diseases. This epidemiological approach to cultural transmission undermines the

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[66] There are two major problems with group-selection, one theoretical and one methodological. First, thinking of groups as actually existing can be heuristically useful. But, ontologically, groups are merely collections of individuals. In other words, groups don't exist--outside of our creation of them. Second, methodologically, how does one identify a group?' Take any group marker -- Afrikaaner, Christian, Jew, White, Caucasion, Buckeyes, American -- and it becomes almost impossible to identify what counts as a category member.

memetic model's dependence on the replication of units of culture. Sperber argues that any information in one individual's mind is not simply replicated or copied and planted, as it were, into another person's mind. Transmission, in Sperber's view, is not a straightforward process of "beaming" identical packets of information from one person to another but rather a complex procedure involving distortion, selection, recombination, and reconstruction. In other words, information when being transmitted from one individual to another goes through an incredible amount of processing and can hardly be said to be represented in the *transmitee's* mind as a perfect replica of that which represented in the *transmitter's* mind. There is no ethereal Cartesian network cable between individual minds that allows us to replicate and download information in the way internet users replicate and download music from websites like Napster or iTunes. As such we can hardly expect the information we communicate to be one hundred percent the same when it reaches another mind the way we expect a downloaded song to sound identical to its online version, though each music file is on a separate computer.

Pascal Boyer acknowledges, along with other anthropologists, that this arguably constant distortion of information could "spell the doom of meme-explanations of culture." (Pascal Boyer 2001 p39) Still, there remains an easily observable similarity and stability of cultural forms. Human minds and human communication, though, are not like the computers they invent. We must remember that Sperber, as a cognitivist, is very conscious of the tremendous role our built-in cognitive mechanisms play in all mental activity, including communication, transmission and storage. His argument is that human minds are incredibly efficient in taking distorted, incomplete information and

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reconstructing it in very similar ways even when this information is infrequently communicated as in the case of the Baktaman ritual initiation rituals.

The implications of such an approach to cultural transmission are significant. First of all, not only does Sperber's approach account for cultural similarities and stability but can also potentially account for dissimilar concepts and forms. Because human minds tend to reconstruct communicated information using the same inferential systems and ontological assumptions the reconstructed representations *tend* to converge. This is only a tendency, however powerful, and so it is completely normal within the epidemiological model for diverging representations to appear in cultures. The memetic model, dependent as it is on the replication of units of culture, is hard pressed to explain dissimilarity except, perhaps, by introducing more (and possibly ad hoc) mechanisms or events that result in anomalies. Sperber's approach can account for both the persistence and potential divergence of cultural information.

Since this process of transmission (and thereby cultural maintenance) tends to result in a convergence of cultural information the next interesting question becomes why, in our case, religious ideas such as those that puzzled Lévy-Bruhl and Evans-Pritchard are, arguably, in the set of cultural concepts that are consistently and persistently reconstructed in a stable fashion. Steward Guthrie, Justin Barrett, Lawson and McCauley, Pascal Boyer et al. argue (Guthrie 1993; Lawson and McCauley 1990, 2002; Boyer 1994, 2001; Slone 2004; Atran 2002) that it is because religious ideas are particularly well suited for representation in the kind of minds we humans have. Guthrie's work introduces this argument well.

Magnitude of Agency

Stewart Guthrie's 1993 book "Faces in the Clouds: A New Theory of Religion" brought into sharp relief the human tendency to 'humanize' the world; to anthropomorphize their environment. His work was a triumph since this human tendency is so prevalent, so much a part of our moment to moment thought that it is nearly always overlooked or taken for granted. For example we look into the sky and see clowns or cowboys. We look at rock formations and see outlines of human faces. We see ink stains on a desk and more often than not then seem to be in the shape of faces. Not only do we tend to see human shapes where there are none, we also attribute intentional attributes to entities in the world be they actual agents or not. This is an example of what Justin Barrett termed the Hyperactive Agency Detection Device (HADD). (Justin Barrett 2000) In other words humans have a cognitive default when initially attending to *any* entity in the world. A not so surprising example of this tendency is the way we deal with pets. I often automatically think to myself "Loomis is pouting" when I am packing up things to go out. Loomis, my dog, somehow 'knows' that I am leaving and 'pouts.' Here is an example of me attributing specific thought processes and emotions to my puppy dog; processes and emotions that may or may not actually exist. Or in other situations I may become annoyed with him because I believe that he is intentionally doing something that bothers me. He is, however beloved, just a dog and not a human with all the inherent weaknesses and pettiness, thoughts and cognitive capacities.

Dogs, though, do act on their own volition. They are animate entities in the world. Therefore it may not seem such a stretch for us to attribute other, more human, motivations and characteristics to them. The same may be said about any pets; cats, ducks, or emus. Our HADD is so basic (at least when we initially attend to things) that

inanimate objects are also targets of its paranoia, as it were. Consider the following scenario: Imagine yourself the resident of a spacious two story home. You are married and asleep one night in your upstairs bedroom. You wake in the night with a dry throat. Intending to get a glass of water you make your way down the hall to the stairs and go down them on the way to the kitchen. As you take the first few steps after reaching the bottom of the stairs you feel something unexpected brush your shoulder.

What is your reaction to this? Exact reactions vary from mild surprise to a violent recoil in the opposite direction of whatever it was that brushed you possibly accompanied by a slightly panicked yelp. What is certain is that, for however brief a time, the initial cognitive perception of the event is that the offending 'thing' is an intentional agent. There are a myriad of things that might cause us to stop attending to such a representation of the situation: a sudden remembrance, your eyes might adjust to the dark, or a light might come on suddenly. At some point though you will sheepishly put down the broom once you realize it is the coat rack your spouse moved earlier that day. The key point here is that whether your mind attends the notion that the offending coat rack is instead a goblin for 30 seconds or for a nanosecond it is still our overwhelming tendency to make, oft times mistaken, agency attributions.

Guthrie relates this tendency to anthropomorphize the world to religious behavior. The gods (used liberally) are unseen entities that are believed to be causal agents behind much of what goes on in our everyday life. Jason Slone notes "the gods caused me to win the lottery; demons made me do it; ghosts haunt the house; angels saved my life; there's a devil in that blue dress; the goddess killed the dinosaurs." (Jason Slone 2004 p58) We all can, undoubtedly, come up with our own examples. Notions of fate, luck, or

any other unseen causal agent entity are all examples of the human tendency to attribute agency to the most basic of scenarios. Some scholars, like Slone, make the mistake of not considering unspecific notions like luck or fate to be, in fact, representations of causal agents. However, whether the causal agent to which we attend has a specific label in our conceptual scheme (i.e. Buddha, Jesus, angels, demons) or whether it is simply a vague notion of agency (i.e. luck, fate) the fact remains that when attending to such notions where the existence of such an agent is actually not perceptually discernible is connected to our default cognitive reactions to the world via our HADD.

Guthrie's point – that human minds tend to attribute agency to inanimate or decoupled entities – is well taken. However, what we really want is a non-tenuous link to clear cognitive underpinnings of this phenomenon when it comes to relating it to religion. Guthrie, though, persists in waxing the philosophical-poetical; at times echoing, if not drawing from, the masters. When discussing the fact that anthropomorphism is often menacing Guthrie states: "The gods in general may be threatening and intractable." (Stewart Guthrie 1993 p75) That much we have had from the poets.

> "I do not know much about gods; but I think that the river
> Is brown god – sullen, untamed, and intractable,
> Patient to some degree, at first recognized as a frontier;
> Useful, untrustworthy, as a conveyor of commerce;
> Then only a problem confronting the builder of bridges.
> The problem once solved, the brown god is almost forgotten
> By the dwellers in cities – ever, however, implacable,
> Keeping his seasons and rages, destroyer, reminder
> Of what men choose to forget. Unhonoured, unpropitiated
> By worshippers of the machine, but waiting, watching and
>   waiting."

> (T.S. Eliot *from* The Four Quartets – The Dry Salvages)

Eliot captures, in an eloquent manner, a menacing aspect of the gods that echoes Guthrie's words eerily. Despite this sometimes journalistic content Guthrie's work has

helped to emphasize a cognitive approach to the understanding of religious behavior,

focusing on natural *and universal* human mental capacities; a feat of no small

significance.

Pascal Boyer goes further in our search for the details of the cognitive

underpinnings of religious behavior. He notes: "We humans are generally not very keen

on invisible hand explanations. As philosopher Robert Nozick once pointed out, we tend

to prefer hidden hand scenarios, where there is a real conspirator…." (Boyer 2001 p298)

In other words humans prefer explanations of things in the world that involve an unseen

causal agent rather than practically invisible factors "that constitute the collective and

invisible hand of cultural evolution." (Boyer 2000 p 298)

Decoupling

We are able to easily handle such unseen entities because our minds are able to

entertain and make inferences about counterfactuals. We do it all the time, in fact most

of the time. I am doing it right now while writing this passage. What will my advisor

think of this sentence? If I wrote a better sentence than this one perhaps he would be

happier. Or take another example. Recently my brother reminded me of the imaginary

friend I had as a kid: Mokey. My friend was interesting because he was only manifested

in my reflection in the bathroom mirror. Whenever I wanted to talk to him I had to go in

that room. My brother had no imaginary friends and he often wanted to converse with

mine! He would ask me about my friend when not in the bathroom and therefore when

Mokey couldn't speak for himself.

What is significant not only about my particular friend but of any imaginary

friend is that we can discuss the strange disappearance of old friends or the appearance of

new ones, the current disposition of friends, or what they thought of the weather. So

even though these friends are imaginary and invisible most of the time we have no

problem discussing them as though they were real. In the case of my brother and myself

we had no problem with this when we were kids nor during our recent conversation

looking back. These kinds of thoughts are decoupled from our current perceptive

environment; those things we can see or touch.. Pascal Boyer argues that this capacity

allows us to make inferences about religious counterfactual concepts like gods and

spirits; concepts that have no perceptive reality[67] yet we easily make inferences about

them and act on those inferences.

Counter-Intuitive vs. Intuitive Concepts
      Jason Slone has a fun example of just how interesting our minds are.

> "Perform this thought experiment. Close your eyes. Think
> of walking along a beautiful sandy beach. Think of the soft
> white sand underneath your feet. Think of the ocean's
> waves rolling gently over your toes. Think of a sleek
> dolphin jumping out of the water just off the shore. Think
> of a young child building a castle in the sand. Think of the
> sun setting at the end of the day." (Slone 2004 p59)

Not a bad end of the day. It is also very easy to imagine; perhaps too easy for someone

used to Michigan winters. I certainly had no problem. Slone then continues his

instructions:

> Think of yourself on a beach with laughing sand. Think of
> the dolphin building a castle on the beach. Think of the
> setting sun saying, 'Good night. See you tomorrow at
> sunrise.'" (Slone 2004 p59)

This request might make us raise our eyebrows a little and wonder what kind of guy Dr.

Slone really is. Whatever one's reaction, though, a dolphin building a sand castle it isn't

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[67] I would only note that this statement is in no way a value judgment about beliefs in gods, spirits, or any other religious counterfactual agent.

at all difficult for us to imagine. Had Slone asked us to imagine a purple dolphin with

pink polka dots and a monocle building the sand castle we could do that as well with little

difficulty though possibly with some modicum of incredulity.

Range of Concepts

Figure 2 - Concept Range

Theological (In)Correctness

Consider the following quote: "Education is just this – learning to frame one's

will in accord with events." (Arrian's Discourses of Epictetus, Book I, Chapter XII;

p248) Epictetus (or Arrian, depending) has it right I believe. Our education seems to be

an endless introduction to facts, some important others trivial, that are supposed to

improve our navigation of both the natural and social worlds in which we live. For

example I just learned that lemongrass, if used in soup, provides an exceptionally

pleasant flavor. Accordingly, I recently used it to flavor my soup broth and the

simmering brought about the intended results. This is only one in the long line of new

facts I have, at the very least, attended to at one time or another in my lifetime. Luckily

for my palate the fact about lemongrass was arresting enough to remain in my memory

long enough for me to actually employ it usefully. As we have seen above, at least in

ritual contexts, the factors that influence memory are sometimes intricate and complicated but we humans have incredible minds and remember more things than we are actually aware. Since this is a discussion about religious behavior let's talk about the people who arguably need to remember the most things and the most complex things to boot: theologians.

Have you ever heard of The Twelvefold Chain of Dependent Origination? Or how about the doctrine of Transubstantiation with its notions of substance and accidents? Or perhaps you are familiar with Thomas Aquinas' *Summa Theologiae*? In it he uses an adaptation of Aristotelian philosophy to "distinguish between matters of faith and matters of reason." (Harper Collins Dictionary of Religion 1995 p65) These are only a few of the long list of mind boggling, incredibly complex and dense theological ideas that theologians remember and put into practice each day. I admit that these people, while it may at times seem otherwise, are few and far between. But let's not sell ourselves short. We all know a thing or two about theology be it Buddhist,[68] Christian, or Islamic. even if we aren't particularly religious or atheists. For example, I am sure that at least some of us have managed to pack away some little tidbit about the nature of God. God is omniscient, omnipresent, and omnipotent. We all know this, right? That is a theological idea. We learned that, from whatever source, and have hung onto it, more or less, ever since.

Or have we? The answer is 'yes' we have, or at least some of us, remember some of these sometimes difficult theological ideas. But not so fast. The answer is also 'no'

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[68] I realize that some reading this will bristle at the idea that I connect a seemingly god-less religion with theology. However, since within the cognitive science of religion program (and elsewhere) it has been convincingly demonstrated (see Slone 2004, Lawson/McCauley 1990, Boyer 1994) that Buddhists act in the world as if there is a god(s) that I relegate this small comment on this erstwhile controversy to a footnote. *yawn*

though. Justin Barrett recognized that most people have learned something about their own religion's theology and when asked would, in most cases, answer in what he calls a "theologically correct" way. For example if a typical Roman Catholic from Kalamazoo MI was asked "Is God omnipotent?" she would answer 'yes.' This type of survey/questionnaire would then be of limited use. So Barrett (most prominently but there are others as well) has done multiple narrative recall experiments that test how people tend to represent god practically. Subjects were given short passages that included deities. The subjects were then asked to reconstruct the passage from memory. The results of these experiments and the conclusions garnered from them were striking especially when juxtaposed with the strictly theologically correct tendencies of subjects when faced with a simple questionnaire of the type mentioned above. When reconstructing the narratives, subjects would attribute to the deities present characteristics that were not compatible with the professed theologies of their faiths. For example if the narrative discussed a crisis situation in which a person was in trouble and called on god to help, despite knowing the theologically correct description of god as omnipotent and omnipresent, the subjects would often portray god as having to finish up one prayer request before beginning another or take a little time before arriving at one location since god had been in another location doing something else prior.

What?!!? The answer to the question above "Have we remembered our theology?" is really 'sometimes.' Based on Barrett's experiments we can conclude that people can produce theologically correct representations in some situations and in others we produce representations that are more inline with our intuitive ontologies, our anthropomorphic tendencies, seen above. But the reconstructed passages are not one

hundred percent intuitive either. While they are not theologically correct, the deities in

the stories retain characteristics that do not match our natural expectations about the

world. God might be flying through the air for example. Just the fact that there is a god

– a superhuman agent – is an example of there being counter-intuitive concepts included

in the passage. So when we reconstruct the passages in experiments or simple

reconstruct transmitted cultural information as Sperber suggests we do so using the

aggregate of all our relevant cognitive systems. We don't, for example, reconstruct the

passages in experiments like Barrett's using only inferences about how humans or

animals should act and be. If we did we would reconstruct the passage sans any counter-

intuitive concepts at all (i.e. superhuman agents). Instead the result of our aggregate

inferences gives us neither maximally counter-intuitive reconstructions nor wholly

intuitive reconstructions but rather modestly counter-intuitive reconstructions which are

also optimally counter-intuitive. Let's revisit figure 1.

Range of Concepts

Intuitive   Counter-Intuitive
^   ^
_____

^
Modestly Counter-Intuitive

Figure 3 - Cognitive Optimum Concepts

The reconstructed deity passages Barrett's subjects produced were, arguably, within the

area marked 'modestly counter-intuitive.' This is not to say that theological ideas are all

maximally counter-intuitive but they are rarely optimally counter-intuitive and tend to be toward the right end of the concept scale at least in terms of theistic concepts.

Jason Slone in his recent book "Theological Incorrectness: Why Religious People Believe What They Shouldn't" fleshes out this phenomenon and gives three clear examples of this in religious systems found around the world: theistic Buddhism, free-will Calvinists, and luck-driven theologians. Theravada Buddhist doctrine acknowledges no deity in its religious system but Slone correctly discerns that in their ritual system they treat the Buddha as a superhuman agent. In his second example Slone demonstrates that Puritan notions of predestination easily give way to free-will due to, he argues, the immense cognitive burden (counter-intuitiveness) of predestination ideas. "Simply put, if God controls everything, then humans control nothing – and that is hard to believe." (Slone 2004 p6) Finally, he suggests that 'luck' concepts are incredibly commonplace across cultures despite the fact that such ideas are "in direct violation of learned theology." Here then are real world examples that support a cognitivist approach to religious behavior particularly as exemplified by Barrett.

Of course if our cognitive tendencies were not as described by Boyer et al. people might instead be consistently theologically correct luck concepts would not be common at all. There is a sort of urban legend about a town in Southwestern Michigan. The area is heavily Christian and conservative. As a result one would not expect the population to rely on astrological predictions. The story goes, however, that the one time in decades of constant printing that the newspaper failed to print the daily horoscope is the day the record was set for the most number of complaints called in to the newspaper. The story may or may not be true however it illustrates Slone's point which is, of course, that

people are consistently theologically *incorrect*. In his book he shows how discoveries

about human cognitive tendencies explain that this is natural and takes a jab at

theologians saying "Sorry, clergy, but theological ideas simply do not determine, per se,

how or what people think." (Slone 2004 p 66)

Folk Ontology

        Pascal Boyer argues (Boyer 1994, 2001) that religious concepts – which are

counter-intuitive concepts – are represented employing the ordinary cognitive

mechanisms in all human mind-brains. No special mental equipment or experiences[69] are

required for that representation. Our ordinary mental equipment that is used for all

concept representation is also used for religious concept representation. Evidence from

developmental psychology demonstrates that human beings are set up with an intuitive

ontology if not from birth at least very shortly afterward. This intuitive ontology

develops very quickly on the basis of minimal environmental cues. (Gopnik, Meltzoff,

and Kuhl 1999) This allows us to recognize differences in the world.[70] For example,

human minds can naturally distinguish between concepts in a finite set of categories: (1)

Persons, (2) Animals, (3) Plants, (4) Natural Objects, and (5) Artificial Objects.[71] Our

intuitive or so-called 'folk' theories about the world provide the basis for these

distinctions. (1) Our intuitive psychology tells us that the category 'Persons' includes

those things which have a mind that includes intentionality. This includes a theory of

mind where we represent the thoughts of others; we have a theory about what another

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[69] Boyer notes that everyone has religious ideas - not just those are few who have extraordinary 'religious' experiences. In doing so he breaks from the Jamesian tradition which focuses on these experiences. (James, 1890)

[70] Manyeli, while certainly no cognitivist, had some sense of this when observing the Basotho: "Basotho 'believed' or knew by 'intuition' that mutual physical, biological, and psychological interaction between humans and the universe, atmospheric conditions, birds, and animals exists." (T.L. Manyeli 2001 p114)

[71] The list of ontological categories has been revised in various places but for our purposes the list included here is adequate.

person is thinking. (2) Our intuitive biology tells us that the category 'Persons' includes

things which have a body and die. (3) Our intuitive physics tells us that the category

'Artificial Objects' include those things which are inanimate but do not occur in nature.

A template for concept representations which employs these ontological categories can

be depicted in this way:

<div style="border:1px solid black; padding:1em;">

GENERAL CONCEPT TEMPLATE

   i. Domain [animal, plant, person, etc.]

  ii. Domain Properties [dies, intention, etc.]

 iii. Culturally Specific Information [label, associations, etc.]

</div>
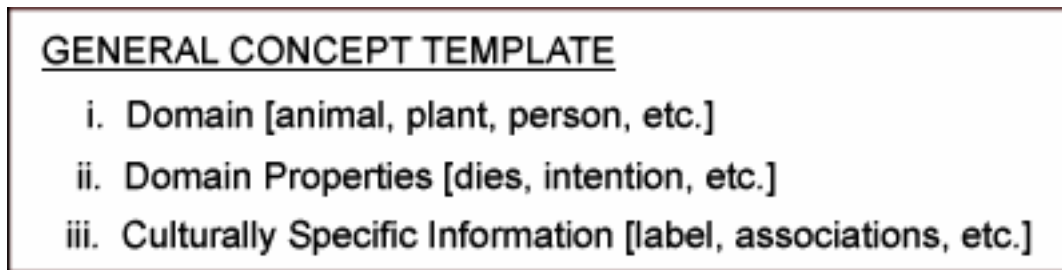
Figure 4 - Concept Template

Each bullet or slot in the template requires some kind of content. Slot 'i' is filled with a

category concept; slot 'ii' is filled with those default assumptions attached to the

particular category concept supplied by our intuitive theories (i.e. folk psychology); slot

'iii' is culturally specific information. Religious concepts are represented, according to

Boyer, in this same way. The only difference is that there is a small "specialness" about

a religious concept. Boyer says "A spirit is a special kind of *person*, a magical wand is a

special kind of *artefact*, a talking tree is a special kind of *plant*." This specialness or

tweak of religious concepts is due to a violation of the expected default properties of the

category in question. For example, the concept of a ghost utilizes the Person category.

However, a default assumption of a Person is that they have a biological body that

cannot, for instance, walk through walls. Since a ghost can walk through walls the

assumptions attached to our intuitive biology have been violated slightly.

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While on the surface a tweaked concept or one that violates our default assumptions may seem bizarre and unnatural, Boyer claims that they are really not.

> "Far from being intrinsically irrational or delusive, the capacity to imagine non-physically present agents and interact with them is to some extent characteristic of human cognition. A good deal of spontaneous reflection in humans focuses on past episodes of social interaction, on possible future interaction, on counterfactual scenarios involving actual people."

The terminology used to distinguish religious concepts from intuitive concepts may be counter-productive. As we will see below, mental representations are created, transmitted, and processed using a complex and sometimes far-reaching aggregate of cognitive inference systems. As such the violations or tweaks referred to by Boyer et al. are in fact natural consequences of a particular aggregate and therefore should not really be called tweaks at all. Religious concept representation is, then, simply part of our natural imaginative domain[72] and not in the least unnatural. There is some worth in labeling religious concepts using the tweak-violation terminology, though the tweaks in religious concepts are minor. It allows us, for example, to make claims about what kind of concepts are more or less likely to be transmitted. Extreme violations of category boundaries in concepts render them less likely to be transmitted. The tweak or boundary violation heightens the attention one pays to a concept.[73] A concept with no violations at all would be less interesting than one with violations. A concept with multiple violations would be interesting but less likely to be believed, attended to, and therefore, transmitted. A cognitive optimum for transmission is reached by those concepts with only minor ontological violations. A walking couch, for instance, has only one violation of default

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[72] For purposes of clarity I must note that relegating religious concepts to the 'imaginative' domain is in no way a value judgment. The truth claims of religious concepts are not at issue here but rather how those concepts are represented in human minds.

[73] For more on this idea see Boyer 1994, 2001 and also a discussion of the Cognitive Alarm Hypothesis in McCauley/Lawson 2002.

assumptions of the Artificial Object category and would therefore be more likely to be

transmitted than a normal couch (no violations) or a walking, invisible, talking, couch

that is also edible and immortal (multiple violations).

From Category Specificity to Domain Specificity

Boyer's ultimate goal is to attain the most sophisticated understanding of how the

mind works. Toward that end he does not content himself with the above notion of

categories and inferences about those categories but instead refines that idea and suggests

that a more accurate model of the mind is a *domain* specific model. Inference systems,

he argues, are domain specific since representations from different categories trigger

some common inference systems.

> "there is no general 'catalogue of all things' in the brain
> with their different characteristics; nor is there a division in
> the brain between the bits that deal with animals, those that
> deal with persons, those that only consider artifacts, etc.
> Instead there are many different functional systems that
> work to produce particular kinds of inferences about
> different aspects of our surroundings." (Boyer 2000 102)

Evidence of this can be found from neural imaging and studies on autism. The brain fires

in overlapping but not identical areas when presented with pictures representing different

categories (i.e. artifacts, persons) Autists are said to be 'mind blind,' though not

completely, because their pathology disables or interferes with their ability to produce a

theory of mind; in other words they fail "to represent other people's representations."

(Boyer 2000 p103) They are able to make inferences about other aspects of the category

Persons, such as face recognition, but cannot infer in this one specialized area. A

commonly used test to illustrate this deficiency is call the 'false-belief test.' Boyer gives

the example of the puppets on a stage. "Puppet 1 puts a marble in box A, then goes

offstage. Puppet 2 arrives on the scene, finds the marble in box A, puts it in box B and

goes offstage. Now puppet 1 comes back. The question is: Where will he look if he

wants his marble?" (Boyer 2000 p103)

Children 4 years and older have developed the ability to attribute thoughts to

puppet 1 and they answer 'box A' since that is where puppet 1 put the marble and

therefore still thinks it is there. 3 year old children have not yet developed this ability and

answer 'box B' since that is where the marble is. Autists answer 'box B' as well even

when they are over 4 years old. This suggests that the ability to produce a theory of mind

that children develop does not develop in autistic children or develops differently. What

this suggests is that this particular pathology disables only a subsystem of our intuitive

psychology namely the ability to represent other people's thoughts. Other inference

systems that make up our intuitive psychology i.e. inferring what people are looking at,

inferring that a person moves animately (Boyer 2000 p104) remain in use. Because

autists can still infer many things about a person's perception or abilities they are

obviously not without many of the inference systems relevant to the Person category.

This suggests that the category model cannot accurately portray how our minds are set

up.

Aggregate Relevance

If relativists are guilty of denying the workings of the mind when taking up the

issue of rationality universalists, while usually happy to accept that the mind actually

does work, are guilty of presuming that the mind is a single, all-purpose processing

device. Jarvie, in order to argue for a universal standard for rationality, combines his

acceptance of the psychic unity of humans with the suggestion that "Cognition is

univocal." (Jarvie 1987 p 197) This is in direct opposition to the symbolic, relativist

stance epitomized by Beattie (and Evans-Pritchard) that separate cognitive domains are represented by the different discourses exhibited by human beings i.e. symbolic and pragmatic. The pragmatic domain may be held up to scientific standards but the symbolic domain is beyond the scope of science. Buchowski puts the universalist response to this in blunt language: "There are no hidden meanings and instead of excusing 'absurd' beliefs by arbitrary invented stories about symbolic associations we should focus on sociological explanation about their functions." (Buchowski 1997 p39)

Cognitive scientists have long argued for models of the mind in which different domains are relevant to specific areas in the brain (or specific cognitive mechanisms or modules). (Mithen 1996) In an attempt to provide a more sophisticated model than even a modular one, Boyer selects religion as his object and argues for the aggregate relevance to this object of "a whole variety of mental systems." (Boyer 2000 p298) Boyer is convinced that previous 'magic bullet' explanations of religious behavior cannot be correct and he gives a thorough accounting of the reasons for this. Furthermore an aggregate relevance approach is an elegant (in Lipton's terms 'lovely') model that efficiently explains many of the questions scholars have about religion.

> "Indeed, the activation of a panoply of systems in the mind explains the very existence of religious concepts *and* their cultural success *and* the fact that people find them plausible *and* the fact that not everyone finds them so *and* the way religion appeared in human history *and* its persistence in the context of modern science." (Boyer 2000 p298)

As a way of simply illustrating the inference systems quickly employed by the mind in ordinary circumstances, Boyer offers the following narrative:

> "In a quiet and prosperous suburb, a dapper old gentleman with a hat comes out the back door of a house and walks across the lawn. He is carrying a big screwdriver and a crowbar, which he puts in his trousers' side-pockets. He

looks around a few times and then proceeds along the pavement. Not far from there, a child is playing with a huge Labrador on a leash. All of a sudden, the dog starts at the sight of a cat in the next garden and gives a sudden pull that makes the leash snap out of the child's hand. The dog dashes after its prey, charges across the pavement and knocks over the old m an, who trips and falls flat on his face, his hat rolling in the gutter. The man yells in pain as the screwdriver has sprung out of his pocket and badly cut his arm. The man picks himself up and limps away, massaging his bloodied hand, leaving his hat in the gutter. You were not the only witness of all this; a police officer was patrolling the neighborhood. She picks up the hat, runs after the gentleman, puts her hand on his shoulder and says, "Hey wait!" As the man turns he recoils in visible shock at the sight of the police officer, looks around as if trying to find an escape route and finally says: "All right, all right. It's a fair cop." From his pockets he extracts a handful of rings and necklaces and hands them over to the bemused police officer." (Boyer 2000 p96)

Boyer notes that "you might be surprised by some events but you would understand all of them." (Boyer 2000 p96) Why? First of all, as we have discussed your mind is capable of decoupled thought. Though this is only a narrative you should have no problem representing the events that take place. Additionally you are able to make inferences about decoupled representations. Even in this relatively simple and straightforward narrative a host of inference systems were activated which made it possible for you to understand what was going on. Boyer correctly asserts that there is no "center in the brain that is busy understanding 'what is happening to the man, the little girl, the dog and the police officer.'" (Boyer 2000 p96) Instead several inference systems are triggered. According to Boyer these include but are not limited to: understanding the physics of solid objects, understanding physical causation, detecting goal-directed motion, keeping track of who's who, linking structure to function, and understanding mental representation.

Our intuitive theory of physics allows us to represent and understand that the dog and the man are solid objects and therefore understand a fall when they crash into one another. We are able to detect goal-directed motion in the story when the dog runs across the street. He is running to get the cat and we naturally attribute this goal to the motivations in the dog's mind. Likewise we understand the mental representations of other human agents. We were forced to make inferences about the interaction between the police officer and the gentleman. The narrative did not tell us that the man was a jewel thief nor did it tell us that the officer knew it after catching up to him. We had to infer also that all the police officer wanted to do initially was help the gentleman regain his hat lost in the fall. All of these are inferences we make about what thoughts other agents have. As Boyer says "thoughts are invisible. You cannot observe them directly, you have to infer them." (Boyer 2000 p98)

Hidden hand explanations, argues Boyer, are much preferred by our minds due to the employment of a combination or aggregate of relevant cognitive inference systems when responding to particular contextual cues. There are many examples of this in our everyday life.

(1) It isn't surprising that this happened to me today as that is the way my luck is this week.

(2) It is hard to get the monkey off my back when on my last lap of the mile run.

(3) Don't worry. Maybe this tragedy is a blessing. Maybe it was meant for this to happen. Everything happens for a reason.

(4) Wow. We must be perfect for one another. We both said "pompous" at the exact same time.

Explanations that involve "the masters of the universe who pull all the strings" (Boyer 2000 p298) are a common result of the triggering of various inference systems in our

minds. Unsurprisingly then the aggregate of our cognitive capacities leads to natural representations of a world that includes superhuman (or religious) agents. Let us now examine a practical example of the widespread scholarly dichotomy of high and lesser gods from African ethnographic data in order to see how the cognitive approach might shed light on specific issues in anthropology.

Strategic Information

amaZulu

Scholars of African Religions clearly consider so-called traditional African religious systems to have a tendency to foster a distinction between so-called high gods and lesser or more intimate superhuman figures.   Looking into ethnographic data available from African communities confirms this. The amaZulu act on representations of ancestors (*amadlozi*), witches, and sorcerers as well as the God of the Sky (*iNkosi yezulu* or *uMvelingqangi*). The *amadlozi* are typically thought to reside close to communities and are called upon very frequently most notably in ritual situations that take place in special spaces such as kraals (cattle enclosures), residences, or other areas nearby. *Amadlozi* are instrumental in determining fundamental aspects of amaZulu life. The *amadlozi* select and call diviner candidates (indeed give them the wherewithal to perform their divining if and when they are initiated); they are deemed the figures behind ailments, marriage opportunities, successful rites of passage, and practically everything affecting the general and specific welLévy-Bruhleing of any amaZulu community. Their perceived activity is a daily occurrence.

uMvelingqangi, the God of the Sky, *iNkosi yezulu*, or simply *iNkosi* is, on the other hand, significantly less intimate with the amaZulu; in the breadth and frequency of his activities affecting the amaZulu as well as his perceived proximity to amaZulu

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communities. *iNkosi* is rather less frequently called upon by the amaZulu. Only when

appeals to the *amadlozi* persistently fail or in some other specific circumstances (typically

dealing with weather) does *iNkosi* become more relevant. Though in theory any Zulu

may be a supplicant, most often special members of amaZulu communities (heaven

herds) are required for dealing with the high god. In addition appealing to *iNkosi* is

typically done away from the amaZulu community on vacant hills or other isolated

spaces, unlike the closer supplication to the *amadlozi*. Heaven herds ask for rain or the

cessation of storms, especially those having lightning. Lightning is particularly

associated with *iNkosi*. Underlining the distinction between *iNkosi* and the *amadlozi* is

how the amaZulu speak of those killed by lightning strikes. These deaths are,

purportedly, not mourned. *iNkosi* must have had a reason for calling these people to the

sky so mourning is not an appropriate response. Significantly, the funerary rites of

lightning-strike victims do not include an *ukubuyisa*. *Ukubuyisa* is the final ritual in the

funerary rites performed by the amaZulu. In it the shade of the dead person is "brought

home" to live with the rest of the ancestors. Along with feasting and various other

activities, a trail is marked from the grave site to the appropriate *umsamo* (special space

in amaZulu residences for ritual activities and *amadlozi* related materials). In essence,

then, an amaZulu killed (or taken home to the sky) by *iNkosi* does not become an

ancestor and does not live with them in the kraal but instead in the sky with *iNkosi*.

Basotho and other Bantu People

Many scholars assert that all Bantu (people of a particular language group

generally located in Southeast sub-Saharan Africa) religious systems have very similar

high god and ancestor distinctions. The ethnographic data certainly seems to confirm this

view. The Basotho have high god and ancestor concepts in their traditional religious system. As in the amaZulu religious system, the Basotho have a concept of a sky-god, *Molimo*. *Molimo* is a *deus absconditus*, not often feared, appealed to, or proximate. The living-dead, ancestors, or *balimo* have, not surprisingly, a more intimate, proximate, and frequent place in Basotho traditional religion. Much more ritual attention is given them and they are deemed responsible for virtually all supernatural effects on Basotho life. The exception is, as with *iNkosi yezulu*, *Molimo* is reportedly appealed to, sometimes, when calamitous weather events occur. T. Manyeli, though, considers the Basotho *Molimo* to be absconded and lazy to a much higher degree than that of *iNkosi yezulu*. He reports that *Molimo* is conspicuously absent from ALL ritual activity and that, at least in recent decades, causes of weather problems are attributed to other superhuman figures. He cites myths having to do with snake-men who turn into tornadoes as well as the popular reporting of 1950's tornadoes as being the result of snake-men moving about. (In fact Manyeli even suggests that the concept of *Molimo* has completely given way to a system with only *bolimo* in it due to the extreme absence and irrelevance of *Molimo* in Basotho life.)

Examples of the distinction between high gods and lesser gods in Bantu religious systems can be seen in various other communities. The amaXhosa have the concept of *uDali* or *uQamatha*; the Shona have *Mwari*; the Tswana *Molimo* (seTswana and seSotho are very similar Bantu languages). All also have more approachable and relevant concepts of ancestor figures which, in the eyes of scholars, range from mediators with an Unapproachable God to the primary power brokers in a system with a *deus otiosus*.

Scholars often want to generalize a high god – lesser gods dichotomy throughout sub-Saharan Africa and not just in Bantu areas. The Yoruba are one example.

Yoruba

Consistent with the distinction we have set up between high gods and lesser gods, the Yoruba traditional religious system is made up of such a high god, *Olorun* or *Olodumare*, and various other lesser figures. At first glance the Yoruba system may seem more varied and complex than that of the Bantu peoples we have visited above. Fundamentally, though, the basic dichotomy between high gods and lesser gods is preserved. The lesser figures include *orisa*, ancestors, and "deified" ancestors. In addition witches, sorcerers, and various kinds of priestly figures are present in the system. The high god *Olorun* is, as before, a fixture of the sky or heaven and therefore not as proximate as other figures in the superhuman pantheon, as it were. He is prayed to, though sparingly, and certainly not interacted with anywhere near the degree to which the *orisa* and ancestors are. Despite this *Olorun* is considered to be the ultimate source of power for the earth, *orisa*, and ancestors. It may not be surprising then that, unlike the Bantu stories, heaven (or the sky) is also the abode of the *orisa* and the ancestors. Mediation between the earth (people) and the unapproachable sky (*Olorun*), in a sense, is the function of the *orisa* and ancestors. The *orisa* and ancestors (of all types) are, for all intents and purposes, autonomous in their wielding of power, even though it may be derived from *Olorun*. And even though they are considered heaven dwellers, *orisa* and ancestors are much more relevant, intimate, and proximate. Ancestors are often only relevant to specific geographic areas or family lines (as are some *orisa*) while "deified"

ancestors and some *orisa* are relevant to larger regions and some like the trickster figure, *Esu*, are relevant throughout the Yoruba system.

Another illustration of this distinction outside of Bantu areas is the Nuer religious system. The Nuer possess a concept of a high god, *Kwoth Nhial* (Spirit of the Sky), as well as the *orisa*-like *kuth nhial* (spirits of the above) and the totemic *kuth piny* (spirits of the below) which are more like the amaZulu concept of *amadlozi*. Regardless of the subtle differences in the specific dichotomies of the religious systems we have discussed above, it is clear that this distinction is widespread.

Questions

How can we understand this seemingly universal occurrence in African religions? Two possible explanations have drawn the most attention. Some scholars argue that the origin of concepts of high gods in traditional religion in Africa is in fact the moment of contact with monotheistic Eurasian influences, namely Christianity and Islam. In other words, the concept of a high god was an external addition to a pre-existing system. The posited mechanisms or motivations for this are varied. Many suggest that the social disruptiveness of the colonial/slave period made traditional systems more susceptible to new, more relevant concepts like that of a high god. The traditional, local superhuman figures (i.e. ancestors) were no longer effective for making sense of this strange new world and the new high god concepts packed the needed explanatory punch.

The idea that Christianity and Islam introduced the notion of a high god to traditional African religious systems is also backed up by some scholars' notion of the general development of religions. Some early Intellectualists thought that the development of religions in general followed an evolutionary model: from primitive to

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modern. Traditional religions were thought to be an example of an early stage of religious development. The religious traditions of Africa hadn't developed at the same rate or to the same degree as that of Europe and Asia (ironically, since *homo sapiens* have been in Africa longer than anywhere else in the world). So, while African religions might have eventually developed high god concepts, the timely intrusion of Christian and Islamic influences artificially hastened the acquisition, so to speak, of so-called modern concepts.

Robin Horton, who has been described as a neo-Intellectualist, has suggested that religion in general provides a way to explain how the world works. Unlike the early Intellectualists (i.e. Tylor, Frazer), though, Horton rejects the evolutionary model of religious development. Instead he considers religious systems to be much the same, at least in function, as scientific systems differing only in the idioms employed in order to produce explanations. The amaZulu, for example, would employ concepts like ancestors, witches, and medicine and other types of *amandla* (power) while Western scientists employ concepts such as atoms and molecules. Horton's perspective on the distinction between high gods and lesser or, in his view, more local gods follows from this functional description of religion. The historical entry of high god concepts occurs is of secondary importance to what forces act on a religious system and result in a growth in importance of high god concepts. In Horton's terms the "macrocosmic" impinges on the "microcosmic." Here Horton is in agreement with scholars who consider phenomena like colonialism and the 'shrinking world' to be instrumental in the shaping of contemporary traditional African religion. Global phenomena subsumes local and natural phenomena often associated with ancestors or local nature spirits requiring a shift in importance to

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high god concepts in order to keep in step with the changing world landscape. It is the external sociological influence of colonialist cultures that allows for this shift. As seen in the discussion of a via media in the Rationality debate, Horton considers primitive cultures to be relatively closed and therefore bereft of choice in terms of concepts to employ when making sense of the world. The rent in the sociological fabric caused by intrusive cultures strangely makes such shifts and the widening of the primitive culture's breadth of available concepts possible.

Manyeli suggests that various kinds of evidence (archeological, etymological, anthropological), or rather the lack thereof, may point toward the conclusion that the concept of high gods were not in use before the introduction of Christianity and/or Islam (Manyeli finally comes to the conclusion that the concept of *Molimo* was in evidence before Christian or Islamic influences.). This is not common, however. Most scholars who use such evidence, including Manyeli, generally agree that high god concepts were present prior to the colonial period and therefore developed independent from Christianity or Islam. This is true of scholars interested in the amaXhosa, amaZulu, and, despite initial questioning by Manyeli, the Basotho as well as others.

The idea that social disruption as a result of colonialism or, more generally, the macrocosmic impinging on the microcosmic naturally results in the growth of importance of high god concepts is stymied by several facts. First of all, it has been pointed out by scholars that the relative decrease in emphasis on lesser, local gods has not occurred in all circumstances one would expect under that thesis. Rosalind Hackett points to the recent "multiplication of spirits" in Uganda and Ghana. (Hackett 1991 P136) Secondly, the implication of this thesis is that a so-called supreme high god is more able to act

throughout the world than a local god. However, *amadlozi* and regional *orisa* are not considered irrevocably tied to geographic areas. A Zulu visitor to the United States can surely call upon her ancestors if required.

Looking Below the Surface

It might be startling to suggest that at the end of the day pinpointing the historical introduction of high god concepts is relatively unimportant to the discussion of traditional religious systems, at least in terms of the high god/lesser god distinction. Consider the fact that no matter what stance many scholars take in terms of when high god concepts first emerged; most are in agreement with Horton that a general shift from microcosmic to macrocosmic concerns has occurred, for various reasons. Specific instances of increased local god activity or importance such as those in Uganda or Ghana are simply statistical anomalies therefore it is no wonder Christianity and Islam are so dominate in contemporary Africa. On the surface this seems to be quite acceptable a notion. However when looking closer at religious systems, not only those in traditional African communities but all religious systems, it becomes clear that lesser deities are *universally* most important. This appears to be true for the amaZulu in Kwazulu-Natal, Roman Catholics in Kalamazoo MI, and Theravadin Buddhist in Sri Lanka.

Admittedly, theological arguments belie this fact. Roman Catholics, amaZulu, and Buddhists would vigorously defend the supreme importance of Yahweh, *uMvelinqgangi*, and the Buddha respectively (Buddhists, actually, might insist that NO superhuman agent exists in their religious system. This is, however, an issue for a different time.). Consider, though, that everyday religious behavior in all these areas employ the lesser superhuman figures most prominently, particularly ritual behavior, both

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individually and communally. People rarely pray to Yahweh, *iNkosi yezulu,* or the

Buddha (capital 'B') when figures like Mary, Jesus, the saints, *amadlozi,* lesser buddhas

or bodhisattvas are available.

Aladura Churches

It does appear that the shift in importance from lesser gods to high gods is the

case when considering ethnographic data. The simple fact that Islam and Christianity are

so dominant in many areas of Africa seems to defend this notion. However, this claim is

really based on theological descriptions of religious systems rather than actual behavior

on the ground. Consider the relatively new religious movement among the Yoruba of

Nigeria called the Aladura churches. The founders of this now varied and split

movement were self-labeled Christians before founding the movement. Furthermore

from the outset of the movement's founding they focused on a renewed emphasis on the

healing of prayer and revelations and a conscious rejection of those residual traditional

concepts of divination and ancestors that had hung on, so to speak, in typical Nigerian

Christian communities.[74] The reports of members of the Aladura churches indicate that

one of the main tenets of the movement is a rejection of many aspects of traditional

Yoruba religion.

But these claims are a misrepresentation of the actual conceptual workshop of

these Yoruba.

While it may be the case that high god concepts have become marginally more

relevant in African Christian (and traditional non-Christian) religious systems, I maintain

that this importance, rather than a radical systematic shift, is a subtle and largely

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[74] Mission churches consider the Aladura movement heretical though it is unclear whether this is due to the nonChristian appearance of the movement or the fact that the Aladura do not fall under the auspices of those same Mission churches.

rhetorical shift relative to each system in question. In the same vein, accounts of increased local god importance mentioned above describe a kind of subtle transformation having to do with cultural forms and not actual systematic changes. If we look at religious systems through the lens that Pascal Boyer et al. use and emphasize the underlying factors involved in their transformation a more sophisticated description of such systems is possible. This is highly desirable since most contemporary scholarship in the study of African religious systems has emphasized the high-lesser god distinction discussed above and focused on specific cultural forms involved and not on underlying factors suggested by Lawson, Boyer, and Slone among others.

So how can advances in cognitive science shed light on representations of gods and spirits in Africa and their respective salience? The relative importance of lesser, intimate superhuman figures is arguably the result of the evolutionary development of specific capacities in human minds. As we have seen above, human minds employ our aggregate inference systems in particular situations. These inference systems interpret information dealing with interaction with other agents in specific ways. We interpret social interactions based on the capacities included in these systems. For example we tend to attribute certain kinds of knowledge to other persons, including superhuman persons such as ancestors or gods. Superhuman agents are unlike other human persons in that the former are full-access agents. More simply, these agents have access to information that we would not generally attribute to human agents.

Superhuman agents can be further broken down into types. What is important in our discussion of the distinction between high gods and lesser gods is that lesser gods are examples of strategic agents and high gods examples of what Boyer calls Full Aquinas

agents or agents that human minds attribute full knowledge about everything in the world but figure to a relatively small degree in real worldly consequences. Though both high gods and lesser gods are full access agents, our assumptions about a strategic agent's access to information is imperfect. This 'imperfection of lesser gods actually results in a cognitive advantage in that the information they do have and act upon is strategic and relevant to human inference systems. In other words, human minds assume that lesser gods have access to information which has significant bearing on individual behavior. (Boyer 2001)

What this perspective seems to suggest is that the idea that lesser gods tend to be much more salient and relevant to individuals within religious systems than high gods may be explained via cognitive means. This, in fact, confirms some of the findings of anthropologists and historians of religion about the importance of lesser or local gods in daily life and also matches up with on line and off line thought patterns. What is left cognitively unexplained, though, is the concurrent persistence of high god concepts. While much ethnographic data can be interpreted in such a way that suggests the high gods of African traditional religions were a sort of *deus absconditus*, inferring that such concepts were or are virtually absent (except for expert or theological reports) from African cultural systems would likely be incorrect. It is unlikely, at least from the perspective of the cognitive science of religion, that literacy or theological motives are sufficient factors to drive the persistence of such high god concepts.

It may be that the high god-lesser god dichotomy is a false one. If it is it is most probably false in the way scholars like Horton present it. Within Boyer's notion of the representation of agents in terms of their strategic information it is more likely that the

dichotomy is helpful. It is arguable, I suppose, that the representations of high gods and lesser gods are, in any significant aspect, fundamentally the same. However, both Boyer's work and the ethnographic data available to us belie this idea. Lesser gods simply ARE more relevant and salient in daily life (the world over) and high gods simply ARE less relevant and salient. It is also the case that high god concepts simply ARE persistent nonetheless. It is reasonable to suggest that, in Whitehouse's sense, irrelevance of a high god concept to the point of ritual disuse (i.e. Manyeli's report of the Basotho ritual system) could afford such a concept neither the necessary frequency of 'use' in ritual performance nor, conversely, the necessary relative heightened sensory pageantry to make likely persistent, stable transmission.

The preferred social scientific arguments for socio-cultural causation like those advanced by Horton et al. are much the same as theological arguments for superhuman (theistic) causation in that identifying empirically tractable socio-cultural causal mechanisms is as impossible as identifying similar theistic mechanisms. Therefore such notions of culture are as unfalsifiable as notions of god and cannot fill any justifiable role in scientific inquiry. Much of this is due to the vagueness of the heuristics/concepts we employ to do our 'explaining.' In order to mitigate this vagueness we might ask ourselves some questions. What do we mean by:

- Derivative power
- Appeals to superhuman agents

We don't really know. Or else we don't take the time to explicate what we mean well. What we should do is try to understand representations of god concepts in terms of the constraints of (1) the aggregate of ToM mechanisms involved and (2) the principles of

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the action representations system. By focusing on ritual systems and emphasizing the above two dovetailing sets of constraints viable explanations of and models for the 'transmission' of ALL god concepts might be had.

An understanding of Theory of Mind (ToM) mechanisms can help explain/describe the kinds of information humans tend to attribute to agents in general. An extension of this understanding will shed light on the kinds of *strategic* information attributed to decoupled agents (i.e. gods, spirits). Furthermore, ethnographies of African religious systems indicate a variability of kinds of agents with strategic information. So-called lesser gods appear to be generally more salient and locally more relevant whereas so-called high gods appear to be generally more relevant and locally more dormant, at least in terms of their activity in African ritual systems. An investigation of the kinds of strategic information attributed to these different types of decoupled agents will help to explain why highly salient agents with bounded relevance AND dormant, highly relevant agents are both successfully transmitted. Or it will shed light on why the data is either incorrect or misunderstood.

Furthermore, it is possible that the best explanation[75] at this point requires the additional employment of Lawson/McCauley's theory of ritual competence within which we can/may posit the crucial presence of seemingly dormant high gods in the necessary embedded rituals undergirding the ritual systems of African groups that are apparently free of high god concepts or at least free of their use in ritual contexts. The form of ritual

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[75] While this is not an explicit reference to the Inference to the Best Explanation (IBE) model of explanatory analysis it behooves me to note that my selection of the Ritual Form Hypothesis as the best 'ranked' hypothesis in terms of explaining of persisting high god concepts does stem from, at the very least, an unconscious adherence to the principles of IBE. For more see Thagard 1996 or Lipton 2002.

representations can go a long way toward explaining the persistence of high god concepts in the face of their reported lack of use.

Competence

Lawson and McCauley's theory of ritual competence alluded to above is a closely related relative (or perhaps even an incestuous sibling) of Chomsky's notion of a generative grammar. Both Chomsky and Lawson and McCauley employ the same approach for generating their respective hypothesis. The competence approach hypothesizes an idealized performer's knowledge of her language, in the case of linguistics, or an idealized peformer's knowledge of her religious system's ritual form, in the case of ritual studies. The "limitations of traditional and structuralist grammars" (Chomsky 1965 p5) led Chomsky to reject the en vogue notion of Saussurean linguistics as "merely a systematic inventory of items" and go beyond them by ironically returning "to the Humboldtian conception of underlying competence as a system of generative processes." (Chomsky 1965 p5) As such he generated (and since has continually streamlined his ideas) a mentalistic theory of linguistic competence concerned with how underlying cognitive capacities underlie/generate linguistic behavior.

Lawson and McCauley analogously draw on some of the techniques employed by Chomsky's linguistic theory and as a result theorize that humans tend to represent all actions in a specific way much in the same way that humans represent language in the same way regardless of the particular language they speak. Following from this assertion they suggest that *ritual* acts are represented using the same cognitive capacities employed

in representing so-called *ordinary* acts.[76] Ritual acts are distinct from other actions in the

same sense that transitive sentences are different from intransitive sentences. A transitive

sentence is one in which there is an object for the action taking place. For example:

(1) Tom kicks Joel's shins.

In this case the subject (Tom) is performing an action (kick). Furthermore the object of

his action is Joel's shins. One can only presume that Joel is a slacker. But moving

on…..an intransitive sentence is one in which there is no object for the action. For

example:

(2) Tom runs.

Analogously, human behavior is made up of two sets of possible actions divided on much

the same lines; actions in which the actor does something to something or someone and

actions in which the actor simply does something with no object involved. (1) is an

example of the former and (2) an example of the latter.

Additionally the set of 'transitive actions' includes a subset of religious acts

termed rituals. It is important to note that the term ritual is colloquially used for acts that

are indeed religious but are not 'transitive' acts. Prayer is the most obvious example:

(3) Tom prays.

This action, according to Lawson and McCauley, is considered religious and indeed may

reference culturally postulated superhuman agents (CPS-agents) such as a god or spirit.

However, there is no object being manipulated or coerced and therefore is not included in

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[76] It is important to understand the subtlety of Lawson/McCauley's definition of 'ritual.' The word is
bandied about by theologians, academics, and many others in various ways and with infinite meanings.
The New Dictionary of Liturgy and Worship, for example, defines 'ritual' as "the prescribed form of words
which constitute an act of worship. It is therefore not identical with ceremonial which relates to the
actions. Nevertheless in common usage the two are treated as synonymous. Strictly speaking, however,
ritual does not include such actions as processions nor the sign of the cross and instead refers to the collect,
the Lord's Prayer, the preface, etc." (J.G. Davies 1986 p469)

the subset of transitive actions called rituals but rather resides in the set of intransitive actions where there is arguably also a subset of religious actions; just not rituals, in Lawson and McCauley's technical sense. What makes the 'ritual' subset religious is that the within the representation of the act is included a CPS-agent. For example:

(4) God baptizes child.

In (4) the CPS-agent is easily discerned. However in most ritual systems the high god (or even lesser gods for that matter) rarely performs salient rituals. Instead the CPS-agent provides the qualities necessary for other agents to perform the ritual.

(5) Priest baptizes child.

In the formal description of (5) the characteristics and qualities of the participants (priest) and instruments (blessed oils, water) involved are provided via embedded or nested ritual acts.
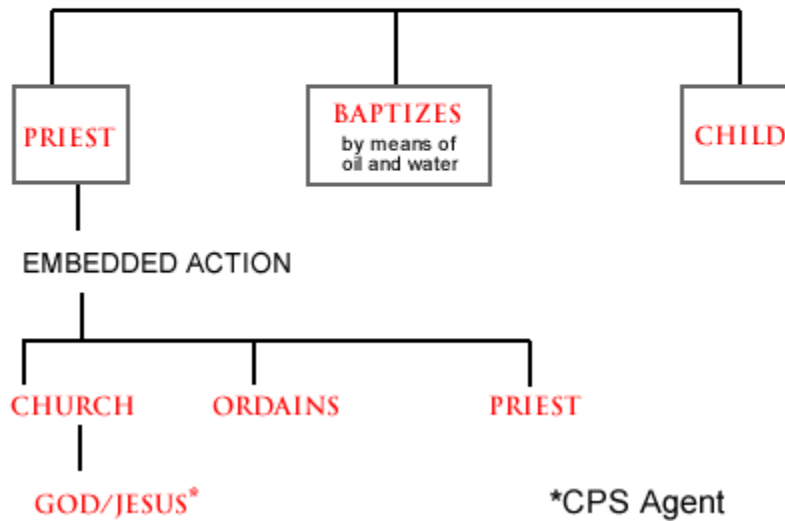
ACTION REPRESENTATION
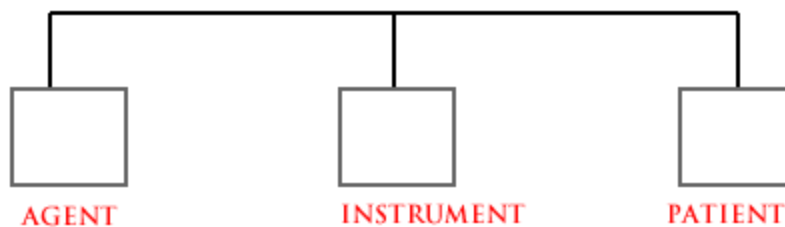
Figure 5 - Action Representation System

A representation of a baptism may look like this:

RITUAL REPRESENTATION

Baptism

Figure 6 - Formal Representation of Baptism Ritual

The quality of the agent (priest) requires a previously performed or nested ritual of ordination. Lawson and McCauley argue that for ordinary acts this nesting of actions providing qualities can go back indefinitely but for ritual acts the buck has to stop somewhere. Ethnographic data invariably shows the buck stopping at the feet, as it were, of a superhuman agent. In the case of the baptism ritual the buck stops with the Christian high god at the bottom of several embedded rituals including the ordination of the priest, making of the pope, the creation of apostolic succession by Jesus 'making' Peter the first pope, and the high god bestowing his favor on Jesus through his baptism in the Jordan River by John the Baptist. Similarly amaZulu diviners provide various types of diagnoses for the amaZulu community. They might divine the cause of a toothache or disturbing dreams or even that particular physical ailments are in fact the call of the

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ancestors. The quality of the diviner allowing her[77], within the Zulu ritual system, to

perform this act is the result of her initiation as a diviner. Diviners are initiated after a

series of rituals; the crucial and final ritual (*ukuthwasiswa*) presided over by an

experienced diviner. The ancestors (*amadlozi*) are the power (*amandla*) behind the

diviners but the ancestors have, arguably, derived their *amandla* from *umvelinqangi*, the

God of the Sky. In the same way *melimo* are the power behind Basotho diviners but have

derived their power from *Melimo*. Manyeli asks "But where do they obtain this power?

What makes them to be feared? Were they feared and powerful before their death?"

The state of being death is certainly a large part of how people gain their bolimo

power. Manyeli gives the example of an old woman, physically and mentally weak as

well as loved and respected in life. Despite this she is feared and powerful in death as a

one of the living-dead. "She derives this feared power from the state of being one of the

living-dead." Not from any part of her living life. However it *is* clear that *Molimo*

created *melimo* (plural of *bolimo*) since they are 'dead people.' Furthermore, the

characteristics of a person during life often do determine the extent of their *bolimo*

power. For example, Manyeli notes that

> "Children belong also to this world of immortals. They are
> amongst living-dead. They cannot appear in dreams or
> visions complaining about traditions and customs that they
> did not know about during their life time. Hence the rarity
> of their appearance in dreams and visions, because their
> needs were very very limited, because their concerns were
> likewise very limited." (Manyeli 1995 p106)

Manyeli also discusses other possibilities of limited ancestor power. For example it is

well documented that many ancestors are relevant to particular families because in life

(and after) they were members of that family. Manyeli argues that in addition to family

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[77] The vast majority of amaZulu izinyanga (diviners) are female.

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ancestors there are also tribe or clan ancestors. For example the chief of a village could "punish, work against and trouble" (Manyeli 1995 p107) the whole village or tribe for which he is chief. Against A. Pula Manyeli argues that Moshoeshoe I has *bolimo* power over the entire Basotho nation. According to Manyeli "the question of the *extension* or *limits* of the power of the ancestors should be recognized." (Manyeli 1995 p108) It is reasonable, then, to posit that the power of *melimo* is derivative. I suggest that this power is represented as derived from *Molimo*. The fact that this power is limited underlines the difference between *Molimo* and *bolimo*. (Manyeli 1995).

Contrary to this position E. Thomas Lawson describes the amaZulu religious system as having at least three distinct, non-derivative sources of power in his book "Religions of Africa: Tradition and Transformation." He and R. McCauley reiterate the same position in their 1990 book "Rethinking Religion: Connection Cognition and Culture."

> "For the Zulu there are three legitimate sources of superhuman power, the God of the Sky, the ancestors, and the power of Medicine (Lawson 1984). The power of Medicine is not derivative. The God of the Sky, the ancestors, and Medicine can each act in Zulu ritual contexts. All are capable of changing situations, altering statuses, and varying conditions…The critical point is that Medicine is itself a superhuman agent for the Zulu (Lawson 1984, p. 27)" (Lawson and McCauley 1990 p119)

What is interesting about this is that for most if not all rituals the buck stops at a high god, despite Lawson and McCauley's claims about Zulu cosmology. They correctly note that rituals appear to be simpler than they really are. When discussing the amaZulu ritual act of ingesting beautifying potions Lawson and McCauley point out the fact that this ritual is dependent on "at least four previous series of ritual acts" but that this is easily overlooked since "The surface features of this act of ritual ingestion, although

simple in form mask a good deal of complexity and a vast array of assumptions."

(Lawson and McCauley 1990 p 115) The buck stopping with lesser gods i.e. Medicine or

the ancestors is, perhaps, a mask of deeper connections with high gods. Lesser gods may

take part in the chain of embedded rituals but ultimately the buck stops beyond them in

the embedded ritual tree. Much of Lawson and McCauley's analysis depends on

Lawson's treatment of the amaZulu religious system in his 1984 work. This work is,

while an erudite description of an aspect of amaZulu culture, suffers not from surface

feature masks but rather midlevel masks in the form of Medicine and the ancestors. It is

entirely possible, if treating some forms of Christianity in the same manner, to consider

Jesus and the saints to be non-derivative sources of superhuman power and thus the

power behind, for example, the qualities of the priest who performs baptisms. Lawson

and McCauley use the example of baptism to illustrate a formal description of a ritual

representation and in that case see through the midlevel mask of intermediate, derivative

power sources. The same should have been done in the case of the amaZulu

representations of Medicine and the ancestors in embedded rituals.[78]

Even in the case of autonomous lesser gods, like the Yoruba *orisa* mentioned

above, power is derived from the high god. What this suggests is that, while

representations of lesser gods or in Boyer's terms 'imperfect full access agents' might be

more salient in terms of day to day behavior, it may be the case that human minds also

tend to require Full Aquinas Agents to buttress the lower gods.[79]

[78] It is important to point out that embedded rituals may include *hypothetical* rituals; rituals that "need not occur in the world of space and time." (Lawson/McCauley 1990 p113)

[79] It is the case that human minds tend to represent high gods in a similar way as they do lesser gods; not as Full Aquinas Agents but as full access strategic and imperfect agents, at least when engaged in online cognitive tasks.

Mnemonic Issues

In McCauley and Lawson's 2002 book "Bringing Ritual to Mind: Psychological Foundations of Cultural forms" the stated goal is to clearly (and succinctly) restate their theory of ritual competence and then test "its ability to stand up to the empirical evidence." (McCauley and Lawson 2002 px) Figuring prominently in this project is a preoccupation with mnemonic factors that may influence the stability and persistence of religious ritual systems. They first point out Sperber's arguments (discussed above) about an epidemiological model of the transmission of cultural information and then appeal to (1) flashbulb memory studies done by Ulric Neisser (among others), (2) accounts of the ritual system of the Baktaman of New Guinea by Frederick Barth, and (3) the frequency hypothesis of Harvey Whitehouse. Understanding what enhances memory, they argue, will increase our understanding of how religious ritual systems word especially in the context of a transmission model that emphasizes distortion and reconstruction of cultural information.

OPTIMAL MEMORY NODES
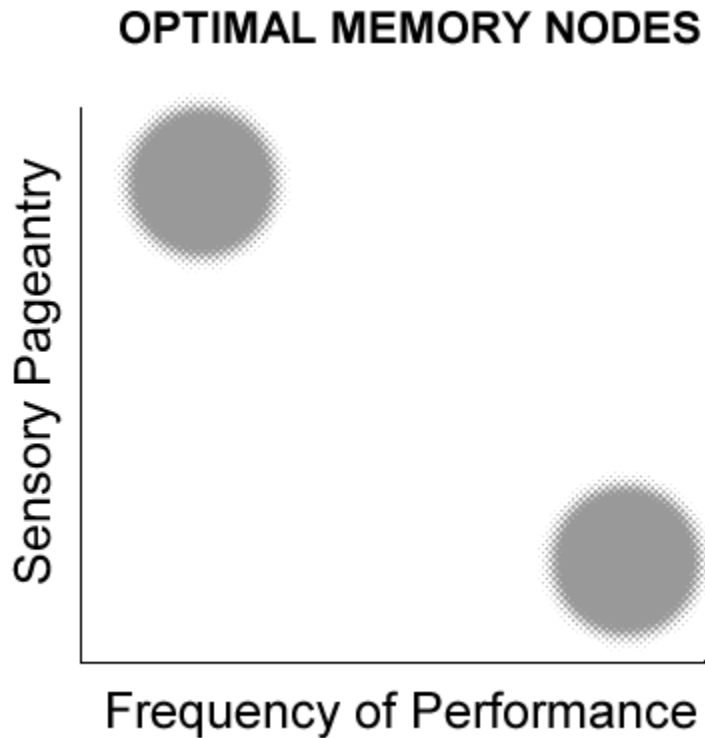
Figure 7 - Ritual Attractor Positions

Before taking up the specific scholars addressed by McCauley and Lawson it will be helpful to take note of what they see as crucial to mnemonic stability, at least in terms of ritual transmission. Like Whitehouse they consider evolving rituals to occupy one of two nodes, or in their terms "attractor" positions. See Figure 4. Each fuzzy gray area represents an area where rituals tend to congregate. The horizontal axis on the graph represents the continuous variable of the frequency of ritual performance. The further to the right the more frequently the ritual is performed. Those rituals that are performed weekly, daily, or even multiple times per day would be examples of rituals occupying the space designated by attractor A. The vertical axis represents the degree of sensory pageantry involved in the performance of the ritual. The further to the top of the axis the

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more sensory pageantry attached. Rituals that involve high emotional arousal are those that occupy the space designated by attractor B.

Obviously, according to McCauley and Lawson, sensory pageantry and frequency of performance are the two crucial factors affecting the stability of ritual systems. But how did they go from accepting a model of cultural transmission that considers replication to be "the rare limiting factor in the vast majority of cultural transmissions" (McCauley and Lawson 2001 p44) to a hypothesis designating two nodes to which rituals evolve; nodes that "boost the probabilities of *accurate* memory?" First of all it is evident that when looking at ethnographic data there are, in fact, ritual systems display remarkable transmissive stability. If one accepts Sperber's model of transmission, as McCauley and Lawson do (at least conditionally), these systems require some explanation. The question needing an answer is "If the majority of cultural transmission is marked by distortion and reconstruction and replication is a rare occurrence, how do cultural systems persist in a stable manner?" And as we have said they surely do exist. One need only look at the evidence.

McCauley and Lawson address the common claim that "literacy might seem to pose a fundamental challenge to the prominence we accord such psychological considerations." (McCauley and Lawson 2001 p46) They suggest that considering literacy a prominent mnemonic device is a red herring. They list three reasons: (1) stable ritual systems occur in nonliterate communities as well as literate ones and therefore there MUST be something accounting at least for the nonliterate community transmission. (2) Much cultural knowledge in literate communities "first arose in non-literate settings." (McCauley and Lawson 2001 p46) While writing has been around for

quite some time it is only recently that a significant number of the population had access

to such skills and therefore explanations of cultural transmission must acknowledge this

dearth of literacy in only apparently literate ages. (3) In literate communities, even in

those where a majority of the population are in fact literate, most communication is

performed in ways other than writing (i.e. orally). Since this is the case "these

psychological variables shape religious ritual and its transmission *in literate settings as*

well. Even where literacy exists its impact does not override that of these psychological

factors." (McCauley and Lawson 2001 p46)

Frequency Effect

Accordingly McCauley and Lawson theorize that there are two factors that

enhance the accurate remembering (and therefore transmission) of cultural information.

As seen above these are sensory pageantry and frequency of performance, each having

underlying cognitive mechanisms that affect the accuracy of our memories of events.

Frequently performing a ritual is a somewhat obvious factor enhancing the memory of

that ritual. McCauley and Lawson point out many scholars and the experimental

evidence they have produced supporting this claim. Barsalou, Tulving, Rundus, and

Shank and Abelson have all conducted experiments that convincingly support the claim

that "the frequent performance of religious rituals should enhance the probabilities of

their subsequent recollection (all things being equal)." (McCauley and Lawson 2001 p48)

Shank and Abelson have expressed this type of enhancement in terms of scripts. A script

is a mental representation of "a predetermined, stereo-typed sequence of actions that

defines a well-known situation;" rituals being one of many examples of such situations

(Schank and Abelson 1977 p41) A script "gives shape to recollections" (McCauley and

Lawson 2001 p49) rather than storing actual episodes of specific actions. Scripts then are

"the resulting knowledge structures that inform recollections." (McCauley and Lawson

2001 p49) In terms of rituals then "participants may be unable to distinguish particular

past performances" but since "the attributes those performances share constitute the

framework of thoroughly familiar routine that the script represents" (McCauley and

Lawson 2001 p49) their actions "become habitual and automatic." (McCauley and

Lawson 2001 p49)

The creation[80] of scripts arguably helps to decrease the amount of variation

predicted by Sperber's epidemiological model of transmission.

> "Frequently encountered instances of the same form leave
> less room for distortion in memory. Even if each new
> performance of a ritual presents an opportunity to introduce
> variation, when memory for that ritual is robust, new
> performances may, in fact, tend to forestall variation."
> (McCauley and Lawson 2001 p50)

Beyond this factor, the stability of religious rituals relies on two factors particular

to religious acts. First, religious rituals tend to be public. McCauley and Lawson argue

that the public nature of rituals constrains their performance due to the coordination

required by the collective of participants and that therefore also constrains potential

variation. Secondly, that which makes rituals religious – superhuman agents – also

makes ritual performance rigid. "If the gods dictate actions of a specific form,

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[80] This is a metaphorical statement, of course. Scripts are "created" when actions are repeated frequently. I
are speaking of a cognitive level of description. No cognitive psychologist would claim that scripts are in
fact made up of strings of neurons or perhaps nucleotides or amino acids. No physical manifestation of
scripts or many of the mechanisms I talk about here are known or are even required. This is not to say that
a neurological/physical model of the mind is not possible. It is simply a different level of description.

participants usually comply." (McCauley and Lawson 2001 p50) In this sense the gods are very relevant.[81]

Flash Bulb Memory

It is generally accepted that some form of the frequency effect is crucial for enhancing the recollection of frequently performed actions. What this doesn't explain are those acts or events that are transmitted in a stable manner but perhaps have only been experienced once or performed very infrequently. They introduce the example of Baktaman male initiation from Frederick Barth's ethnography. "Barth (Barth 1975 p45) estimates, for example, that approximately ten years on average separates successive performances of any of the various degrees of male initiation among the Baktaman." (McCauley and Lawson 2001 p55) With such a long period separating performances of this ritual it is unlikely that frequency effects play a role in promoting its mnemonic stability and transmission. In order to try to explain these types of rituals McCauley and Lawson employ what is known as the Flash Bulb Memory effect.

Briefly, flash bulb memory involves circumstances we remember that surround a particularly significant, unexpected, but not necessarily directly experienced event.   The most well known example of this is that of the assassination of President Kennedy. If I were to ask my parents (both born in 1945) to tell me where they were and what they were doing when JFK was shot they would both be able to tell me. The assassination was an incredibly significant and unexpected event and neither of my parents were on the grassy knoll on that date and so did not directly experience the event. Nonetheless they

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[81] McCauley/Lawson note Sperber's argument that what Whitehouse has termed the "tedium effect" may "diminish their cognitive relevance, i.e., their ability to provoke comparatively large numbers of inferences without much cognitive effort." (McCauley/Lawson 2001 p50) They acknowledge that scholars should then attempt to explain the continued relevance of frequently repeated cultural forms.

have very vivid recollections of their own particular circumstances on that day *when they heard about the assassination*. Other parts of the day are not remembered at all or at least not as vividly.

It is clear that people do in fact have very vivid memories of such significant events. What is not so clear is whether these memories are in fact accurate. We have already noted that the mind is certainly capable of generating and making inferences about counterfactuals so the vividness of a memory is not sufficient for us to consider it accurate. Ulric Neisser is one researcher who figures prominently in the understanding of the flash bulb memory effect. His studies attempted to determine what factors influence the accuracy and/or vividness of flash bulb memories.[82] He did so by surveying subjects (within 24 hours) after significant events like the Space Shuttle Challenger accident and the Loma Prieta, CA earthquake and then tested these subjects' recall at certain intervals subsequent to the event in question. In the case of the Challenger accident subjects were tested two and a half years after the initial reports and again six months after the first test; for the earthquake subjects were test only once eighteen months after the initial reports.

In both cases when the subjects were tested the first time they reported very vivid memories of the circumstances surrounding the event in question. In the Challenger test what Neisser and Harsch found was that, despite the vividness of subjects memory and despite the extreme confidence subjects had in their recall, neither of these factors were reliable predictors of the accuracy of recall. Neither was emotional arousal in any way indicated to be connected to accuracy of memory. Interestingly, while the first

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[82] What supposedly got Neisser thinking about this problem of accuracy was his own experience. He recalled that he had been listening to a baseball game when he heard of the December 7th bombing at Pearl Harbor by the Japanese. For those who know it is obvious that this cannot be accurate since the baseball season never extends into December. Therefore Neisser's recollection, while very vivid, was inaccurate. The inaccuracy required outside means for identification which makes this project difficult.

Challenger test was generally inaccurate when compared to initial reports the second test (six months later) results were very similar to the first test narratives. In the Challenger test subjects were randomly selected throughout the country

The earthquake study was conducted somewhat differently. Neisser et al. tested subjects both in the near vicinity of the earthquake (subjects who would have a direct experience of the quake) and in Georgia. They again found no indication that vividness of memory or emotional arousal affected the accuracy of recall tests. However, they did garner what is known as "ceiling-level effects" from subjects who would have directly experienced the earthquake. This means that "the accuracy of their responses for the three target [place, others present, activity] items as well as their confidence were at the highest possible levels." (McCauley and Lawson 2001 p 61) The subjects in other parts of California and Georgia proved to be less and less accurate respectively.

Neisser et al. concluded that, based on these studies, an *accurate* flash bulb memory effect is dependent primarily on two factors.

(1) The event remembered must be considered momentous and this feeling must be sustained.

(2) The subject must experience the event directly.

Again, emotional arousal was not found to be a factor promoting accuracy of memory in flash bulb scenarios but McCauley and Lawson point out that "Neisser and his colleagues (1996, p. 352) are clear that their findings do not thwart all emotional arousal theories of flashbulb memory." (McCauley and Lawson 2001 p64)

Cognitive Alarm Hypothesis
McCauley and Lawson introduce Brown and Kulik's work to use as a foil for their own theory. Both take emotional arousal to be an influential factor in flash bulb

memory accuracy, despite the results of Neisser et al.'s studies. Both teams agree with

Neisser et al. about the importance of being a direct participant in the event as well as

considering the event to be a significant one. Brown and Kulik suggest further that

"flashbulb memories usually concern recollections connected with events that are

isolated, unexpected, *and arousing*." (McCauley and Lawson 2001 p57; my emphasis)

The emotional arousal attached to the experience of the event, they posit, activates a

"special neural mechanism" called the Now Print mechanism. This special mechanism

acts as a sort of special instant camera, recording "all available information connected

with the context when learning suddenly of a 'significant novelty' that is emotionally

arousing." (McCauley and Lawson 2001 p57)

McCauley and Lawson, while agreeing that emotional arousal may play some role

in memory enhancement, do not accept the idea that a special cognitive mechanism, like

Brown and Kulik's Now Print mechanism, is necessary to explain that role or any aspect

of flash bulb memory effects. Instead they suggest that, similar to their notions of ritual

representation, "the detail, vividness, confidence, and, perhaps, even accuracy associated

with flashbulb memories may completely depend on *perfectly normal mnemonic means*."

(McCauley and Lawson 2001 p77; my emphasis) Emotional arousal does, they argue,

play a significant role in flashbulb memories. Relying on studies by researches such as

Antonio Damasio and Heuer and Reisberg, McCauley and Lawson offer their Cognitive

Alarm Hypothesis.[83] According to this hypothesis emotional arousal connected to an

event focuses our attention on a that event, notifying our mind to pay heed to it; alarming

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[83] The Cognitive Alarm Hypothesis is important to McCauley and Lawson's overarching Ritual Form
Hypothesis since it figures prominently in explaining those rituals that are high in sensory pageantry
(simply, emotional arousal) and low in terms of frequency of performance. However, they qualify their
endorsement of such a hypothesis because some studies may indicate that emotional arousal may be
neither necessary nor sufficient for flashbulb memories.

our ordinary mnemonic devices and resulting in them having a sort of heightened degree of alertness or receptiveness to the current circumstances. This is not, they emphasize, an activation of a special cognitive mechanism but rather an increase in "the attention and cognitive resources" we ordinarily use to remember such events therefore enhancing the potential for accurate recall of the event. The advantage of an explanation of flashbulb memory without special cognitive mechanisms is that the hypothesis retains its simplicity and consilience. It may be that there is a Now Print mechanism or something similar but at this point there is no convincing reason to dispute the arguments of McCauley and Lawson in defense of their simpler, more consilient Cognitive Alarm Hypothesis.

Consilience and Simplicity are criteria for theory choice. [84] Paul Thagard notes that a criterion is "a standard of judgment which must be weighed against other criteria used in evaluating explanatory hypotheses." (Thagard 1985 p79) As such theorists ought to strive for consilient and simple theories. Consilience is used as a comparative ranking criterion used "to tell when one theory explains *more* of the evidence than the other does." (Thagard 1985 p79) Simplicity refers to the number and type of auxiliary hypotheses. Including large numbers of auxiliary hypotheses or any *ad hoc* hypotheses decreases the simplicity of a theory. Adding a hypothesis to only explain a "narrow range" of facts is adding an *ad hoc* hypothesis. Simplicity is a ranking tool as well since if two theories explain the same facts one might rank them in terms of which is more simple; which one has fewer auxiliary hypotheses or fewer (or no) *ad hoc* hypotheses. For example, in comparing Brown and Kulik's Now Print hypothesis and McCauley

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[84] Thagard et al. have championed Inference to the Best Explanation as a model for theory choice and therefore a way of evaluating explanatory hypotheses and, by extension, a guide for generating explanations. This approach to theory evaluation is by no means the only alternative and philosophers of science (i.e. R.N. McCauley; personal communication) have voiced objections to Thagard's views on this subject.

Lawson's Cognitive Alarm Hypothesis one might determine that both explain the same range of facts but further conclude that positing a Now Print mechanism may introduce at the very least an extra auxiliary hypothesis and at worst an *ad hoc* hypothesis.

Ritual Form

Regardless of what hypothesis one advocates it, so far, seems frequency is the variable that is in the driver's seat behind ritual transmission. In fact, Harvey Whitehouse in his Frequency Hypothesis considers frequency to be the causal variable behind degrees of sensory pageantry involved in rituals and therefore ultimately ritual transmission. McCauley and Lawson, citing examples from Barth's ethnography and elsewhere, disagree. They assert that "considerations of frequency cannot explain memory for and, hence, transmission of *all* religious rituals." (McCauley and Lawson 2001 p87) They consider frequency of performance to be "the unexplained independent variable at the heart of Whitehouse's theory." (McCauley and Lawson 2001 p105) Furthermore they suggest that their own theory of ritual competence suggests "an alternative hypothesis that identifies what we think is an even more fundamental cognitive variable explaining why rituals move towards one of the attractor positions or the other." (McCauley and Lawson 2001 p100)

The *form* rituals take (in terms of the formal description seen earlier) is the variable, they argue, that explains (something Whitehouse doesn't do) both the frequency in which rituals are performed and the degree of sensory pageantry or emotional arousal attached. To understand the different forms rituals take we must revisit McCauley and Lawson's formal description of ritual representations.

RITUAL REPRESENTATION
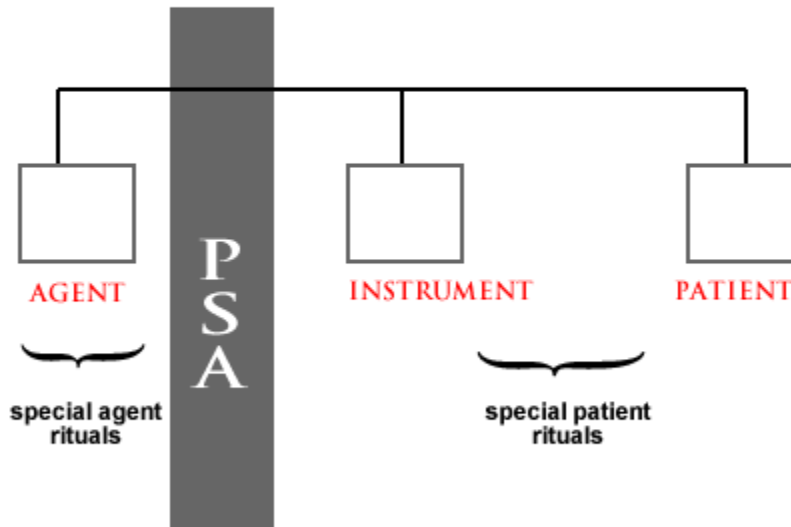
Figure 8 - Principle of Super Human Agency

McCauley and Lawson identify two ritual profiles: Special Agent Rituals (SARs) and Special Patient/Instrument Rituals (SPRs). These two profiles are made distinct by the Principle of Superhuman Agency (PSA). This principle is concerned with where in the formal description of a ritual representation the CPS agent resides. The CPS agent in SARs is present in the formal description under the agent slot or to the left of the dark bar seen in Figure 6. Examples of SARs are weddings, baptisms, and funerals. In SPRs, the CPS agent is present in either the action complex/instrument slot or the patient slot (to the left of the dark bar in Figure 6). Examples of SPRs are sacrifices, Eucharist, and divination rituals using special instruments (i.e. *special* snake vertebrae). How far down in the structural description of embedded rituals the CPS agent resides is immaterial in terms of profiling ritual forms. McCauley and Lawson do suggest that the proximity of

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the CPS agent to the ritual being performed at the time does have some significance but not in determining the profile of a ritual.[85]

Unlike performance frequency and sensory pageantry which are continuous variables, ritual form is a discrete variable though depicting this variable in a figure is sometimes confusing in that respect. See Figure 7.

RITUAL FORM HYPOTHESIS
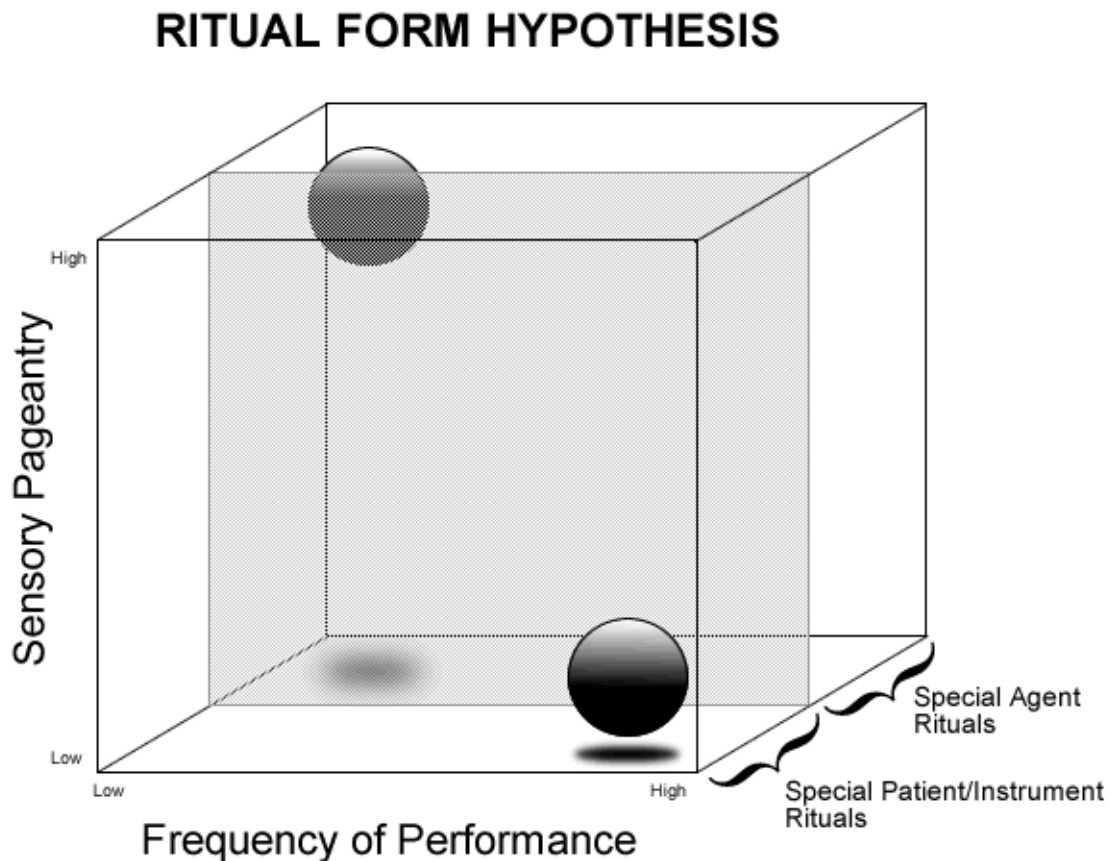
Figure 9 - Ritual Form Hypothesis

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[85] The Principle of Superhuman Immediacy (PSI) does contribute to ritual typology (Lawson/McCauley 1990 p128; McCauley/Lawson 2001 p28). It states that the more proximate the CPS agent is in terms of number of intermediary embedded rituals the more central the ritual relative to the ritual system in question. So while all SARs are more central than all SPRs, according to McCauley/Lawson, some SARs may be more central than others. The PSI helps to determine this ranking.

This figure is a slight change to Figure 5 which depicted the Ritual Frequency Hypothesis in which frequency was the causal variable behind ritual transmission. Here ritual form as a discrete variable has been added but the attractor nodes remain. We can now see that the first attractor node is made up of SPRs and the second attractor node is made up of SARs. SARs then are characterized by high levels of sensory pageantry

> "because participants should remember these unique rituals and they should also emerge from them with the conviction not only that something profound has transpired but also that the actions of the gods are at least ultimately, if not proximately, responsible for these rituals' consequences" (McCauley and Lawson 2001 p138)

and low performance frequency "because the CPS-agents in these rituals either act directly themselves or certify their intermediaries' actions indirectly." (McCauley and Lawson 2001 p138)

The pioneering work of E. Thomas Lawson and Robert N. McCauley introduced in <u>Rethinking Religion</u> (1990) and further developed in <u>Bringing Ritual to Mind</u> (2002) is an attempt to explain the generation, transmission, and persistence of rituals[86] by utilizing insights from cognitive science and related fields such as linguistics.

This advent of a cognitive science of religion has been enthusiastically greeted by those discouraged by the general explanatory void in the study of religion (Slone 2004, Slone/Mort 2004). This relatively recent movement represents the beginning of a theoretical tradition within which scholars might test, debate, discard, add, and/or tweak explanations using effective and justifiable epistemological tools rather than relying on interpretations masquerading as explanations and inferences based on intuitive assumptions. (Slone/Mort 2004)

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[86] Which they distinguish from other religious acts. (LAWSON AND MCCAULEY 2002 p13-16)

However, a consequence of this ecstatic critical giddiness is the mandate to take a closer look at that which has made us so hopeful. The general ambition of theorists must be tempered by standards which help the theorist to produce - and critics to choose - *good* theory. Because of the willful rejection of explanatory endeavors viable explanations of religious behavior and thought are rare in the study of religion.[87] Despite this deficiency it is still potentially the case, as carefully pointed out by Lawson and McCauley and others, that multiple theories attempting to explain the same sets of puzzling facts are possible. The slippery slope best avoided is adopting an intellectual culture mirroring that of the social sciences: isolated quasi-theories, interpretations, and stances that do not set out to and that cannot compete with each other in any constructive way. How then do we evaluate these existing and potential theories in general, and the work by cognitive scientists of culture in particular, in order to determine their worth?

Evaluating hypotheses in order to ensure that scholars entertain those theories which are most viable is crucial in any field, pluralistic principles notwithstanding. Paul Thagard in his work on Inference to the Best Explanation (*see* Thagard, Lipton) notes three criteria with which we might perform such an evaluation: consilience, simplicity, and analogy.[88]

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[87] While there is indeed a paucity of real understanding of what constitutes an explanation it is not this that is wholly responsible for the lack of explanatory endeavors. It is often a conscious choice. Causal explanations are simply, in the view of many social scientists, not possible within fields that analyze human behavior or social facts. (A. Rosenberg 19??)

[88] The IBE model for theory evaluation is not the only one available. In fact philosophers of science have been and continue to argue the merits of alternative models. However this paper is not a project in the philosophy of science per se and so I are not out to argue for one model over another. Frankly, any theoretical tradition for which IBE or ANY other model is applicable is a triumph when one considers the current state of scholarship in the social sciences. Therefore the choice of IBE is largely an arbitrary choice for heuristic purposes. Pretty much any current model will do.

Consilience

Simply put, a theory is generally considered consilient if it explains more than one class of facts. However, adding up facts does not make a theory consilient. According to Thagard "a consilient theory unifies and systematizes." (Thagard 1985, p82) Consilience depends not only on the number of facts explained but also the variety of facts. For example, we might infer that a person is a surfer because she carries a surfboard on her car, wears a wetsuit to the beach, often travels to Australia Hawaii and South Africa but not because of trivial facts such as she wears an earring on her left ear, wears an earring on her right ear, paints her right foot's toe nails, and paints her left foot's toenails. Similarly, using Lawson and McCauley we might infer that rituals that employ high levels of sensory pageantry do so because of the influence of mental competencies on ritual form, but not because participant A's right cheek is flushed or left cheek is flushed.

Consilience may also be thought of as both qualitative and quantitative. Once a theory is qualified as consilient it is possible that this theory may be more or less consilient than another theory determined to be consilient.[89] Harvey Whitehouse's modality theory and the RFH have proven more consilient than previous so-called theories of religious behavior if simply for the fact that theories of religious behavior are few and far between rendering such comparison nearly impossible.[90] The next natural question is whether one of THESE two theories is more consilient than the other.

Though these theories were produced independently it could be said that a heuristic progression from Whitehouse to Lawson and McCauley is a case of what Thagard calls radical dynamic consilience. If we think of Lawson and McCauley's RFH

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[89] It is here that IBE is much more useful than other models since comparison shopping is possible. (*see* Slone/Mort forthcoming)

[90] For more on this topic *see* LAWSON AND MCCAULEY 1990, Boyer 1994 and 2001, Slone/Mort forthcoming, Atran 2001

as modifying Whitehouse's Ritual Frequency Hypothesis to include ritual form as a major consideration the result is the addition of at least a partial explanation of ritual frequency, increasing the variety of facts explained and therefore the theory's consilience. In this aspect Lawson and McCauley's theory can be said to be more consilient than Whitehouse's. Indeed Lawson and McCauley explicitly claim a higher degree of consilience than Whitehouse:

> "As we have already noted, ritual form correlates well with rituals' performance frequencies; indeed, we shall argue that it is one of the principal considerations influencing performance frequency. Because of this influence and because performance frequency is the unexplained independent variable of the ritual frequency hypothesis, ritual form is a more fundamental causal variable." (Lawson and McCauley 2002 p113)

Of course should any of the theory's set of hypotheses, auxiliary hypotheses, and/or conditions which have contributed to judgments about the theory's consilience prove suspect then the consilience of the theory should then be questioned. Criticism of Lawson and McCauley's RFH often turns on the seemingly narrow definition of ritual proposed. However, by defining a ritual as "actions in which an agent does something to a patient" (Lawson and McCauley 2002 p13) Lawson and McCauley seem to avoid making the RFH into a catch-all theory like the theory of psychoanalysis. (Thagard 1985 p85) Is this proposed definition of ritual, though, simply a way, not of avoiding explaining too much but rather a way of ensuring success as a result stacking the deck? To make sense of this aspect of theory evaluation we now turn to Thagard's next criterion, simplicity.

Simplicity

The simplicity of a theory is determined by the number of narrow auxiliary hypotheses the theory employs in order to explain the multiple important facts required

for consilience. Thagard notes that "a simple consilient theory not only must explain a range of facts; it must explain those facts without making a host of assumptions with narrow application." (Thagard 1985 p87) By specifying a potentially *too* narrow definition of rituals it is arguable that Lawson and McCauley have introduced an assumption about rituals that is artificially narrow – in other words an ad hoc auxiliary hypothesis. However, though this technical definition of rituals is not shared by competing theories Lawson and McCauley defend their use of it by pointing out the "theory's ability to generate a progressive program of research." (Lawson and McCauley 2002 p16) Thagard too notes that hypotheses are not considered ad hoc if continuing research manages to "uncover new facts that they help to explain or find more direct evidence for them." (Thagard 1985 p87) It is more likely, then, that the inclusion of a technical definition of ritual, however narrow, renders the RFH a sophisticated tool for research rather than one lacking in simplicity. Sophistication is not a roadblock to simplicity even when such sophistication seems complex.

Analogy

Lawson and McCauley cleverly culled from Noam Chomsky's treatment of generative grammars their notion of a formal ritual system as well as a competence approach to theorizing; in other words an approach that is founded on idealized competencies in the human mind. It is an advantageous approach because it allows the theorists to utilize research in general mental competencies rather than produce explanations of religious behavior in terms of specifically *religious* mental competencies (i.e. god-spot) and discard theoretical dichotomies between primitive and advanced cultures and/or religious behaviors/thought.

Lawson and McCauley are careful to point out that their theory is only "roughly analogous" (Lawson and McCauley 1990 p61) to Chomsky's generative grammar but still assert the virtues of gathering inspiration from linguistics. Thagard would presumably approve since analogy, while not a necessary aspect of theorizing, can help explanation in that it can supply successful models on which to base new hypotheses. Furthermore, by associating a hypothesis with another successful hypothesis "we get increased understanding of one set of phenomena if the kind of explanation used – the kind of model – is similar to ones already used." (Thagard 1985 p91)

I do not know if Lawson and McCauley's inclusion of embedded rituals in their formal ritual system is the result of "the logic of discovery" after considering the deep structures of Chomsky's generative grammar. (Chomsky 1965) Regardless, analogy must not be taken too far since, as Thagard says "there is no logic of discovery distinct from the logic of justification." (Thagard 1985 p90) In the case of Lawson and McCauley's formal description of ritual representations in an idealized mind the notion of embedded rituals may constitute the unnecessary introduction of an ontological entity – specifically the nature of ritual representations – perhaps by taking an analogous model too far. To be fair, Thagard points out that ontological complexity does not make a theory unacceptable if "the complexity contributes toward consilience and simplicity." It remains to be seen, however, whether embedded structural descriptions are experimentally demonstrable or even necessary for the consilience of the theory.

Claims about (1) the centrality of rituals and/or (2) the probability of transmission of rituals by Lawson and McCauley are supposedly based on idealized competencies in the human mind appropriating information from that mind's conceptual scheme. Lawson

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and McCauley's propose principles of Superhuman Agency (PSA) and Superhuman Immediacy (PSI) which indicate that such claims specifically depend on where the culturally postulated superhuman-agent (CPS) resides in the formal structural description of the ritual AND at what depth the CPS resides (in terms of levels of embedded enabling rituals). In order for such claims to be accurate it seems correct to say that the conceptual schemes of minds in the community in question must be uniform; at least uniform in terms of the ideas appropriated by the Action Representation System (ARS) that make it possible for minds in that community to represent rituals as having the same number of embedded ritual levels.

This is problematic because even an entire community composed of nothing but idealized minds cannot reliably be attributed a uniform conceptual scheme. Recent models of cultural transmission have persuasively shown that this transmission is actually a process of distortion, transformation, and reconstruction. Though Lawson and McCauley insist that predictions of the level of sensory pageantry are viable when limited to specific communities, it must be the case that differences of reconstruction of information occur in minds *within the same community* resulting in a lack of uniformity in conceptual schemes. Therefore, the universal mental competencies of a ritual system must be the primary determiners of ritual centrality not the contents of that community's idealized conceptual scheme. Otherwise the predictive power of the RFH would be at the mercy of Lawson and McCauley's Heraclitean rivers (Lawson and McCauley 1990 p63) of socio-cultural entities making experimental confirmation difficult if not impossible.

CHAPTER SEVEN

Remarks

Fixing Our Eye

The Rationality Debate has been largely a rather unfocussed venture dependent on aging philosophical, pseudo-psychological models of human nature. To effectively continue the Debate what we need is a better understanding of what the Rationality Debate should be about. *It is in actuality a debate about how human minds work* and how those mental tools ply environmental cues and vice versa. This is the focused object on which we must keep a fixed eye. As such, employing the resources of current psychological scholarship is essential in formulating viable arguments about human rationality. It is important to note that the forerunners of the rationality debate (most notably Lévy-Bruhl and Evans-Pritchard) were, in fact, attempting to find answers to puzzling and surprising facts by positing theories indebted to psychological fundamentals. It is clear that these scholars found psychologically based theories to be essential for understanding human behavior and they made careful use of the psychological models available to them *at the time*. The failing of those who followed was not recognizing, accepting, and implementing resources made available by the explosion of psychological theorizing and experimentation, including new cognitive models of the mind. I believe that a realignment of the social sciences in general and religious studies in particular with current psychological theory will improve the fundamental assumptions from which scholars work.

Cognitive Science of Religion Standard Model Revisited

Let's review standard model, described in the last chapter, that has become

common parlance among cognitive scientists of religion.

1. A Cognitive Approach De-Centralizes the Religious Domain

2. A Cognitive Approach Deflates Religion

3. A Cognitive Approach is a Selectionist Approach

4. A Cognitive Approach Appeals to Intentional Agents' Fundamental Role

As with any model of inquiry, this one has both advantages and limitations. (see further

Tremlin 2006)

Advantages of the Standard Model

The standard cognitive science of religion model is concerned with describing

mental representations that can be (and in fact have been) found in all the contexts visited

earlier in this document. As a result this model gives scholars the advantage of

describing mental states found in most people, most of the time, in most if not all cultural

and historical contexts. This is markedly different from Williams James' approach that

focused on extraordinary experience occurring in an extremely limited portion of human

populations. It also effectively removes issues that have traditionally bedeviled social

scientists and that have, as previously noted, enraged the likes of Gananath Obeyesekere.

The predispositions and tendencies manifested in our evolved cognitive mechanisms

occur in natives, westerners, primitives, moderns, theologians, laypersons, Africans, and

Americans. In other words the standard model is a general, probabilistic, and

"experience-distant" one. Additionally it this model follows the urgings of Occam's

Razor and avoids less than simple explanations of religious behavior such as the

neuropsychological appeal to neurological g-spots.

Limitations of the Standard Model

The advantages of the standard model may instead seem to some social scientists like problems. The standard model claims an advantage precisely because of those things it does not explain. For example it does not explain how one tradition differs from another, how one feature in a religious system differs from another, why one feature is more or less prominent than another, or how one feature acquires a different meaning from another. The standard model does not explain these things precisely because of the advantages it boasts (generality, probabilistic nature, experience-distance). For ethnographers these virtues may not be worth giving up the 'ecological reality' this model seems to disregard and that is paramount for successful ethnographic studies. This criticism, however well taken, does not invalidate the standard model but rather points cognitive scientists of religion in future directions.

Future Directions

Two pathways are indicated for future work needed to bolster the work flowing out of scholars working within the standard model. First, empirical and experimental tests of the key features of the standard model are needed, especially as these focus on the cognitive mechanisms that cognitive scientists propose account for the very general notion of religion under consideration. So far empirical evidence gleaned from the analysis of ethnographic data by cognitive scientists of religion has been slight. A prominent example is McCauley and Lawson's "Bringing Ritual to Mind" where they apply their ritual form hypothesis to ethnographic data supplied by Frederick Barth and Harvey Whitehouse. However this is one of few examples. Furthermore experimental

evidence for the propositional mechanisms reviewed above is necessary. This absence is a glaring hole in an otherwise extremely promising discipline.[91]

Second, the interaction between cognitive mechanisms and historical circumstances (political power, economic structures, institutional arrangements) needs to be explored via an integrated approach that combines methods and principles from economic, evolutionary, cognitive, and neuroscientific models. While the standard model for the cognitive science of religion has emerged as a stable one over the last three decades an extended integrated approach is necessary in order to provide explanations for specific historical and cultural religious scenarios. But is religion a good test case?

Tongues, Bones, and Gall Bladders

On a recent trip to Italy I was fortunate enough to have the opportunity to visit the Basilica di Sant'Antonio in Padua. Even before entering the church I was struck by several observations. First, and perhaps most obvious, I noticed the sheer size and scope of the building and surrounding close. Having seen similar buildings I found this one to be similarly attractive. What also piqued my interest were the goings-on in the close immediately surrounding the basilica. Vendors ringed the close selling, among other things, strange (even to me) candles. Most if not all were white, of varying lengths and thickness. The vast majority of people walking into the basilica were stopping first to purchase one or more of these candles. Intrigued I purchased one myself – a smallish one that I noticed had the image of Sant'Antonio imposed on its side, something I noticed was on all the candles sold – and entered the cathedral, surreptitiously following a couple whose informant potential looked particularly promising.

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[91] Jason Slone in "Religion and Cognition: A Reader" (2006) includes experimental studies that have been done. The paucity of those studies from which he could choose, though, further highlights the work that needs to be done.

Being somewhat of a social scientist it was easy for me to separate in my mind the tourists and the simple faithful. The former wandered somewhat aimlessly throughout the building upon entering while the latter immediately made for what looked like a shrine/sarcophagus. The line of people went up some stair to a space behind the shrine. I noticed that there was a bench there and some people sat during their time in that space. It looked as though they would mutter a prayer, bow their head, and touch the stone of the shrine before moving on. Not wanting to be conspicuous I touched the stone briefly while at the same time trying to keep one eye on my 'guides' up ahead. Once emerging from behind the shrine on the opposite side the line of people went down another short set of steps and deposited the candle(s) they purchased in a depository that looked very much like it was built for just such a purpose![92] Again I followed suit. My unknowing guides then briefly took in the sites of the basilica, much like some of the tourists if a bit more subdued and certainly with less photo snapping and sweat suit wearing, and then left the way they came.

Being a bit out of practice in terms of following informants I then simply emulated the tourists' behavior and wandered around the basilica noting the accoutrements typical to this basilica including many wooden statues (as opposed to stone), frescoes, bronze reliefs, as well as at least three huge and incredibly intricately (gaudily some might say) decorated reliquaries. Having seen and heard of reliquaries and knowing what they were designed to hold[93] I approached these with little surprise or

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[92] I found out later from a local that the basilica distributes the candles from the depository to the various churches scattered around the environs of Padua for use on their altars. It was suggested by this informant that this was a "godly" gesture by the Church that helped the local economy while at the same time facilitated the pious practice I described above.

[93] 1. "Reliquary – A repository for relics, as a casket, coffer, or shrine." 2. "Relic – The body part of the body of a saint, or an object connected with a saint or his tomb; a sacred momento." Definitions from The Funk & Wagnall's Standard College Dictionary.

trepidation. However, even with considerable experience and knowledge of these matters I was, and still am, staggered by what I saw. The central reliquary and, judging by its grandness, most prominent of the three I saw held a preserved tongue purportedly belonging to the saint honored by the basilica I was visiting. Sant'Antonio is widely regarded as having a miraculous talent for speaking.

> "It was as an orator, however, rather than as professor that Anthony reaped his richest harvest. He possessed in an eminent degree all the good qualities that characterize an eloquent preacher: a loud and clear voice, a winning countenance, wonderful memory, and profound learning, to which were added from on high the spirit of prophecy and an extraordinary gift of miracles." (Nicolaous Dal-Gal)

Because of this it was the wont of his order to preserve his miraculous organ; his tongue. This tongue, of course, now looks nothing like a tongue. It is small and dark stretched between two, what looks to be gold, clips within a small glass cylinder affixed to the middle of the grand reliquary that dwarfs its *raison d'etre*, as it were.

My experience in Padua is not a unique one. Countless tongues, hearts, and various other parts of historical figures are on display all over the world. Closer to home in Indian River, Michigan exists the largest crucifix in the world. When I visit there I find the sylvan setting to be beautiful and even awe inspiring. However, it is still a giant cross with a grotesquely tortured, nearly naked man nailed to it in the middle of the woods! Despite this the shrine to Kateri Tekakwitha is visited by hundreds of thousands of people each year. In Canterbury, England in a small Roman Catholic church – St. Thomas Beckett – just down the street from the magnificent Anglican Cathedral and

Metropolitical Church of Christ – are proudly displayed finger bones supposedly belonging to the famous martyr for whom the church is named.[94]

African Christianity can be the vessel for odd behavior as well. The Kingdom of Lesotho, predominantly Roman Catholic, is an incredibly poor nation. Just this year, 2004, the government declared a state of emergency due to the severe draught conditions. When living there I saw firsthand the unfinished works projects (i.e. road repairs) that had been begun and quickly abandoned as government funds dwindled. Despite this perpetual hardship the country, in preparation for an admittedly rare papal visit in 1998, built a special festival site to accommodate the itinerary of the Holy Father. I drove by the site almost daily. It is now not in use at all though there are some sheep and cows grazing in the fields there. It is true that the structure, shaped like a traditional Basotho hat, is something of a badge of honor for the little African country singled out for the visit but it is also, arguably, a despicable squandering of funds sorely needed elsewhere. I could, of course, go on and on. Such places and events take place all over the world in varying context and in just as bizarre settings, if not more so. Funnily enough, though, the display of these items is not really bizarre. In fact seemingly bizarre scenarios such as this can be seen in so many places around the world that it verges on the commonplace rather than the odd. This is the point Lévy-Bruhl missed. That an anthropologist should consider an amaZulu diviner tying goat gall bladders in her hair to be irrational but the preservation of a human tongue in a gold reliquary as rational is disappointing; so much so that it would be laughable if it was not such a detriment to scholarship. Lévy-Bruhl can be forgiven much more readily, though, than the current phalanx of scholars that

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[94] For more on Christian relics see Peter Brown's excellent work "The Cult of the Saints: Its rise and Function in Latin Christianity." 1981.

insist on placing a line of demarcation between these two behaviors or these two cultures.

Can we not see that each is an example of behavior with a shared underlying structure?

If we can then the mainstream methods used to study such behavior must needs changing.

Though I don't agree with much of Saler's fundamental premises when it comes to joining in the rationality debate (i.e. his emphasis on the semiotic obstacles to understanding other cultures), he makes a crucial point that highlights the incredible potential cognitive science has for contributing to answering questions about human behavior generally, and questions about rationality in particular.

> "Rationality, as I prefer to conceptualize it with specific
> reference to scholars, is not the property of one theoretical
> or methodological approach as contrasted to some other.
> Rather, it is expressed above all in our critical monitoring
> of what we do and in *our willingness to make serious*
> *efforts to understand and evaluate alternative*
> *possibilities*." (Saler 1997 p 58; my emphasis)

The interdisciplinary nature of cognitive science is, I believe, an exemplary model for both critical scholarship and entertaining diverse alternative approaches to understanding human behavior.

Bundle of Tendencies

At the end of the day the resources of cognitive science show us that the human mind is a bundle of tendencies.[95] As such it behooves social scientists, when wading through the enormous corpus of ethnographic material available, to attempt to recognize human behavior is indeed largely dependent on those universal capacities of the mind and not be fooled by the admittedly vast but in fact superficial diversity of cultures. By doing so a more sophisticated, and hopefully more accurate, account of how natives think can be had. Processes under the surface of a Cartesian theater (Boyer 2001) are at work in

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[95] I am indebted to E. Thomas Lawson for this succinct description of the human mind.

human cognition. These processes underpin multiple types of reasoning including those that have traditionally been judged by the standards that emerge from the rationality debate. One way to reframe the rationality issue is to fractionate rationality as well. This is one way of understanding how folks such as Boyer, Lienard, and Lawson are achieving a greater depth of analysis. Because humans reason in many ways or via many modules or domains, identifying the processes that underpin them can help to explain just why people from different cultures exhibit seemingly contradictory or bizarre religious behavior whereas a vague polar mentality dichotomy cannot. Furthermore the cognitive science of religion project has already expanded to include theorists who test their theories against the kinds of observations made by Lévy-Bruhl and Evans-Pritchard.[96] This is an opportunity then to update the initial treatment of such human behaviors and therefore potentially adjust or improve arguments concerning human rationality.

Boyer is quick to note that human cognitive capacities do not cause us to accept religious ideas but rather that they make these ideas more likely to be taken as plausible. Because of the natural evolution of the mental systems we have and the way they work together to react to the environment (aggregate relevance) religious concepts and behavior are possible and not surprising. (Remembering of course that external 'triggers' play an important role in the transmission, representation, and persistence of cultural material.) As such a cognitive approach to the social sciences requires that explanations of context and cognition dovetail. The cognitive program admittedly places appropriate emphasis on evolutionarily developed cognitive/internal capacities but also acknowledges

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[96] Most notably R. McCauley and E. Thomas Lawson in their book "Bringing Ritual to Mind: Psychological Foundations of Cultural Forms." They make this kind of testing the goal of their book. "The critical test of any theory's sturdiness is its ability to stand up to the empirical evidence. This is our goal in this book." (McCauley/Lawson 2001 px)

the role played by contextual/external material. One might say that *any* attention to

cognitive constraints on behavior is an enormous leap since virtually no notice has been

given them by the social sciences. Because of the paucity of attention to the role of

cognitive capacities it has often been necessary to dwell on that aspect of the program

and perhaps as a result the program's cognizance of the importance of contextual material

is a point that has been difficult to get across to many traditional social scientists.

Graham Cunningham in his book on theoretical approaches to religion and magic does

include a rare mention of Lawson and McCauley, Boyer, and Sperber but still displays

the social scientific tendency to relegate these theories to an exclusively nativistic,

reductivist program. He asserts that Lawson and McCauley consider what they call the

"religious conceptual scheme" (Lawson and McCauley 1990 p89) to be one of three deep

structure cognitive mechanisms that produce religious rituals.

> "Their view of how three cognitive mechanisms combine to
> produce religious ritual derives from generative linguistics,
> with the rituals being regarded as operating on the level of
> surface structure and being generated by the *deep
> structures of the cognitive mechanisms*. The first of these
> mechanisms is an action-representation scheme containing
> the sequences of ritual and connecting such abstract
> elements or slots as agent, action, and object. The second
> cognitive mechanism, a conceptual scheme providing
> semantic information, specifies the nature of the ritual
> action….They regard the third cognitive mechanism, a set
> of universal and constraining religious principles, the most
> important of which is the involvement of superhuman
> agents, as being activated by the application of this
> religious conceptual scheme to the action-representation
> scheme." (Cunningham 1999 p 99; my emphasis)

However this is a misrepresentation of not only Lawson and McCauley but the general cognitive science of religion project.[97] It is not a program bent on reducing cultural explanation solely to genes, natural selection, and firing neurons but rather focuses on how the internal capacities of humans and the external cues of our environment work together to produce the interesting behavior we exhibit. Thus the subtitle of Lawson and McCauley's 1990 book, Connecting Cognition and Culture, is right on point.

Lévy-Bruhl was handicapped because though he accepted the psychic unity of humans he was working on the assumption that context and cognition (as we know it now) ought to be studied separately *if* human psychology could be studied at all. Lévy-Bruhl's 'mentalities' have refused to go away since social scientists continue to use their favorite whipping boy's ideas and morph them into notions of higher order, contextual cognition which is, conveniently, methodologically distinct from the fundamental capacities of the human mind studied by cognitive scientists. These more basic non-contextual mechanisms are lower order cognition and are, from the perspective of the social sciences, irrelevant to understanding higher order human behavior. However with the advance of new models of the mind (i.e. connectionist) the neo-Lévy-Bruhlian model faces a stiff challenge. Since it is increasingly evident that lower level cognitive processes inform, influence, and undergird higher level and reflective processing it is more and more important that debatists move away from a Weberian understanding of rationality in terms of reflective thought.

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[97] It is debatable whether Cunningham does a service or disservice to the cog sci program in mentioning these authors in his book since he so grossly misrepresents their approaches. Unlike Hollywood, in academia not all publicity is good publicity.

We Are No Where Near Finished

Despite this recognition the precise way in which cognitive processes interact with the environment as yet eludes scholars. Elizabeth Bates et al. in their article "Innateness and Emergentism" (1999) point out that since scholars want to offer practical solutions to current questions or problems and since "we lack a precise, testable theory of the process by which genes and the environment interact" (Bates et al. 1999 p590) recent attempts at making cognitive sense of the interaction between our evolutionarily gotten capacities and the environment like domain specificity (Boyer 2001; Bates et al. mention species specificity, localization, and learnability as well) are seen as a defense of innateness. (Bates et al. 1999 p590) To Bates this is a frustrating persistence of the nature-nurture controversy; a controversy, says Bates et al., that supposedly nobody likes anymore but yet still persists. "All reasonable scholars today agree that genes and environment interact to determine complex cognitive outcomes." (Bates et al. 1999 p590) The proper goal for an integrated social science is to search for such a theory of interaction and until that goal is attained we should be clear about the innate and emergentist claims made.

Not surprisingly it is difficult to be clear about these matters even among philosophers of cognitive science. Bates et al. in their article try to make a clear distinction between innateness and emergentism. However a combination of the difficulty of grasping the specialized concepts involved and the use of unfortunate vocabularies contribute to the persistence of confusion about these notions. It is not uncommon for cultural anthropologists to bristle at cognitive approaches to human behavior because they see such approaches as exclusively concerned with innate mechanisms and not at all concerned with explicit cultural information. This is a hurdle

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that cultural anthropologists and cognitive scientists must clear if there is to be any hope

of realizing a viable interdisciplinary and interactionist approach to explaining human

behavior. Many cognitive anthropologists (Whitehouse 2004) interested in the relatively

new field of the cognitive science of culture have already explicitly embraced the

importance of units of culture as causal factors in the transmission of cultural information

instead of primarily appealing to cognitive mechanisms. However, collapsing the

dichotomy between open and closed behavioral programs by focusing on explanations of

evolved mechanisms that are context-sensitive may provide a more robust model of

recurring human pre-dispositions and the resulting judgments made.

Therefore, an integrated approach to understanding human behavior in general

and religious behavior in particular is advantageous because of its 'built in'

interdisciplinary possibilities. Evolutionary biology, economic theory, and psychology

(cognitive, experimental, and developmental) all meld together to, potentially, create

robust, parsimonious models of human behavior. These models are robust in that they

provide sophisticated, empirically tractable explanations of many domains of human

behavior but parsimonious in that they appeal to ordinary evolved cognitive mechanisms

as primary causal variables.

Neuroscience

I suggest that an additional problem to be avoided in the search for a theory of

interaction is a too liberal amalgamation of neuroscience and cognitive science. It may

be the case that neuroscience will ultimately be the field giving us the best answers to our

questions about human behavior but currently cognitive science provides a level of

description that should inform neuroscientific endeavors but that is also currently

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independently viable. Superficial connections between posited cognitive mechanisms and physical neural entities may be counterproductive although justifiable connections should be well, if cautiously, received. The tendency to embrace 'magic bullet' explanations of human behavior sometimes make researchers overeager to discover the gland, area of the brain, or even gene[98] from which emanates religious representations and is therefore responsible for religious experience. Boyer notes that some neuroscientists, apparently emulating William James' preoccupation with extraordinary religious experience, have persistently searched for the so called God-Spot and indeed neural imaging tests seem to indicate that a particular part or parts of the brain fire "during visions and other such extreme episodes that people usually interpret in religious terms." (Boyer 2000 p309) However the criticism of this project is, as it was with James, that the vast majority of people do not have special religious experiences and so understanding human behavior in general is poorly served by focusing on such a small selection of behavior. It is my opinion that at this juncture the two fields should remain wary of each other while at the same time exploiting any promising, well tested correlations.

Conversely cognitive science and the social sciences (i.e. cultural anthropology) should actively *pursue* a joint approach to understanding human behavior, as noted above, but discarding any wariness like the sort I hold to be virtuous above. It is this wariness between the two fields that holds us back from the kind of theory of interaction called for by Bates et al. But I am not without hope. There are some scholars who have begun to cross disciplinary boundaries to make use of whatever tools are necessary to

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[98] Recently Dean Hamer has claimed to discover the God gene. In his book "The God Gene" (2005) he claims that the presence of a particular gene is a causal variable for high levels of spirituality in people.

tackle the problems that lay before us. Very recently, January 2006, a group of scholars convened for a workshop on Cultural Transmission during which Pascal Boyer made a plea for scholars to consider using the tools of cognitive neuroscience to answer the questions posed at the workshop. Just a few months before I began to make a similar journey toward the neuroscientific oasis.

Following Rats Forward

Within the Cognitive Science of Religion in general and in the works of Whitehouse and Lawson/McCauley in particular infrequently performed rituals are generally thought to necessarily involve high emotional arousal (or high sensory stimulation or stress). The reasons for this are because both the Cognitive Alarm Hypothesis and relevant aspects of the Modes of Religiosity Theory appeal to experimental psychological and neurological findings that suggest that emotional arousal/stress modulates memory processes by enhancing the long term explicit memory potential of one-trial learning events. Recent neuroscientific research has made claims specifying the brain regions in which reside the neural locus of long term memory. One of these limbic structures, the hippocampus, has received much attention as the most critical region implicated in the encoding of explicit (declarative, episodic, spatial, and contextual) long term memory encoding.

Even more specifically, findings on the cellular or neuronal level have indicated what kinds of electrochemical activities are responsible for encoding of long term memories. Briefly, strong or repeated high-frequency stimulation of a neuron's dendrital synapses result in the depolarisation of the neuronal membrane. If depolarisation occurs at a high enough voltage the axon will fire an 'action potential' which, in addition, results

in the opening of voltage-sensitive calcium channels at the neuronal membrane. This stage is called early long term potentiation or (early LTP) which is the cellular analogue to short term memory. If the voltage level caused by the stimulation of the dendrital synapses is strong enough, calcium ions will interact with enzymes in the neuronal nucleus causing a transcription factor (CREB) to activate and then 'instruct' gene *zif*268 to manufacture specific mRNA sequences that then diffuse throughout the neuron. The mRNA is translated into proteins that then permanently strengthen the synapse or synapses in early LTP stage. In other words those synaptic connections move on to late LTP stage; the cellular analogy for long term memory encoding.

What concerns the encoding of one-trial learning on the neuronal level is what results in the simultaneous firing of multiple synapses such that the 'strength' (or voltage levels of the synaptic connections) is at a degree which enhances *or* impairs the move to the late LTP stage. Many studies focusing on neuronal activity in the amygdala have indicated that the transmission of specific neurotransmitters from the amygdala to the hippocampus due to similar levels of psychological stress or arousal **either enhance or impair** the encoding of hippocampus-dependent memory. This is because the hippocampal neurons are particularly 'loaded' with receptors for electrochemical transmitters produced in high stress situations as a stress response. The hippocampus is therefore very susceptible to high arousal effects that modulate long term memory. What remains unclear are what kinds of stress paradigms result in the impairment of long term memory encoding and what paradigms result in its enhancement.

On the cognitive level neither Whitehouse nor Lawson/McCauley have differentiated the arousal aspects of rituals that result in impairment or enhancement such

that one could readily identify highly arousing ritual acts as having impairing or enhancing tendencies due to the kind of stress paradigm involved. Whitehouse does mention the tendency for very traumatic experiences to cause persons to avoid those cues that would result in the recall of memories of those experiences. However that is a matter of memory RETRIEVAL not of memory ENCODING. Whitehouse also relates Brown and Kulik's postulated requirements for successful encoding of flashbulb memory events; one of which is that while the arousal levels at the encoding stage need to be high for successful encoding they can not be so high that "input and processing systems were impaired." (Whitehouse 2004) However, impairing stress effects on late LTP have been demonstrated to result from stressors such as "trauma or injury, physical exertion at the limit of the body's capacity, and environmental factors like noise, overcrowding, and excessive heat or cold." (McEwen 2000) While there is certainly evidence for the over-stimulation of neurons resulting in the depletion of neurotransmitters and their subsequent 'seizing up,' the kinds of stressors described here are arguably well within the mild category. Indeed many of the scenarios listed describe just the kind of characteristics common to infrequently performed rituals described by both Whitehouse and Lawson/McCauley which indicates that a differentiation between stress paradigm effects may shed some light on processes of memory-dependent cultural transmission.

I suggest, therefore, that investigating the modulation of late LTP in the context of differentiated stress paradigms may give us a clue as to what kind of specific scenarios in fact impair or enhance one-trial learning long term memory encoding. Such a study's[99]

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[99] *Experimental Design:* A word about rats: Neuroscientists have long determined key similarities between rat and human amygdalar and hippocampal processes that make possible the study of such processes especially when ethical considerations preclude the use human subjects. In this study, therefore,

goal would be to determine whether different stress paradigms involving amygdalar activity will induce different modulations of late LTP in hippocampal neurons. If this is or isn't the case, regardless, it will shed light on and help to direct further enquiry on the cognitive level in regard to the kinds of high arousal rituals that provide the necessary stimulation for late LTP.

<div align="center">*</div>

This study is in need of more work and time. It is also in need of collaborators who believe in its integrative, interdisciplinary, and reductionistic bases. While this is just one example, there are other such research programs being developed, but perhaps not enough. When there are more, it may be that a network of such scholars will then have a profound effect on scientific inquiry into human behavior. By insisting on a reductionistic, problem-focused analysis of behavior from an evolutionary psychological perspective we might at least begin to answer the question 'why do humans behave in the ways they do?' I am under no illusion that such an approach is sacrosanct and infallible but I do hope that it will facilitate moving scholars away from research focusing on such meaningless banalities like "…the rationality of a cognitive strategy should be determined by its usefulness in a natural environment (adaptability) rather than by rationality." (Hunt 2003) Rationality determined by…rationality? This is eminently

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rat subjects would be used in accordance with the precedence of past studies and the guidelines for conducting such studies using animal subjects issued by Institutional Review Boards.
Subject groups: Each group (number yet to be determined) will be exposed to a different stress paradigm (i.e. tail shock, interaction with a cat, exposure to a bright light in a chamber, loud noises) After the stress paradigm the rats are decapitated and prepared in the standard manner. (Kim et al. 2005)
Measurements.
Ultrasonic vocalizations (USV's): These are monitored to confirm amygdalar activity during stress paradigm. (22 kHz are emitted by rats in situations of significant survival value).
Corticosterone radioimmunoassay: Blood serum is analysed to identify what neurotransmissions have occurred which may potentially enhance or impair the instantiation of late LTP stage (antagonists or agonists which impair or enhance late LTP).
In vitro electrophysiology procedure: Analysis of field EPSP levels will indicate the impairment or enhancement of late LTP in hippocampal slices.

rational but hardly helpful. Hunt indirectly illustrates part of the problem when he says"It is fairly easy to show that satisficing can lead to 'irrational' decision making as conventionally defined." What exactly is this conventional definition? Often it is simply a judgment that whatever process being considered is bizarre or stupid or illogical or, dare I say, irrational. Irrationality determined by irrationality.

<p style="text-align:center">*</p>

Throughout this dissertation there is a consistent critique of traditional social scientific method and the assumptions that inform that method. Put simply, this method undervalues the role that cognitive processes play in human behavior. Instead the focus is on posited external causal forces known by many names, the most common of which is 'culture.' Culture does this and culture does that. What I didn't emphasize as much is a similar critique of cognitive science. Normative models of rationality suggested by, among others, economists, do suggest and emphasize cognitive reasoning strategies. What is lacking (and this is acknowledged by modelers) is a familiarity and understanding of what human beings actually do which is, ironically, something social scientists (i.e. anthropologists) do know something about. A notable exception is the notion of 'bounded rationality' introduced by Herbert Simon and made popular by Kahneman and Gigerenzer. I think that this sort of picture of human reasoning is a step forward and therefore very valuable since it, to some degree, retains the importance of universal cognitive processes while at the same time recognizing the role that environmental cues and mitigating mechanisms (such as emotion) play. However, bounded rationality and the Standard Social Science Model dovetail in a couple important ways.

First of all, both assume a sort of rational normative baseline cognitive structure (whether this is the same for all cultures or not) and then try to discover those circumstances when this structure is compromised by the environment, learning, emotion, etc. This is very much in line with Lévy-Bruhl's mentality model that is dependent upon collective representations to orient basic mentalities of humans. So, in my view it is not really an integrated model, but rather one that insists on retaining a classical view of rationality and forcing the model to conform to that view. Putting a square peg in a round hole, as it were. This doesn't seem to fit with the accepted view of evolutionary processes that suggests that the mind is a conglomeration of adaptations rather than a refined computer. A messy Rube Goldberg device rather than a simpler update of a previous version.

Secondly, proponents of bounded rationality and traditional social scientists have both embraced the same rallying cry: ecological validity. Hunt, in a review article paraphrases Gigerenzer's view: "Ecological validity is lost when frequencies are presented as facts, rather than being experienced." (Hunt 2003) This is indicates a similar position as that of anthropologists who criticize experimental psychology because, since experiments are done (for the most part) in highly controlled situations, their results lack ecological validity. Most anthropologists eschew any experimentation. Those that do want to conduct experiments still often take the same stance, resolving to add ecological validity by conducting their experiments in naturalistic settings. In a study done by Richert, Whitehouse, and Stewart (psychologists and anthropologists) the authors explicitly state that one of the studies presented was conducted in a forest in order to

increase ecological validity. (Whitehouse and McCauley eds 2005)[100] I find this mangled

view of ecological validity to be troubling as well as destructive to any method for

understanding human behavior. First of all, ecological validity is a RELATIVE term:

can the results of one study be generalized to other studies and/or scenarios or domains?

As such initial results need to be justifiable and significant before such generalization can

(or should be) attempted.[101] Secondly, conducting a study in a naturalistic setting does

not inherently give a study ecological validity. (see Hugh Coolican) In fact such studies

are highly problematic because of the difficulty in controlling for the variables one is

studying. Indeed, BECAUSE we know that framing effects do occur this is a crucial

point to make.

At the end of the day I remain convinced that arguably universal cognitive

processes MUST be the main focus of analyses of human behavior. I concede that

framing issues among other things are important, as suggested by Nisbett et al. but the

fact is that understanding of human behavior requires a sophisticated understanding of the

way the minds and the environment are intertwined not how the environment DIRECTS

human reasoning.

Finally, I recently was walking my dog on the streets of Dayton, Ohio just as a

storm front was rolling into the area. It was late in the day so the angle of the sun and the

interesting cloud formations resulted in some beautiful scenes. It struck me later just how

much these cloud formations looked like some of the Hubble Space Telescope images of

nebulae I'd seen. Or that the nebulae looked like the clouds. The point is that our minds

might SEEM to work in such a way that merely exploits the conceptual level of clouds

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[100] Richert defends this stance again in Slone (ed) 2006.
[101] Some defend the Richert et al. view of 'ecological validity' by contrasting it with 'external validity.'
See Wikipedia's entries on both 'ecological validity' and 'external validity.'

and nebulae. However what ALLOWS us to make this connection is really a complex aggregate of domain-specific mechanisms, no matter that the strange composition of nebulae does not resemble at all the composition of cumulus clouds. It strikes me, then, as eminently sensible to get at these domain-specific mechanisms so that we might then understand the environmental cues that trigger them. If this takes the isolation of variables in an experimental laboratory, so be it. I doubt that conducting experiments in a forest will help much.

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